

2020-2021

**This booklet contains
practice tests and rules for**

Art (grades 7-8)
Calculator Applications (grades 6-8)
Chess Puzzle (grades 6-8)
Dictionary Skills (grades 7-8)
Editorial Writing (grades 7-8)
Impromptu (grades 7-8)
Listening Skills (grades 7-8)
Maps, Graphs & Charts (grades 7-8)
Mathematics (grades 6-8)
Number Sense (grades 7-8)
Ready Writing (grades 7-8)
Science I and Science II (grades 7-8)
Social Studies (grades 7-8)

**Duplicate materials as needed.
For contest rules, refer to the
A+ Handbook or UIL website.**

**JUNIOR HIGH ACADEMIC
STUDY MATERIALS BOOKLET**

www.uiltexas.org/aplus



UNIVERSITY INTERSCHOLASTIC LEAGUE

CONTESTANT NUMBER:

NOTE: Contestants are required to list only the artist's last name (as it appears on the Official List) for Part A. However, there is **no penalty** if contestants also list the artist's first name. Scoring is based on correctness of the artist's last name and the title of the work.

FOR GRADER USE ONLY
Score Test Below:

_____ out of 60. Initials _____

_____ out of 60. Initials _____

Papers contending to place:

_____ out of 60. Initials _____

**To calculate final score, add Part A and Part B together.*



University Interscholastic League
A+ Art Contest Part A • Answer Sheet

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level: 4 5 6 7 8

ARTIST

PAINTING

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

CONTESTANT NUMBER:

FOR GRADER USE ONLY

Score Test Below:

_____ out of 60. Initials _____

_____ out of 60. Initials _____

Papers contending to place:

_____ out of 60. Initials _____

**To calculate final score, add Part A and Part B together.*



**University Interscholastic League
A+ Art Contest Part B • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level:

4 5 6 7 8

Art Elements

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. True False

11. True False

12. True False

13. True False

14. True False

15. True False

Art History

16.

17.

18.

19.

20.

21.

22.

23.

24.

25. True False

26. True False

27. True False

28. True False

29. True False

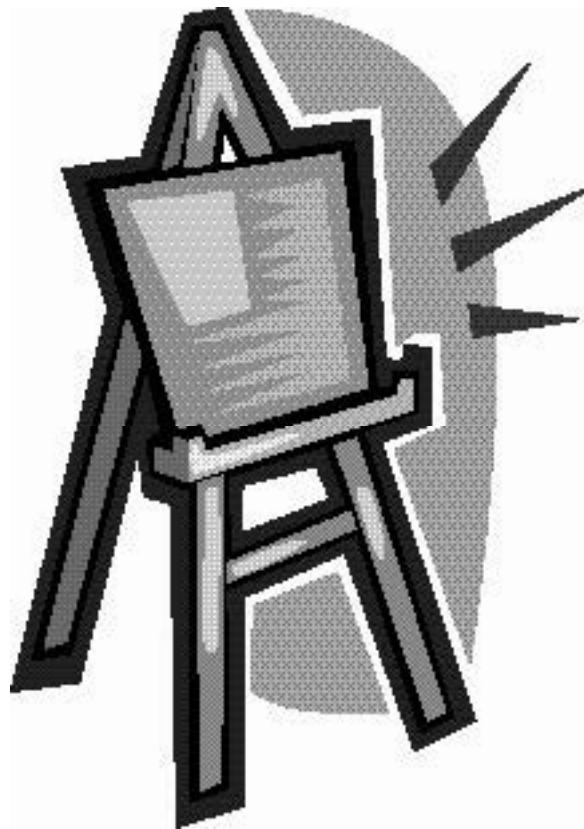
30. True False

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



Art Contest

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

2019-2020 Invitational Art Test Part B - Grades 7-8
Art Elements Section

1. Textures of fruit and glass in *Still Life with Peaches and Old Glass* provide an example of _____.
2. Flowers serve as symbols in
 - a. *Young Woman with Peonies.*
 - b. *Vase of Flowers with a Curtain.*
 - c. *Pansies in Washington.*
 - d. *Flowers on a Window Ledge.*
3. The artist added liveliness to *Lady at the Paris Exposition* with a rhythm of _____.
4. An advantage that oil paints have over tempera is that oils
 - a. dry more slowly.
 - b. can be used in thin glazes or as thick paints.
 - c. have richer colors in dark shades.
 - d. all of the above
5. The way the artist applied his brushstrokes in *Banks of the Seine at Médan*
 - a. captures the look of a passing moment.
 - b. keeps attention focused on the surface of the painting.
 - c. creates a polished, glossy surface.
 - d. suggests the growth of trees and movement of water.
6. A painting in the shape used for *Young Boy in Profile* is called a _____.
7. Colors are used in *Tugboat on the Seine, Chatou* to
 - a. separate the foreground from the background.
 - b. create a sense of perspective.
 - c. structure the composition.
 - d. show three-dimensional form.
8. Which of the following works is the most dramatic image?
 - a. *The Departure of the Boatman*
 - b. *Still Life with Oranges, Jars, and Boxes of Sweets*
 - c. *The Coast at Beverly*
 - d. *Ceres (Summer)*

9. *Taos* and *Kaaterskill Falls* are most alike in their
- type of paint.
 - approach to perspective.
 - brushwork.
 - attention to detail.

True/False

10. Light is more important than color in creating the mood of *Solitude*.
11. Viewers are given a higher point of view in *Marchesa Brigida Spinola Doria* than in *Portrait of Hendrik III, Count of Nassau-Breda*.
12. The size of the canvas for *Madonna and Child with Saint Martina and Saint Agnes* helps suggest the importance of its subject.
13. Allegories and illustrations of Bible stories belong to the same general subject group.
14. Crisp lines and exact details are the most important elements in *Keelmen Heaving in Coals by Moonlight*.
15. Atmospheric techniques are used more than linear ones to show perspective in *The Annunciation*.

Art History Section

16. _____ poured paints onto canvases to create abstract works.
17. Something that Bazille and Marcoussis had in common was that both
- were born in France.
 - painted in the Cubist style.
 - served in the French army.
 - worked during the Modern period.
18. The nationality of the painter who developed airtight tubes for carrying paint was _____.
19. Most of Marieschi's later works were
- quiet coastal seascapes.
 - accurate views for tourists.
 - almost abstract.
 - imaginary scenes of Wales.

20. Botticelli's name comes from
- his interest in botanical gardens.
 - a brother's nickname.
 - the city where he was born.
 - his work for the Pope.
21. Which of these portraits shows characteristics of the Neoclassical style?
- Mademoiselle Boissière Knitting*
 - Mrs. Richard Hogarth*
 - The Skater (Portrait of William Grant)*
 - none of the above
22. The way _____ painted helped make Venice a major center of art.
23. Which of these American artists did not grow up in the United States?
- Hassam
 - Macdonald-Wright
 - Sargent
 - Thomas
24. Domenichino is well-known for creating
- church alter paintings.
 - portraits of wealthy individuals.
 - genre scenes.
 - "view" paintings of Venice.

True/False

25. Frans Snyders often had other artists paint the animals in his images.
26. Pure colors and formal composition are characteristics often seen in Renaissance paintings.
27. In addition to painting, Shinn also worked as a newspaper artist and a movie art director.
28. In spite of his talent, Hals struggled to support his family as a painter.
29. Cross began his career using the Pointillist style, but turned to painting in the Fauvist style when Pointillism lost popularity.
30. *Amsterdam Harbor Scene* was painted before *The Concert* was.

**2019-2020 Invitational Art Test - Grades 7-8
(Part B)**

Answer Key

Elements	History
1. contrast (63)	16. Frankenthaler (66)
2. b (32)	17. c (51, 61)
3. curved lines (56)	18. American (41)
4. d (21, 22)	19. b (40)
5. d (55)	20. b (25)
6. tondo (25, 35)	21. d (39, 45, 53)
7. c (59)	22. Bellini (24)
8. b (43)	23. c (54)
9. a (50, 64)	24. a (30)
10. T (44)	25. F (36)
11. F (27, 31)	26. T (11, 22)
12. T (15, 28, 67)	27. T (60)
13. T (13)	28. T (33)
14. F (47)	29. F (58)
15. F (23)	30. F (34, 37)

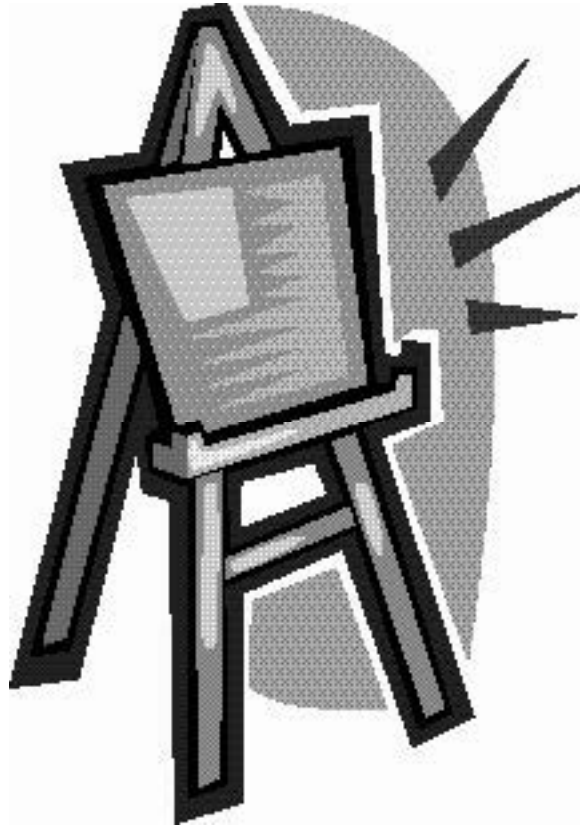
Numbers in parentheses are page numbers where answers can be found in the *Art Smart Bulletin* for 2019-2020 and 2020-2021. Correct spelling is not required for short answers.

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Art Contest

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

2019-2020 Fall/Winter District Art Test Part B - Grades 7-8
Art Elements Section

1. Would you expect *Sunset on the Lagoon, Venice* or *Amsterdam Harbor Scene* to have a smoother surface?
2. The artist used warm color in *The Coast at Beverly* to
 - a. keep viewers' eyes moving around the image.
 - b. unify the composition.
 - c. add visual interest.
 - d. focus attention on the surface of the painting.
3. Which of these works would be considered a group portrait?
 - a. *Madonna and Child*
 - b. *Cardinal Bandinello Sauli, His Secretary, and Two Geographers*
 - c. *The Concert*
 - d. all of the above
4. The artist used diagonal lines in *View of the Dogana and Santa Maria della Salute* to
 - a. add liveliness and movement to the image.
 - b. create a feeling of tension.
 - c. separate the foreground from the background.
 - d. lead viewers into the distance.
5. Complementary colors used in *Still Life with Peaches and Old Glass* help create a _____ mood.
6. A work that uses one kind of thing to represent something else or communicate a message is called _____.
7. Which of these kinds of contrast is least important in *Still Life with Grapes and Game*?
 - a. complementary colors
 - b. light and dark
 - c. soft and hard textures
 - d. straight and curved lines
8. Which of these religious images was created with oils on a wood panel?
 - a. *Madonna and Child with Saint Martina and Saint Agnes*
 - b. *The Adoration of the Christ Child*
 - c. *Abraham Leading Isaac to Sacrifice*
 - d. *The Annunciation*

9. The artist used a rhythm of triangle shapes in *Taos* to
- balance the composition.
 - keep viewers moving through the image.
 - create a feeling of permanence.
 - show multiple angles of his subject at once.

True/False

10. Small figures of people are included in *The Departure of the Boatman* to suggest mankind's unimportance in comparison to nature.
11. Viewers are quickly drawn into *Young Woman with Peonies* by the woman's direct gaze.
12. Leaving out details and using paler colors in the background are techniques of what is called linear or scientific perspective.
13. *Solitude* is a smaller painting than *Keelmen Heaving in Coals by Moonlight*.
14. In *Marcotte d'Argenteuil*, a pyramid shape is used to structure the composition and focus attention on the sitter's face.
15. In *Tugboat on the Seine, Chatou*, different kinds of brushstrokes create a natural image of movement in the river.

Art History Section

16. In what country did the characteristics of Renaissance painting first develop?
17. Sir Peter Paul Rubens lived for most of his life in
- The Netherlands.
 - England.
 - France.
 - Italy.
18. The nationality of the artist who painted *Keelmen Heaving in Coals by Moonlight* was _____.
19. One artist famous for developing a new way of painting was
- Caillebotte.
 - Frankenthaler.
 - La Farge.
 - Marcoussis.

20. Newman's father wanted him to study
- art.
 - business.
 - law.
 - medicine.
21. A common characteristic for Ingres that was unusual for other Neoclassical painters was
- using loose, rough brushstrokes.
 - choosing subjects from everyday life.
 - his interest in graceful beauty.
 - an emphasis on color and light.
22. _____ was the first African-American woman to have a solo exhibition at New York's Whitney Museum of American Art.
23. Subjects Watteau often used for his paintings were
- fantasy landscapes.
 - popular plays.
 - group portraits.
 - night scenes.
24. Which of these pairs of paintings were both created in the same period of art history?
- Young Boy in Profile* and *Portrait of Hendrik III, Count of Nassau-Breda*
 - Banks of the Seine at Médan* and *By the Seine*
 - The Rommel-Pot Player* and *Setting Out to Fish*
 - none of the above

True/False

25. Macdonald-Wright's work was influenced by his interest in Japanese art.
26. Newman joined the American Society of Painters in Watercolor, whose members shared his painting specialty.
27. Hogarth worked at an earlier time than Honthorst did.
28. Artists painting in the Impressionist style made drawings or sketches outdoors to catch the effects of light, but usually painted their works in studios.
29. *Vase of Flowers with a Curtain* was one of the earliest flower still lifes.
30. Gilbert Stuart is best-known for painting genre scenes.

**2019-2020 Fall/Winter District Art Test - Grades 7-8
(Part B)**

Answer Key

Elements			History
1. <i>Amsterdam</i>	(37, 58)	16. Italy	(21)
2. <i>Harbor Scene</i>	(49)	17. a	(31)
3. b	(11, 13, 26)	18. British	(47)
4. a	(40)	19. b	(66)
5. lively	(63)	20. d	(50)
6. an allegory	(8, 13)	21. c	(46)
7. d	(36)	22. Thomas	(65)
8. b	(67)	23. b	(38)
9. c	(64)	24. d	(27, 35; 55, 50; 33, 54)
10. F	(52)	25. T	(62)
11. T	(51)	26. T	(50)
12. F	(22)	27. F	(34, 39)
13. F	(67)	28. F	(42)
14. F	(46)	29. T	(32)
15. T	(59)	30. F	(45)

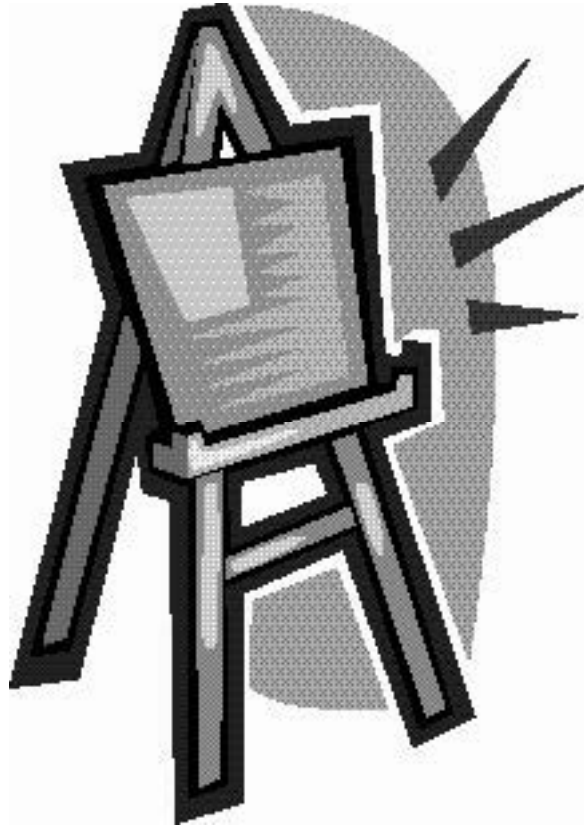
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SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Art Contest

grades 7 & 8

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2019-2020 Spring District Art Test Part B - Grades 7-8
Art Elements Section

1. Which color is complementary to orange?
2. Diagonal lines help lead viewers into the background of
 - a. *The Departure of the Boatman.*
 - b. *The Annunciation.*
 - c. *Solitude.*
 - d. all of the above
3. In *Portrait of Hendrik III, Count of Nassau-Breda*, the artist placed his sitter at the front of the picture plane to
 - a. emphasize his importance.
 - b. make the background seem unreal.
 - c. give the composition an informal feeling.
 - d. push viewers back and separate them from the sitter.
4. The windows of buildings pictured in *View of the Dogana and Santa Maria della Salute* offer an example of an artist's use of _____.
5. The line of trees in *Kaaterskill Falls* serves to
 - a. lead viewers into the distance.
 - b. separate the foreground from the background.
 - c. form a visual frame over the waterfall.
 - d. add a sense of movement.
6. Which original painting is larger, *Madonna and Child* or *Ceres (Summer)*?
7. To show perspective in *Banks of the Seine at Médan*, the artist
 - a. showed fewer details in the background than in the foreground.
 - b. showed the river narrowing as it moves away from viewers.
 - c. pictured distant buildings and trees smaller than closer trees.
 - d. used warm colors in the foreground but not in the background.
8. Light and shadow are used in *Amsterdam Harbor Scene* mainly to
 - a. create a dramatic mood.
 - b. picture weather and atmosphere.
 - c. lead viewers into the distance.
 - d. show a variety of textures.

9. In which of these pairs of paintings are details and textures pictured in most similar ways?
- Mademoiselle Boissière Knitting* and *Marchesa Brigida Spinola Doria*
 - The Coast at Beverly* and *Sunset on the Lagoon, Venice*
 - Still Life with Oranges, Jars, and Boxes of Sweets* and *Vase of Flowers with a Curtain*
 - The Concert* and *The Musician*

True/False

10. The sitter's pose in *The Skater (Portrait of William Grant)* creates a serious, formal look.
11. Tempera paints are created by mixing powdery colors with egg.
12. Fruit and glass containers in *Still Life with Peaches and Old Glass* provide examples of both texture and contrast.
13. The shape of *The Adoration of the Christ Child* symbolizes holy perfection.
14. *The Rommel-Pot Player* offers a vivid example of a casual group portrait.
15. *Pansies in Washington* and *Nature Abhors a Vacuum* were created with the same type of paints applied in different ways.

Art History Section

16. Strong contrasts between light and dark areas are common in paintings from the _____ period.
17. Which of these works was created by a French artist?
- By the Seine*
 - Tugboat on the Seine, Chatou*
 - Lady at the Paris Exhibition*
 - none of the above
18. Sebastiano was taught to paint by
- Bellini.
 - a leading Florentine painter.
 - Hals.
 - his father.
19. Which is the earlier portrait, *Mrs. Richard Hogarth* or *Young Boy in Profile*?

20. E Greco lived and worked in each of these countries except
- a. France.
 - b. Greece.
 - c. Italy.
 - d. Spain.
21. Which of the following best describes Macdonald-Wright?
- a. painter, soldier, teacher
 - b. architect, painter, teacher
 - c. teacher, painter, theater director
 - d. painter, engraver, illustrator
22. _____ was part of the group of young artists who developed Impressionism.
23. An artist who wanted to paint “ideal” landscapes even more beautiful than nature was
- a. Turner.
 - b. Nooms.
 - c. Marieschi.
 - d. Domenichino.
24. Sargent studied with a teacher who encouraged students to
- a. create careful preliminary drawings.
 - b. paint with invisible brushwork.
 - c. give works a fresh, spontaneous look.
 - d. work in abstract styles.

True/False

25. Turner and Kensett both painted in the Romantic style.
26. Ingres was able to study in Rome because of the allowance he received from his family.
27. Venetian artists during the Renaissance thought that line and drawing were the most important parts of painting.
28. Marin often applied oils or watercolors to his canvases in very similar ways.
29. Of the many different forms of art La Farge created, he was most famous for his wall murals.
30. Rubens often worked together on paintings with Snyders or other artists.

**2019-2020 Spring District Art Test - Grades 7-8
(Part B)**

Answer Key

Elements			History		
1.	blue	(8, 15)	16.	Baroque	(8, 29)
2.	d	(23, 44, 52)	17.	b	(59)
3.	a	(27)	18.	a	(26)
4.	rhythm	(40)	19.	<i>Young Boy in Profile</i>	(35, 39)
5.	b	(50)	20.	a	(28)
6.	<i>Ceres (Summer)</i>	(67)	21.	c	(62)
7.	c	(55)	22.	Bazille	(51)
8.	b	(37)	23.	d	(30)
9.	c	(32, 43)	24.	c	(54)
10.	F	(45)	25.	T	(47, 49)
11.	T	(21)	26.	F	(46)
12.	T	(63)	27.	F	(24)
13.	T	(25)	28.	T	(64)
14.	F	(33)	29.	F	(48)
15.	T	(65, 66)	30.	T	(31, 36)

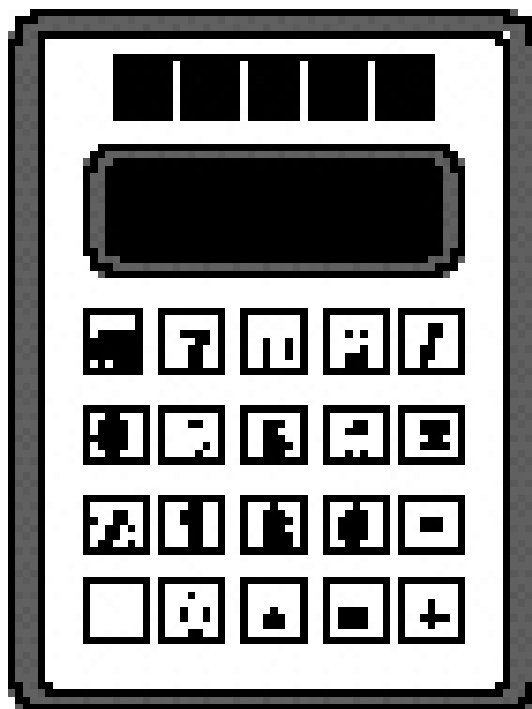
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INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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How to Write the Answers

A. For all problems except stated problems as noted below—write three significant digits.

1. Examples (* means correct but not recommended)

Correct: 12.3, 123, 123.*, 1.23x10*, 1.23x10^{0*}
1.23x10¹, 1.23x10⁰¹, .0190, 0.0190, 1.90x10⁻²

Incorrect: 12.30, 123.0, 1.23(10)², 1.23·10², 1.230x10²,
1.23*10², 0.19, 1.9x10⁻², 19.0x10⁻³, 1.90E-02,

answers written in parentheses(), brackets[] or braces{} are incorrect

2. Plus or minus one digit error in the third significant digit is permitted.

B. For stated problems

1. Except for integer and dollar sign problems, answers to stated problems should be written with three significant digits.

2. Integer problems are indicated by (integer) in the answer blank. Integer problems answers must be exact, no plus or minus one digit, no decimal point or scientific notation.

3. Dollar sign (\$) problems should be answered to the exact cent, but plus or minus one cent error is permitted. Answers must be in fixed notation. The decimal point and cents are required for exact-dollar answers.

2020 University Interscholastic League MS/JH Calculator Contest A

20X-1. $-1600 - 1080$ ----- 1= _____

20X-2. $-29 - 12 - 29$ ----- 2= _____

20X-3. $826 + 962 + 613$ ----- 3= _____

20X-4. $\pi - 25 - 3 - 14$ ----- 4= _____

20X-5. $-232 - 78 - 205 - 27$ ----- 5= _____

20X-6. $50.3 + 258 - 162 - 98.1 + 209$ ----- 6= _____

20X-7. $(0.928 + 0.876 - \pi) - (1.23 + 1.7)$ ----- 7= _____

20X-8. $0.792 + 0.799 - 0.382 + 0.598 + 0.413$ ----- 8= _____

20X-9. $390 \times 148 \times 366$ ----- 9= _____

20X-10. $56.3 \times 26.6 \times 887 \times 1260$ ----- 10= _____

20X-11. What is the product of twenty-five hundredths and three-eighths? ----- 11= _____

20X-12. A race lasted 14.8 minutes. How many seconds did it take to complete this race? ----- 12= _____ s

20X-13. A rectangular shaped piece of wood measured $10' 6\frac{3}{4}"$ by $5\frac{3}{4}"$ on one of its faces. What is the perimeter of this face? ----- 13= _____ in

20X-14. $(474)[321 \times 172 \times 86]$ ----- 14= _____

20X-15. $25 - [118/17 + 18.4]$ ----- 15= _____

20X-16. $\{-69/155\} \left[\frac{136}{56 + 191} \right]$ ----- 16= _____

20X-17. $\left[\frac{-123}{148} \right] [(50/131) - 0.0431]$ ----- 17= _____

20X-18. $\left[\frac{44/230}{144/87} \right] \{0.161 + 0.138 - 0.0698\}$ ----- 18= _____

20X-19. $\left[\frac{(0.0199 + 0.014)}{173/239} \right] \left[\frac{0.00942}{0.0141} \right]$ ----- 19= _____

20X-20. $(0.00326)[134/97 \times 127/49] - 0.00863$ ----- 20= _____

20X-21. $\frac{(\pi)(9/7)(16/4)}{66}$ ----- 21= _____

20X-22. $\frac{(0.252 + 1.21 - 1.71)}{\{(5.43 - 1.39)/(4.36 \times 10^{-4})\}}$ ----- 22= _____

20X-23. $\frac{[-(2170 + 2180)(2980 - 2950)]}{(20.3/(40700))}$ ----- 23= _____

20X-24. Albert bought a 12-foot long board that actually measured 11' 11 ³/₄" long. He cut from this board three pieces that each measured 8 ⁵/₁₆" in length. He then cut the remaining length off the board into 5 equal length pieces. How long was the length of each of the 5 pieces? 24= _____ in

20X-25. The cost of the renovation to our church was \$1.4 million. If there are 375 families and the cost is to be paid off in 60 months, how much on average should each family contribute each month to pay off the church renovation debt? ----- 25\$ _____

20X-26. Genny went shopping and purchased a box of 50 bags of chips that cost \$13.84; a bag of hot dog buns that cost \$3.02 for 24 buns, a bag of beef-franks that cost \$24.98 for 80 franks; a package of 35 sodas that cost \$11.42 and a box of a variety of cookies that cost \$11.98 for 60 bags of cookies. How much did it cost for one hot dog bun plus one beef-frank, one bag of chips, one soda and one bag of cookies? ----- 26=\$ _____

20X-27. $\frac{(\pi + 1.21)(0.192 + 0.554)}{(1.55 \times 10^{11})}$ ----- 27= _____

20X-28. $\frac{(0.0362 - 0.0151)(49.2 + 16.8)}{(5.90 \times 10^{11})}$ ----- 28= _____

20X-29. $(2.62)[[0.359/(0.353)][0.0481/(0.108)]]$ ----- 29= _____

20X-30. $\frac{1}{-1360} + \frac{1}{(521 - 2000)}$ ----- 30= _____

20X-31. $(30.3)[(9.19 \times 10^8) - (6.74 \times 10^8)]$ ----- 31= _____

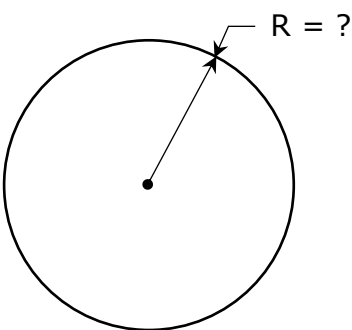
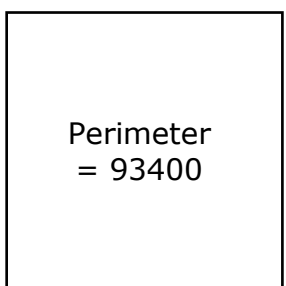
20X-32. $\frac{1}{0.974} + \frac{1}{(\pi)(1.11 - 0.728)}$ ----- 32= _____

20X-33. $\left[\frac{1/154}{1/68.3}\right][5.73 \times 10^6]$ ----- 33= _____

20X-34. $1/(0.0617 - 0.0645) - 1/(-0.00281)$ ----- 34= _____

20X-35. Noah was baking some cookies to sell. If his expenses came to \$12.75 for 4 dozen cookies, what is the least he should sell each cookie to make a 75% profit? ----- 35= _____ ¢ (Integer)

20X-36. One day the cost of regular gasoline was \$2.19%₁₀ per gallon. The next day the cost was \$2.39%₁₀ per gallon. What percent increase did this represent? ----- 36= _____ %

<p>20X-37.</p> <p style="text-align: center;">CIRCLE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Circumference = 0.00593</p> <p>20X-37 = _____</p>	<p>20X-38.</p> <p style="text-align: center;">SQUARE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Area = ?</p> <p>20X-38 = _____</p>
--	---

20X-39. $\frac{(13600 + 8200)^2}{(0.0175 - 0.0505)^3}$ ----- 39= _____

20X-40. $(130 + 272 + 114)^2(27.3 + 9.34)^2$ ----- 40= _____

20X-41. $\left[\frac{1420 + (1/(8.04 \times 10^{-4}))}{(1980/2140) - 0.895} \right]^2$ ----- 41= _____

20X-42. $(1/\pi) \sqrt[4]{\frac{4.44 + 2.89}{0.00519 - 0.00461}}$ ----- 42= _____

20X-43. $(16900) \sqrt{27000 + 17700 + 36600}$ ----- 43= _____

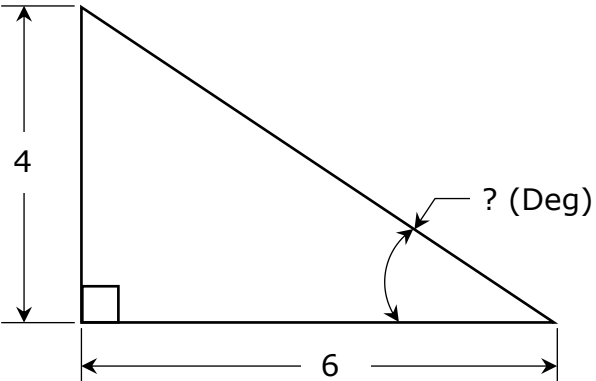
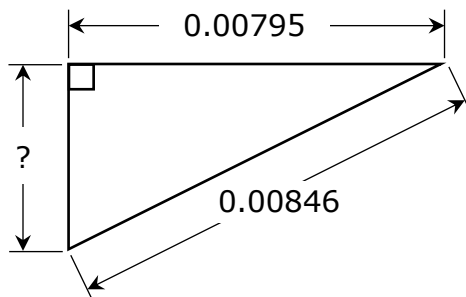
20X-44. $\sqrt{1480 - 628 + 605} - \sqrt{396}$ ----- 44= _____

20X-45. $\left[\sqrt[4]{(3.6/1.6)(1870)} \right]^5$ ----- 45= _____

20X-46. $\frac{1}{\sqrt{305 + 507 + 261}} + \left(\frac{1}{\sqrt{7}} \right)^3$ ----- 46= _____

20X-47. Paige was baking a dozen chocolate chip cookies using a recipe that called for $1\frac{1}{2}$ cups of all-purpose flour. If she wanted to bake 75 cookies using the same recipe, how much all-purpose flour would she use? (Assume the proportions and size of cookies are the same.) ----- 47= _____ cups

20X-48. Dan discovered that he could lay a pipe up against a vertical wall and it would not slip down as long as the angle between the pipe and the wall did not exceed 49.4° . If the pipe is 10 feet long, what is the maximum distance from the base of the wall that the end of the pipe on the floor can be and the pipe not slip down? ----- 48= _____ ft

<p>20X-49. RIGHT TRIANGLE</p>  <p>20X-49 = _____ Deg</p>	<p>20X-50. RIGHT TRIANGLE</p>  <p>20X-50 = _____</p>
--	---

20X-51. $\frac{(1.17 \times 10^5 + 2.27 \times 10^5 - 1.64 \times 10^5)^3}{\sqrt{0.041 + 0.0536 + 0.0252}}$ ----- 51= _____

20X-52. $\frac{\sqrt{4.46 + \pi + 4.03}}{(22800 - 31700 + 35600)^4}$ ----- 52= _____

20X-53. $\left[\frac{5720 + 1750 + \sqrt{5.29 \times 10^7 + 5.17 \times 10^7}}{32500/35300} \right]^2$ ----- 53= _____

20X-54. $31700 + \sqrt{(48900)(33500)} - (76700 + 41800)$ ----- 54= _____

20X-55. $\sqrt{\frac{(3.86 \times 10^5)(87700)}{(11000)(1.75 \times 10^5)}} - 2.02 + 2.18$ ----- 55= _____

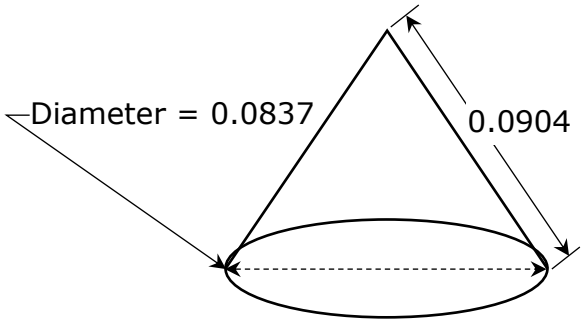
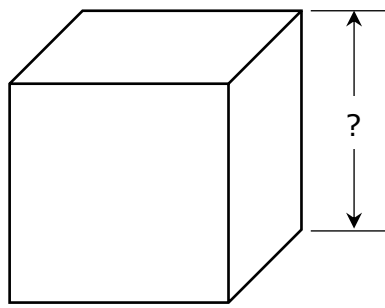
20X-56. $(0.489)^2 \sqrt{(73.4)/(4.05)} - (0.89 + 0.319)$ ----- 56= _____

20X-57. $\sqrt{\frac{(1230)(8930)}{(28.5) + (138)}} - 366$ ----- 57= _____

20X-58. $\sqrt{\frac{1/(3760 - 3740)}{(246)(5070 + 8910)^{-3}}}$ ----- 58= _____

20X-59. A formula for changing a temperature in degrees Fahrenheit to Kelvin is stated as such: Subtract 32 from the given temperature in degrees Fahrenheit, multiply this difference by five-ninths and then add two hundred seventy-three point fifteen hundredths. What is the temperature in Kelvins (K) for an oven temperature of 275° Fahrenheit?---- 59= _____ K

20X-60. Pressure is defined as the amount of force divided by the area to which the force is applied. A can of paint weighs 56.5 pounds (lbs) and has a diameter of 12 inches. This can is then balanced on a cube that measures 4 inches on each side. By what factor is the pressure increased? ----- 60= _____

<p>20X-61. RIGHT CIRCULAR CONE</p>  <p style="text-align: center;">Volume = ?</p> <p>20X-61 = _____</p>	<p>20X-62. SOLID CUBE</p>  <p style="text-align: center;">Cube Total Surface Area = 2.74×10^{31}</p> <p>20X-62 = _____</p>
---	---

20X-63. $\frac{26!}{5!} + 25!$ ----- 63 = _____

20X-64. $(117 - \pi)e^{0.24}$ ----- 64 = _____

20X-65. $(15900 - 3010)^{-9}(2.47 \times 10^6)$ ----- 65 = _____

20X-66. (deg) $[6.05]\tan(158^\circ - 184^\circ)$ ----- 66 = _____

20X-67. (rad) $\sin\left[\frac{(320)(\pi)}{(425)(11.2)}\right]$ ----- 67 = _____

20X-68. (deg) $\frac{\tan(55^\circ)}{1550 + 2300}$ ----- 68 = _____

20X-69. (deg) $\frac{\sin(2.49^\circ) - \tan(2.49^\circ)}{\sin(2.49^\circ)}$ ----- 69 = _____

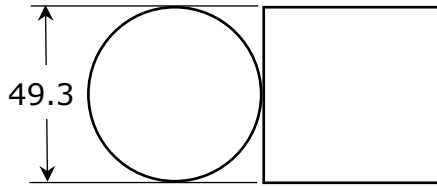
20X-70. $(594 - 309)^{0.416} - 0.383$ ----- 70 = _____

20X-71. A spherical shaped piece of putty, with a diameter of 8 centimeters (cm), is pounded flat to form a cylinder that measures 15 centimeters in diameter. How thick is the cylinder? ----- 71 = _____ cm

20X-72. If pi is subtracted from a certain number squared, the result is 12.5. What is the positive value of that number? ----- 72 = _____

20X-73.

CIRCLE AND SQUARE

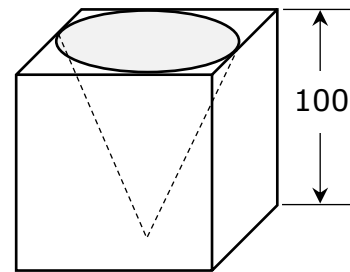


$$\frac{\text{Circle Area}}{\text{Square Area}} = ?$$

20X-73 = _____

20X-74.

CUBE AND RIGHT CIRCULAR CONE CAVITY



$$\text{Remaining Volume} = ?$$

20X-74 = _____

20X-75. $\frac{(1.97)^{0.755}(1.02)^{0.385}}{(68.2 - 18.2)^{-8}}$ ----- 75= _____

20X-76. $\frac{\text{Log}(32 + 169)}{4830 - 1250}$ ----- 76= _____

20X-77. $\text{Log}\sqrt{\frac{57.4 - 13.4}{(438)(327)}}$ ----- 77= _____

20X-78. $\frac{\text{Log}[27500 + (3580)(8.73)]}{3.38 + \text{Log}[1370 + 1430]}$ ----- 78= _____

20X-79. $1 + 3 + 5 + \dots + 863$ ----- 79= _____

20X-80. $\frac{1}{(0.579)} + \frac{1}{3(0.579)^3} + \frac{1}{5(0.579)^5} + \frac{1}{7(0.579)^7}$ ----- 80= _____

2020 University Interscholastic League MS/JH Calculator Contest A Answer Key

$$\begin{aligned} 20X-1 &= -2680 \\ &= -2.68 \times 10^3 \end{aligned}$$

$$\begin{aligned} 20X-2 &= -70.0 \\ &= -7.00 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20X-3 &= 2400 \\ &= 2.40 \times 10^3 \end{aligned}$$

$$\begin{aligned} 20X-4 &= -38.9 \\ &= -3.89 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20X-5 &= -542 \\ &= -5.42 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20X-6 &= 257 \\ &= 2.57 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20X-7 &= -4.27 \\ &= -4.27 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20X-8 &= 2.22 \\ &= 2.22 \times 10^0 \end{aligned}$$

$$20X-9 = 2.11 \times 10^7$$

$$20X-10 = 1.67 \times 10^9$$

$$\begin{aligned} 20X-11 &= 0.0938 \\ &= 9.38 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20X-12 &= 888 \\ &= 8.88 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20X-13 &= 265 \\ &= 2.65 \times 10^2 \end{aligned}$$

$$20X-14 = 2.25 \times 10^9$$

$$\begin{aligned} 20X-15 &= -0.341 \\ &= -3.41 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20X-16 &= -0.245 \\ &= -2.45 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20X-17 &= -0.281 \\ &= -2.81 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20X-18 &= 0.0265 \\ &= 2.65 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20X-19 &= 0.0313 \\ &= 3.13 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20X-20 &= 0.00304 \\ &= 3.04 \times 10^{-3} \end{aligned}$$

$$\begin{aligned} 20X-21 &= 0.245 \\ &= 2.45 \times 10^{-1} \end{aligned}$$

$$20X-22 = -2.68 \times 10^{-5}$$

$$20X-23 = -2.62 \times 10^8$$

$$\begin{aligned} 20X-24 &= 23.8 \\ &= 2.38 \times 10^1 \end{aligned}$$

$$20X-25 = 62.22$$

Dollar Answer

$$20X-26 = 1.24$$

Dollar Answer

$$20X-27 = 2.09 \times 10^{-11}$$

$$20X-28 = 2.36 \times 10^{-12}$$

$$\begin{aligned} 20X-29 &= 1.19 \\ &= 1.19 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20X-30 &= -0.00141 \\ &= -1.41 \times 10^{-3} \end{aligned}$$

$$20X-31 = 7.42 \times 10^9$$

$$\begin{aligned} 20X-32 &= 1.86 \\ &= 1.86 \times 10^0 \end{aligned}$$

$$20X-33 = 2.54 \times 10^6$$

$$\begin{aligned} 20X-34 &= -1.27 \\ &= -1.27 \times 10^0 \end{aligned}$$

$$20X-35 = 47$$

Integer Answer

$$\begin{aligned} 20X-36 &= 9.10 \\ &= 9.10 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20X-37 &= 0.000944 \\ &= 9.44 \times 10^{-4} \end{aligned}$$

$$20X-38 = 5.45 \times 10^8$$

2020 University Interscholastic League MS/JH Calculator Contest A Answer Key

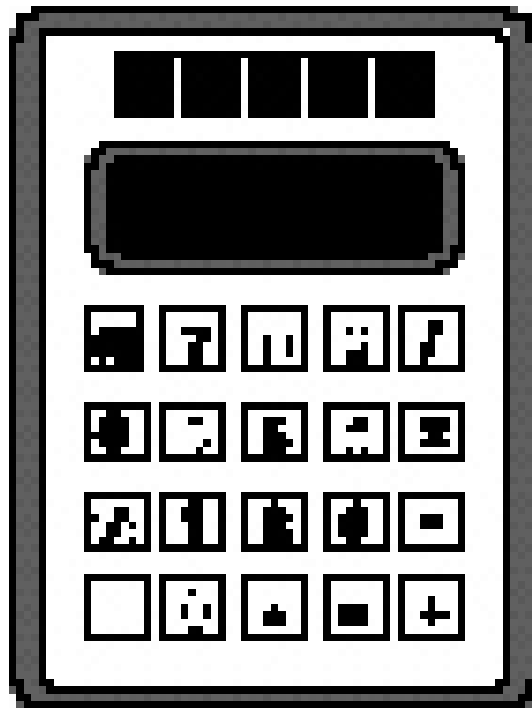
20X-39	= -1.32x10 ¹³	20X-51	= 1.68x10 ¹⁶	20X-61	= 0.000147	20X-73	= 0.785
20X-40	= 3.57x10 ⁸	20X-52	= 6.71x10 ⁻¹⁸	20X-62	= 1.47x10 ⁻⁴	20X-74	= 7.85x10 ⁻¹
20X-41	= 7.76x10 ⁹	20X-53	= 3.69x10 ⁸	20X-63	= 2.14x10 ¹⁵	20X-75	= 738000
20X-42	= 3.37	20X-54	= -4.63x10 ⁴	20X-64	= 1.89x10 ²⁵	20X-76	= 7.38x10 ⁵
20X-43	= 4.82x10 ⁶	20X-55	= -4.35	20X-65	= 145	20X-77	= 6.57x10 ¹³
20X-44	= 18.3	20X-56	= -1.91x10 ⁻¹	20X-66	= 1.45x10 ⁻²	20X-78	= 0.000643
20X-45	= 33900	20X-57	= -1.09	20X-67	= 2.51x10 ⁻³¹	20X-79	= 6.43x10 ⁻⁴
20X-46	= 0.0845	20X-58	= 23600	20X-68	= 0.210	20X-80	= 0.000643
20X-47	= 9.38x10 ⁰	20X-59	= 408	20X-69	= -2.95x10 ⁰	20X-81	= 6.43x10 ⁻⁴
20X-48	= 7.59	20X-60	= 7.07	20X-70	= -2.95x10 ⁰	20X-82	= -1.76
20X-49	= 3.37x10 ⁻¹			20X-71	= 2.10x10 ⁻¹	20X-83	= -1.76x10 ⁰
20X-50	= 0.00289			20X-72	= 2.10x10 ⁻¹	20X-84	= 0.699
	= 2.89x10 ⁻³			20X-73	= 0.000371	20X-85	= 6.99x10 ⁻¹
				20X-74	= 3.71x10 ⁻⁴	20X-86	= 1.87x10 ⁵
				20X-75	= -0.000945	20X-87	= 187000
				20X-76	= -9.45x10 ⁻⁴	20X-88	= 1.87x10 ⁵
				20X-77	= 1.21	20X-89	= 13.1
				20X-78	= 1.21x10 ⁰	20X-90	= 1.31x10 ¹
				20X-79	= 1.52		
				20X-80	= 1.52x10 ⁰		
				20X-81	= 3.95		
				20X-82	= 3.95x10 ⁰		
				20X-83	= 7.07		
				20X-84	= 7.07x10 ⁰		

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Calculator Applications

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

How to Write the Answers

A. For all problems except stated problems as noted below—write three significant digits.

1. Examples (* means correct but not recommended)

Correct: 12.3, 123, 123.*, 1.23x10*, 1.23x10^{0*}
1.23x10¹, 1.23x10⁰¹, .0190, 0.0190, 1.90x10⁻²

Incorrect: 12.30, 123.0, 1.23(10)², 1.23·10², 1.230x10²,
1.23*10², 0.19, 1.9x10⁻², 19.0x10⁻³, 1.90E-02,

answers written in parentheses(), brackets[] or braces{} are incorrect

2. Plus or minus one digit error in the third significant digit is permitted.

B. For stated problems

1. Except for integer and dollar sign problems, answers to stated problems should be written with three significant digits.

2. Integer problems are indicated by (integer) in the answer blank. Integer problems answers must be exact, no plus or minus one digit, no decimal point or scientific notation.

3. Dollar sign (\$) problems should be answered to the exact cent, but plus or minus one cent error is permitted. Answers must be in fixed notation. The decimal point and cents are required for exact-dollar answers.

2020 University Interscholastic League MS/JH Calculator Contest B

20Y-1. $1160 - 412$ ----- 1= _____

20Y-2. $11 - 17 + 14$ ----- 2= _____

20Y-3. $28 + 36.2 + 62.5$ ----- 3= _____

20Y-4. $\pi - 11 + 23 - 12$ ----- 4= _____

20Y-5. $1210 - 1310 - 946 + 167$ ----- 5= _____

20Y-6. $240 + 149 - 168 - 95.6 - 122$ ----- 6= _____

20Y-7. $\pi + 5.16 + 4.75 + 1.42 + 4.67$ ----- 7= _____

20Y-8. $0.361 - 0.592 + 0.867 - 0.55 - 1.46$ ----- 8= _____

20Y-9. $166 \times 329 \times 26.5$ ----- 9= _____

20Y-10. $564 \times 2110 \times 3240 \times 263$ ----- 10= _____

20Y-11. What is the quotient of two-pi divided by 17.9?----- 11= _____

20Y-12. The floor of a gazebo was shaped in the form of a regular hexagon. If each of the sides measured 8' 9", what is the perimeter of the gazebo? ----- 12= _____ ft

20Y-13. In 2016, NASCAR driver, Chase Elliot, drove his Chevrolet 300 miles in 1 hour, 59 minutes and 4 seconds. What was his average speed, in miles per hour (mph), for this race? ----- 13= _____ mph

20Y-14. $(-148)[52 \times 110 \times 124]$ ----- 14= _____

20Y-15. $214 - [34/239 + 0.158]$ ----- 15= _____

20Y-16. $\left[\frac{382}{466}\right][((140/236) - 0.379)]$ ----- 16= _____

20Y-17. $\{128/138\}\left[\frac{100}{17 + 85}\right]$ ----- 17= _____

20Y-18. $\left[\frac{335/377}{215/273}\right]\{13.7 + 16 - 17.6\}$ ----- 18= _____

20Y-19. $\frac{(382/185) + (124/404)}{(0.0113 - 0.00809)}$ ----- 19= _____

20Y-20. $\frac{(3.74 \times 10^{-5})(0.00174)}{15.1} (0.0124 - 0.0271)$ ----- 20= _____

20Y-21. $\frac{(\pi)(5/6)(7/7)}{96}$ ----- 21= _____

20Y-22. $\frac{(1680 \times 1060)/979}{(865 \times 2.30 \times 10^{-4}) + 0.178}$ ----- 22= _____

20Y-23. $\left[\frac{840 + 848}{343 - 616}\right]\left[\frac{499}{1180}\right]$ ----- 23= _____

20Y-24. My pasture is rectangular in shape and measures 200 ft by 1320 feet. The part of the pasture that has grass for harvesting as hay is actually less. If the actual field of grass measures 175 ft by 1210 ft, what percentage of the pasture contains grass? ----- 24= _____ %

20Y-25. Lake Bridgeport has a reservoir storage of 374,657 acre-feet today. One month ago the lake had a reservoir storage of 367,401 acre-feet. What percent increase does this represent? ----- 25= _____ %

20Y-26. Denny decides to build a birdhouse. He uses 8 ft of Cedar board that costs \$8.48 for a 10 ft length; 16" x 12" of plexiglass that costs \$30.98 for a 24" x 48" piece and 2 hinges that cost \$14.98 for a 10-pack of hinges. How much, in materials used, did it cost Denny to build a single birdhouse? ----- 26= \$ _____

20Y-27. $\frac{(5.14 \times 10^{10}) + (8.68 \times 10^{10})}{(-36.6)(8.2) - 300}$ ----- 27= _____

20Y-28. $\frac{(754 - 287)(0.0374 + 0.0317)}{(2.88 \times 10^{11})}$ ----- 28= _____

20Y-29. $(0.00388) \left[(0.706/\pi)(0.00166 + 0.00215) \right]$ ----- 29= _____

20Y-30. $\frac{1}{4.48} + \frac{1}{(6.94 - 5.4)}$ ----- 30= _____

20Y-31. $[0.0094] \left[\frac{1/17.3}{1/(43.7)} \right]$ ----- 31= _____

20Y-32. $(0.00494) \left[\frac{47.5}{(9.50 \times 10^{-14})} \right]$ ----- 32= _____

20Y-33. $\frac{1}{2940} - \frac{1}{4130} + \frac{1}{2670}$ ----- 33= _____

20Y-34. $\left[\frac{1/369}{1/193} \right] + [0.2]$ ----- 34= _____

20Y-35. Mike walked north at a constant speed of 5 miles per hour a distance of 600 ft and then headed west for 750 ft. If Mike then walked back to his starting point, what was his total time walking? ----- 35= _____ min

20Y-36. A quarter dollar coin measures 24.26 millimeters in diameter. How many of these coins could be laid, touching each other, along a wall that measured 10 feet in length? (Note: 2.54 cm = 1 in.) ----- 36= _____ integer

<p>20Y-37. RECTANGLE</p> <div style="text-align: center; margin: 20px 0;"> <p style="margin: 0;">Perimeter = 9.95×10^{18}</p> <p style="margin: 0;">3.73×10^{18}</p> </div> <p>20Y-37= _____</p>	<p>20Y-38. REGULAR HEXAGON</p> <div style="text-align: center; margin: 20px 0;"> <p style="margin: 0;">Perimeter = 0.000729</p> </div> <p>20Y-38= _____</p>
---	--

20Y-39. $(164 + 276 + 300)^2(28.4 + 13.4)^2$ ----- 39= _____

20Y-40. $\frac{(5640 + 5420)^3}{(0.00699 - 0.0309)^2}$ ----- 40= _____

20Y-41. $\sqrt{\frac{12.4 + 2.55}{31.4 - 27}}$ ----- 41= _____

20Y-42. $\sqrt{976} + \sqrt{1730 + 1830} - (\pi)\sqrt{672}$ ----- 42= _____

20Y-43. $(1/\pi)^4 \sqrt[4]{\frac{0.00478 + 0.00525}{0.962 - 0.704}}$ ----- 43= _____

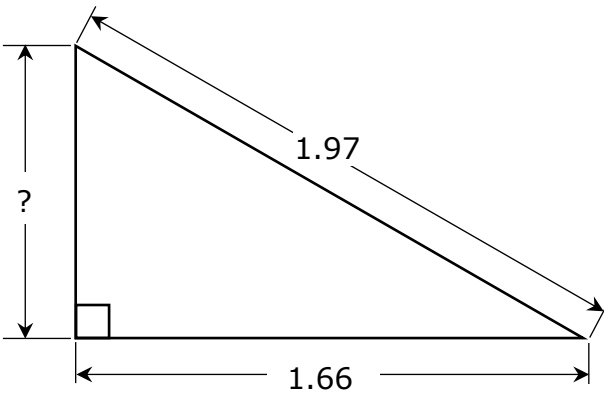
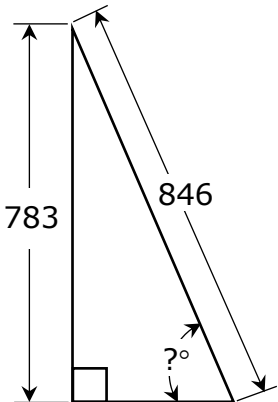
20Y-44. $\sqrt{(99.7/656) + 0.139 - 0.0191}$ ----- 44= _____

20Y-45. $\frac{1}{\sqrt{683 + 332 + 1350}} + \left(\frac{1}{\sqrt{6.92}}\right)^4$ ----- 45= _____

20Y-46. $\frac{(7080 + 7290)^{1/2}}{(5630 - 1650)^{1/5}}$ ----- 46= _____

20Y-47. When driving on the highway I noticed a sign that stated "Austin 22 miles – 18 minutes". What speed should I maintain to reach Austin in the 18 minutes? ----- 47= _____ mph

20Y-48. A 30-ft wire is attached 8" from the top of a pole and the other end is attached 20 ft from the base of the pole. How tall is the pole? - 48= _____ ft

<p>20Y-49. RIGHT TRIANGLE</p>  <p>20Y-49= _____</p>	<p>20Y-50. RIGHT TRIANGLE</p>  <p>20Y-50= _____ Deg</p>
---	---

20Y-51. $\left[\frac{\sqrt{\sqrt{15.1 - 10.5}}}{-(0.147 - 0.115)} \right]^3 [17000 + 27200]$ ----- 51= _____

20Y-52. $\frac{\sqrt{1.37 + \pi + 1.44}}{(2820 - 20200 + 12100)^2}$ ----- 52= _____

20Y-53. $\left[\frac{7900 - 5200 + \sqrt{3.70 \times 10^7 / 13.2}}{-104 + 112} \right]^{-2}$ ----- 53= _____

20Y-54. $\sqrt{\frac{(7510)(1.34 \times 10^5)}{(4880)(2.39 \times 10^5)}} - 0.371 + 0.346$ ----- 54= _____

20Y-55. $(1.01)^2 \sqrt{(165)/(1.52)} - (4.03 + 6.03)$ ----- 55= _____

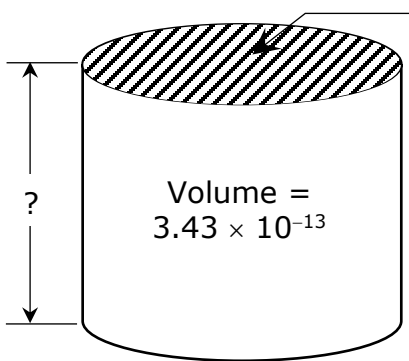
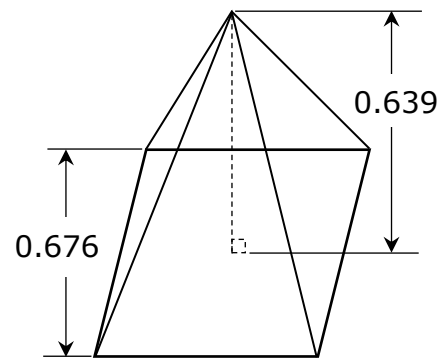
20Y-56. $\sqrt{\frac{1/(59.6 - 11.9)}{(68.5)(9.89 + 40.8)^6}}$ ----- 56= _____

20Y-57. $\sqrt{\frac{1/(3210 - 413)}{(13.8)(3160 + 982)^{-4}}}$ ----- 57= _____

20Y-58. $(\text{deg}) \tan(76.6^\circ) + (68.6/97.2)$ ----- 58= _____

20Y-59. In basic electrical circuits, if two or more resistors are connected in parallel to a power source, the total amount of resistance for the resistors is calculated by taking the reciprocal of the sums of the reciprocal of each of their resistance. So, if a 25-ohm (Ω) resistor is connected in parallel to a 45-ohm resistor, what is the total resistance for the two resistors? ----- 59= _____ Ω

20Y-60. Matt and Mike are driving identical cars in the same direction. Matt is driving at a speed of 63 miles per hour (mph) and is one car-length behind, while Mike is driving at a speed of 61 mph. How long would it take Matt to completely pass Mike's car so that the back of Matt's vehicle is three car-lengths in front of Mike's car? Note that the length of each of the cars is 18 feet. ----- 60= _____ sec

<p>20Y-61. SOLID RIGHT CYLINDER</p>  <p style="text-align: center;">Volume = 3.43×10^{-13}</p> <p>20Y-61= _____</p>	<p>20Y-62. SQUARE PYRAMID</p>  <p style="text-align: center;">Pyramid Volume = ?</p> <p>20Y-62= _____</p>
---	--

20Y-63. $\frac{21! + 23!}{22!}$ ----- 63= _____

20Y-64. (deg) $\frac{\cos(4.2^\circ)}{155}$ ----- 64= _____

20Y-65. $(6.45 \times 10^7 - 3.77 \times 10^7)^{-5} (6.01 \times 10^5)$ ----- 65= _____

20Y-66. (rad) $\frac{\cos(362)}{1210/1270}$ ----- 66= _____

20Y-67. (rad) $\tan\left[\frac{(15.3)(\pi)}{(540)(20.6)}\right]$ ----- 67= _____

20Y-68. (deg) $\frac{\sin(36.9^\circ)}{2.99 + 3.01}$ ----- 68= _____

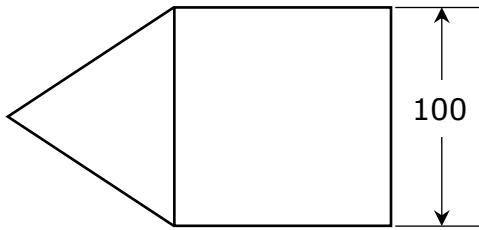
20Y-69. (rad) $(6.68)\sin(380)$ ----- 69= _____

20Y-70. $(2030 - 1470)^{0.412} - 0.195$ ----- 70= _____

20Y-71. How many ounces of water would a hose with an inner diameter of three-fourths inch and length one hundred feet hold if the hose is completely filled? (Note: 231 cubic inches = 1 gallon.) ----- 71= _____ oz

20Y-72. If a positive number, less its reciprocal, is equal to five, what is that positive number? ----- 72= _____

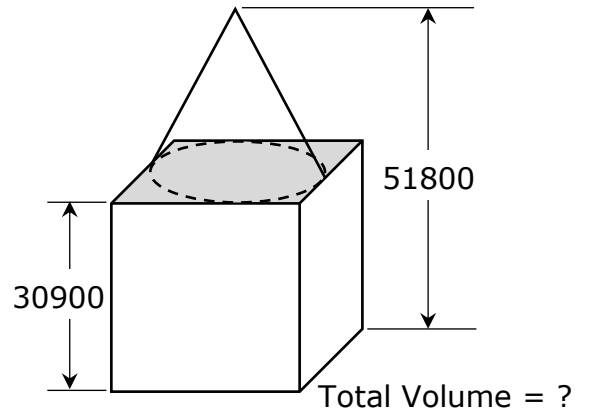
20Y-73.
EQUILATERAL TRIANGLE AND SQUARE



$$\frac{\text{Triangle Area}}{\text{Square Area}} = ?$$

20Y-73= _____

20Y-74.
RIGHT CIRCULAR CONE AND SOLID CUBE



20Y-74= _____

20Y-75. $\text{Ln}\left[\frac{362 + 173 + 393}{127 + 95.4 - 63.7}\right]$ ----- 75= _____

20Y-76. $\frac{\text{Log}(1.01 \times 10^9 + 7.63 \times 10^8)}{1.34}$ ----- 76= _____

20Y-77. $\frac{11.9 - 1.8}{\text{Log}(31300 + 56700)}$ ----- 77= _____

20Y-78. $(0.911)^\pi (1.18)^5 (1.02 - 0.75)^4$ ----- 78= _____

20Y-79. $1 + 3 + 5 + \dots + 739$ ----- 79= _____

20Y-80. $-\frac{1}{(6)} + \frac{1}{3(6)^3} - \frac{1}{5(6)^5} + \frac{1}{7(6)^7}$ ----- 80= _____

2020 University Interscholastic League MS/JH Calculator Contest B Answer Key

20Y-1 = 748 = 7.48×10^2	20Y-14 = -1.05×10^8	20Y-27 = -2.30×10^8
20Y-2 = 8.00 = 8.00×10^0	20Y-15 = 214 = 2.14×10^2	20Y-28 = 1.12×10^{-10}
20Y-3 = 127 = 1.27×10^2	20Y-16 = 0.176 = 1.76×10^{-1}	20Y-29 = 3.32×10^{-6}
20Y-4 = 3.14 = 3.14×10^0	20Y-17 = 0.909 = 9.09×10^{-1}	20Y-30 = 0.873 = 8.73×10^{-1}
20Y-5 = -879 = -8.79×10^2	20Y-18 = 13.7 = 1.37×10^1	20Y-31 = 0.0237 = 2.37×10^{-2}
20Y-6 = 3.40 = 3.40×10^0	20Y-19 = 739 = 7.39×10^2	20Y-32 = 2.47×10^{12}
20Y-7 = 19.1 = 1.91×10^1	20Y-20 = -6.34×10^{-11}	20Y-33 = 0.000473 = 4.73×10^{-4}
20Y-8 = -1.37 = -1.37×10^0	20Y-21 = 0.0273 = 2.73×10^{-2}	20Y-34 = 0.723 = 7.23×10^{-1}
20Y-9 = 1.45×10^6	20Y-22 = 4830 = 4.83×10^3	20Y-35 = 5.25 = 5.25×10^0
20Y-10 = 1.01×10^{12}	20Y-23 = -2.61 = -2.61×10^0	20Y-36 = 125 Integer Answer
20Y-11 = 0.351 = 3.51×10^{-1}	20Y-24 = 80.2 = 8.02×10^1	20Y-37 = 1.25×10^{18}
20Y-12 = 52.5 = 5.25×10^1	20Y-25 = 1.97 = 1.97×10^0	20Y-38 = 0.000122 = 1.22×10^{-4}
20Y-13 = 151 = 1.51×10^2	20Y-26 = 14.94 Dollar Answer	

2020 University Interscholastic League MS/JH Calculator Contest B Answer Key

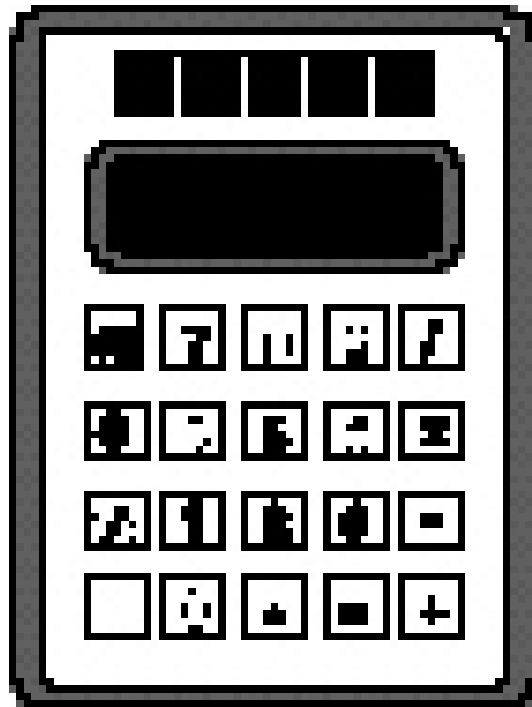
20Y-39	= 9.57×10^8	20Y-51	= -4.24×10^9	20Y-61	= 0.0000785	20Y-73	= 0.433
20Y-40	= 2.37×10^{15}	20Y-52	= 8.75×10^{-8}	20Y-62	= 0.0973	20Y-74	= 3.47×10^{13}
20Y-41	= 1.84	20Y-53	= 3.34×10^{-6}	20Y-63	= 23.0	20Y-75	= 1.77
20Y-42	= 9.47	20Y-54	= 0.904	20Y-64	= 0.00643	20Y-76	= 6.90
20Y-43	= 0.141	20Y-55	= 0.568	20Y-65	= 4.35×10^{-32}	20Y-77	= 2.04
20Y-44	= 0.521	20Y-56	= 1.34×10^{-7}	20Y-66	= -0.791	20Y-78	= 0.00907
20Y-45	= 0.0414	20Y-57	= 87300	20Y-67	= 0.00432	20Y-79	= 137000
20Y-46	= 22.8	20Y-58	= 4.90	20Y-68	= 0.100	20Y-80	= -0.165
20Y-47	= 73.3	20Y-59	= 16.1	20Y-69	= 0.884		
20Y-48	= 23.0	20Y-60	= 30.7	20Y-70	= 3.95		
20Y-49	= 1.06			20Y-71	= 294		
20Y-50	= 67.7			20Y-72	= 5.19		
	= 6.77×10^{-1}				= 5.19×10^0		

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Calculator Applications

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

How to Write the Answers

A. For all problems except stated problems as noted below—write three significant digits.

1. Examples (* means correct but not recommended)

Correct: 12.3, 123, 123.*, 1.23x10*, 1.23x10^{0*}
1.23x10¹, 1.23x10⁰¹, .0190, 0.0190, 1.90x10⁻²

Incorrect: 12.30, 123.0, 1.23(10)², 1.23·10², 1.230x10²,
1.23*10², 0.19, 1.9x10⁻², 19.0x10⁻³, 1.90E-02,

answers written in parentheses(), brackets[] or braces{} are incorrect

2. Plus or minus one digit error in the third significant digit is permitted.

B. For stated problems

1. Except for integer and dollar sign problems, answers to stated problems should be written with three significant digits.

2. Integer problems are indicated by (integer) in the answer blank. Integer problems answers must be exact, no plus or minus one digit, no decimal point or scientific notation.

3. Dollar sign (\$) problems should be answered to the exact cent, but plus or minus one cent error is permitted. Answers must be in fixed notation. The decimal point and cents are required for exact-dollar answers.

2020 University Interscholastic League MS/JH Calculator Contest C

20Z-1. $8200 - 946$ ----- 1= _____

20Z-2. $25 + 22 - 30$ ----- 2= _____

20Z-3. $91 + 126 - 125$ ----- 3= _____

20Z-4. $47 - 28 + 11 - \pi$ ----- 4= _____

20Z-5. $6190 + 5110 - 4050 - 1020$ ----- 5= _____

20Z-6. $-160 + 39 - 175 - 93.1 + 32.9$ ----- 6= _____

20Z-7. $(-1.19 - 0.653) + (1.92 - 1.4 - 1.26)$ ----- 7= _____

20Z-8. $-2.88 + 1.9 - 3.31 + 0.759 + 1.32$ ----- 8= _____

20Z-9. $71.7 \times 140 \times 111$ ----- 9= _____

20Z-10. $148 \times 100 \times 5240 \times 153$ ----- 10= _____

20Z-11. What is the quotient of two-pi divided by 24.8?----- 11= _____

20Z-12. The floor of a gazebo was shaped in the form of a regular hexagon. If each of the sides measured 10' 8", what is the perimeter of the gazebo? ----- 12= _____ ft

20Z-13. In 2008, NASCAR driver, Kyle Busch, drove his race car 300 miles in 1 hour, 58 minutes and 39 seconds. What was his average speed, in miles per hour (mph), for this race? ----- 13= _____ mph

20Z-14. $(448)[51 \times 466 \times 145]$ ----- 14= _____

20Z-15. $(-387)[327 \times 401/71]$ ----- 15= _____

20Z-16. $(111 + 93)[27 - 65 - 122]$ ----- 16= _____

20Z-17. $\left[\frac{761}{589}\right] [(201/615) + 0.202]$ ----- 17= _____

20Z-18. $\frac{[0.734/(0.548)]/64.6}{(0.368 \times 1.65)(0.0118)}$ ----- 18= _____

20Z-19. $\left[\frac{(6550/5840) - (2120/1280)}{0.00226/(0.0055)}\right]$ ----- 19= _____

20Z-20. $\frac{38}{(98 - 101)} - \frac{(71 - 123)}{151}$ ----- 20= _____

20Z-21. $(0.0321)[391/220 \times 576/723] - 0.0134$ ----- 21= _____

20Z-22. $\frac{(0.108 + 0.0498 - 0.0589)}{\{(0.643 - 0.62)/(2530)\}}$ ----- 22= _____

20Z-23. $\left[\frac{805 + 758}{772 - 892}\right] \left[\frac{1490}{1160}\right]$ ----- 23= _____

20Z-24. My pasture is rectangular in shape and measures 200 ft by 1320 feet. The part of the pasture that has grass for harvesting as hay is actually less. If the actual field of grass measures 173 ft by 1200 ft, what percentage of the pasture contains grass? ----- 24= _____ %

20Z-25. Lake Bridgeport has a reservoir storage of 371,491 acre-feet today. One week ago the lake had a reservoir storage of 368,685 acre-feet. What percent increase does this represent? ----- 25= _____ %

20Z-26. Denny decides to build a birdhouse. He uses 8 ft of Cedar board that costs \$8.76 for a 10 ft length; 16" x 12" of plexiglass that costs \$31.98 for a 24" x 48" piece and 2 hinges that cost \$14.98 for a 10-pack of hinges. How much, in materials used, did it cost Denny to build a single birdhouse? ----- 26= \$ _____

20Z-27. $(12.7)[[0.17/(0.297)][0.226/(0.16)]]$ ----- 27= _____

20Z-28. $(12.7)[(0.0151/0.015)(3.92 + 2.2)]$ ----- 28= _____

20Z-29. $\frac{(2.99 \times 10^{12}) + (2.24 \times 10^{12})}{(-0.166)(0.126) - 0.0205}$ ----- 29= _____

20Z-30. $(33.9)[(5.20 \times 10^{11}) - (1.38 \times 10^{11})]$ ----- 30= _____

20Z-31. $\frac{1}{-23.6} + \frac{1}{(\pi)(13.1 - 32.5)}$ ----- 31= _____

20Z-32. $[0.00428]\left[\frac{1/859}{1/(471)}\right]$ ----- 32= _____

20Z-33. $\left[\frac{1/575}{1/2060}\right][1.01 \times 10^6]$ ----- 33= _____

20Z-34. $\frac{1}{530} - \frac{1}{2760} + \frac{1}{1940}$ ----- 34= _____

20Z-35. Dan walked north at a constant speed of 5 miles per hour a distance of 660 ft and then headed west for 750 ft. If Dan then walked back to his starting point, what was his total time walking? ----- 35= _____ min

20Z-36. A quarter dollar coin measures 24.26 millimeters in diameter. How many of these coins could be laid, touching each other, along a wall that measured 15 feet in length? (Note: 2.54 cm = 1 in.) ----- 36= _____ integer

20Z-37.

RECTANGLE

Perimeter = 9.61×10^8

3.64×10^8

20Z-37= _____

20Z-38.

REGULAR HEXAGON

Perimeter = 23.8

20Z-38= _____

20Z-39. $\left[\frac{0.768}{473}\right](42 + 41.2)^3$ ----- 39= _____

20Z-40. $\sqrt{\frac{1970 + 1620}{246 - 207}}$ ----- 40= _____

20Z-41. $(1.59 + 1.19 + 1.83)^2(860 + 1110)^2$ ----- 41= _____

20Z-42. $\sqrt{5760 - 4370 + 6440} - \sqrt{1710}$ ----- 42= _____

20Z-43. $\sqrt{(266/280) + 0.592 - 0.239}$ ----- 43= _____

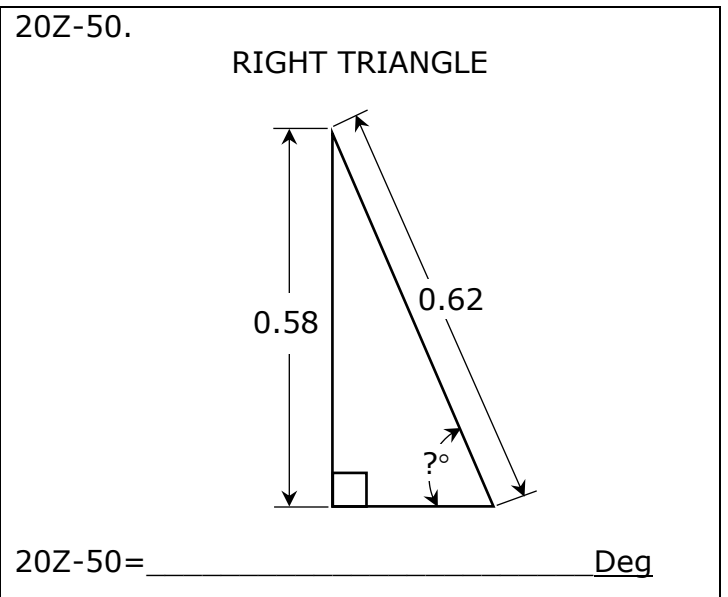
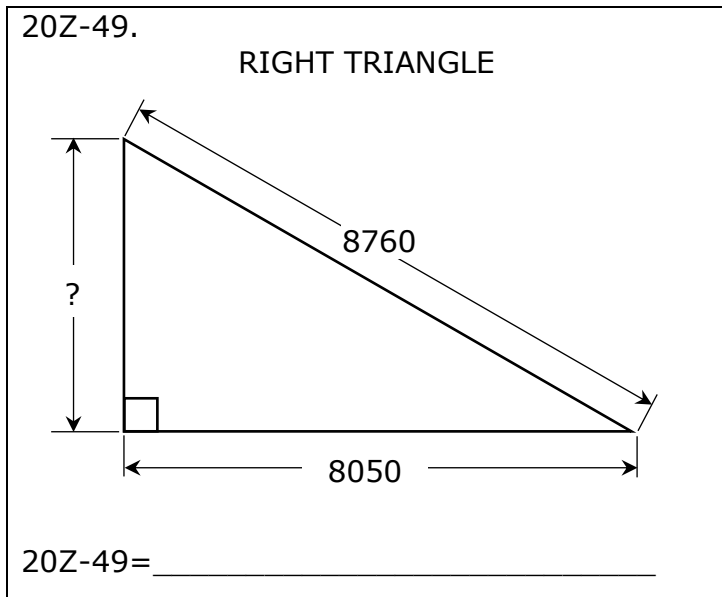
20Z-44. $(1/(0.0184))(20700 - 11400)^2$ ----- 44= _____

20Z-45. $\sqrt[4]{2.87 - 116/91.6} + 1/\sqrt{0.0474 + 0.12}$ ----- 45= _____

20Z-46. $\frac{(5.72 + 8.54)^{1/3}}{(5100 - 5060)^{1/5}}$ ----- 46= _____

20Z-47. When driving on the highway I noticed a sign that stated "San Marcos 21 miles – 18 minutes". What speed should I maintain to reach San Marcos in the 18 minutes?----- 47= _____ mph

20Z-48. A 36-ft wire is attached 8" from the top of a pole and the other end is attached 20 ft from the base of the pole. How tall is the pole? - 48= _____ ft



20Z-51. $\left[\frac{1680 - 836 + \sqrt{2.71 \times 10^6 / 8.69}}{-895 + 2750} \right]^{-2}$ ----- 51= _____

20Z-52. $\sqrt{\frac{8.17 \times 10^{-4}}{(70.2)(5290)} + \frac{(0.0048 - 0.0096)}{(18.5 + 41.2)}}$ ----- 52= _____

20Z-53. $\left[\frac{\sqrt{\sqrt{0.0228 - 0.00531}}}{-(5.11 - 2.99)} \right]^3 [3.96 + 8.83]$ ----- 53= _____

20Z-54. $(4.53)^2 \sqrt{(1.48)/(8.98)} - (8.18 + 0.964)$ ----- 54= _____

20Z-55. $\sqrt{\frac{(5660)(35000)}{(2.01 \times 10^5)(14600)}} - 0.2 + 0.123$ ----- 55= _____

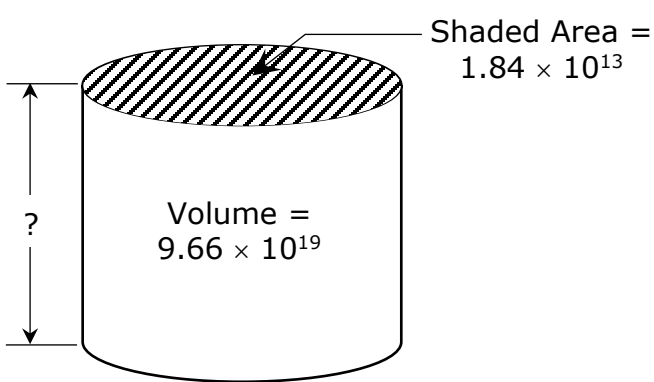
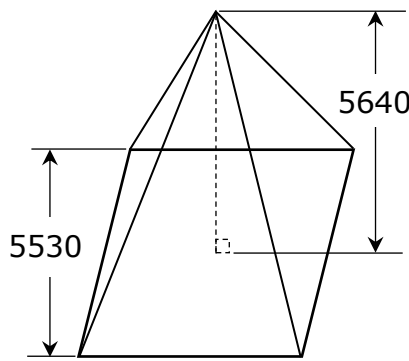
20Z-56. $\sqrt{\frac{1/(250 - 208)}{(4)(80.2 + 81)^3}}$ ----- 56= _____

20Z-57. $\sqrt{\frac{1/(2390 - 2020)}{(48)(205 + 179)^2}}$ ----- 57= _____

20Z-58. $\sqrt{\frac{(2.15)(983)}{(11.4) + (19.7)}} + 1/(0.656)^5$ ----- 58= _____

20Z-59. In basic electrical circuits, if two or more resistors are connected in parallel to a power source, the total amount of resistance for the resistors is calculated by taking the reciprocal of the sums of the reciprocal of each of their resistance. So, if a 125-ohm (Ω) resistor is connected in parallel to a 175-ohm resistor, what is the total resistance for the two resistors? ----- 59= _____ Ω

20Y-60. Matt and Mike are driving identical cars in the same direction. Matt is driving at a speed of 65 miles per hour (mph) and is one car-length behind, while Mike is driving at a speed of 62 mph. How long would it take Matt to completely pass Mike's car so that the back of Matt's vehicle is three car-lengths in front of Mike's car? Note that the length of each of the cars is 18 feet. ----- 60= _____ sec

<p>20Z-61. SOLID RIGHT CYLINDER</p>  <p style="text-align: right;">Shaded Area = 1.84×10^{13}</p> <p style="text-align: center;">Volume = 9.66×10^{19}</p> <p>20Z-61= _____</p>	<p>20Z-62. SQUARE PYRAMID</p>  <p style="text-align: center;">Pyramid Volume = ?</p> <p>20Z-62= _____</p>
---	--

20Z-63. $\frac{17!/9!}{18! + 19!}$ ----- 63= _____

20Z-64. $(178 - \pi)e^{0.683}$ ----- 64= _____

20Z-65. (deg) $\frac{\tan(454^\circ)}{490}$ ----- 65= _____

20Z-66. (deg) $(177 - 398)\cos(36.8^\circ) + 56.8$ ----- 66= _____

20Z-67. (rad) $\frac{\sin(4.38)}{156/2150}$ ----- 67= _____

20Z-68. (rad) $\cos[(2.49 - 0.902)(4.49)]$ ----- 68= _____

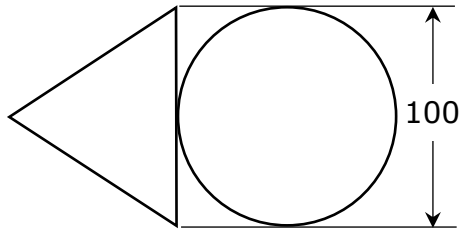
20Z-69. (rad) $(1220)\sin(271)$ ----- 69= _____

20Z-70. $(330 - 69.4)^{0.0244 - 0.0461}$ ----- 70= _____

20Z-71. How many ounces of water would a hose with an inner diameter of five-eighths inch and length one hundred feet hold if the hose is completely filled? (Note: 231 cubic inches = 1 gallon.) ----- 71= _____ oz

20Z-72. If a positive number, less its reciprocal, is equal to four, what is that positive number? ----- 72= _____

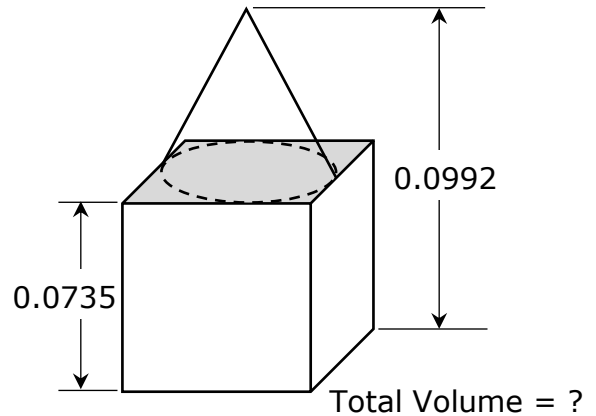
20Z-73.
EQUILATERAL TRIANGLE AND CIRCLE



$$\frac{\text{Triangle Area}}{\text{Circle Area}} = ?$$

20Z-73= _____

20Z-74.
RIGHT CIRCULAR CONE AND SOLID CUBE



20Z-74= _____

20Z-75. $\frac{\text{Log}(6.13 + 8.32)}{\pi - 6.23}$ ----- 75= _____

20Z-76. $\frac{(53.4)^{0.9}(27)^{0.629}}{(1.74 - 0.203)^{-5}}$ ----- 76= _____

20Z-77. $\frac{57500 - 34100}{\text{Log}(4260 + 4430)}$ ----- 77= _____

20Z-78. $\text{Ln}\left[\frac{284 + 215 + 80.6}{1300 - 487 - 503}\right]$ ----- 78= _____

20Z-79. $1 + 2 + 3 + \dots + 757$ ----- 79= _____

20Z-80. $(0.94) - \frac{(0.94)^2}{2} + \frac{(0.94)^3}{3} - \frac{(0.94)^4}{4}$ ----- 80= _____

2020 University Interscholastic League MS/JH Calculator Contest C Answer Key

20Z-1	= 7250 = 7.25×10^3	20Z-14	= 1.54×10^9	20Z-27	= 10.3 = 1.03×10^1
20Z-2	= 17.0 = 1.70×10^1	20Z-15	= -715000 = -7.15×10^5	20Z-28	= 78.2 = 7.82×10^1
20Z-3	= 92.0 = 9.20×10^1	20Z-16	= -32600 = -3.26×10^4	20Z-29	= -1.26×10^{14}
20Z-4	= 26.9 = 2.69×10^1	20Z-17	= 0.683 = 6.83×10^{-1}	20Z-30	= 1.29×10^{13}
20Z-5	= 6230 = 6.23×10^3	20Z-18	= 2.89 = 2.89×10^0	20Z-31	= -0.0588 = -5.88×10^{-2}
20Z-6	= -356 = -3.56×10^2	20Z-19	= -1.30 = -1.30×10^0	20Z-32	= 0.00235 = 2.35×10^{-3}
20Z-7	= -2.58 = -2.58×10^0	20Z-20	= -12.3 = -1.23×10^1	20Z-33	= 3.62×10^6
20Z-8	= -2.21 = -2.21×10^0	20Z-21	= 0.0321 = 3.21×10^{-2}	20Z-34	= 0.00204 = 2.04×10^{-3}
20Z-9	= 1.11×10^6	20Z-22	= 10900 = 1.09×10^4	20Z-35	= 5.48 = 5.48×10^0
20Z-10	= 1.19×10^{10}	20Z-23	= -16.7 = -1.67×10^1	20Z-36	= 188 Integer Answer
20Z-11	= 0.253 = 2.53×10^{-1}	20Z-24	= 78.6 = 7.86×10^1	20Z-37	= 1.17×10^8
20Z-12	= 64.0 = 6.40×10^1	20Z-25	= 0.761 = 7.61×10^{-1}	20Z-38	= 3.97 = 3.97×10^0
20Z-13	= 152 = 1.52×10^2	20Z-26	= 15.33 Dollar Answer		

2020 University Interscholastic League MS/JH Calculator Contest C Answer Key

20Z-39	= 935	20Z-51	= 1.75	20Z-61	= 5.25×10^6	20Z-73	= 0.551
	= 9.35×10^2		= 1.75×10^0		= 5.25×10^6		= 5.51×10^{-1}
20Z-40	= 9.59	20Z-52	= -3.35×10^{-5}	20Z-62	= 5.75×10^{10}	20Z-74	= 0.000433
	= 9.59×10^0		= -3.35×10^{-5}		= 5.75×10^{10}		= 4.33×10^{-4}
20Z-41	= 8.25×10^7	20Z-53	= -0.0646	20Z-63	= 7.65×10^{-9}	20Z-75	= -0.376
	= 8.25×10^7		= -0.0646		= 7.65×10^{-9}		= -3.76×10^{-1}
20Z-42	= 47.1	20Z-54	= -0.813	20Z-64	= 346		
	= 4.71×10^1		= -0.813		= 346		
20Z-43	= 1.14	20Z-55	= 0.183	20Z-65	= -0.0292	20Z-76	= 2450
	= 1.14×10^0		= 0.183		= -0.0292		= 2.45×10^3
20Z-44	= 4.70×10^9	20Z-56	= 3.77×10^{-5}	20Z-66	= -120	20Z-77	= 5940
	= 4.70×10^9		= 3.77×10^{-5}		= -120		= 5.94×10^3
20Z-45	= 3.57	20Z-57	= 1.95×10^{-5}	20Z-67	= -13.0	20Z-78	= 0.626
	= 3.57×10^0		= 1.95×10^{-5}		= -13.0		= 6.26×10^{-1}
20Z-46	= 1.16	20Z-58	= 16.5	20Z-68	= 0.662		
	= 1.16×10^0		= 16.5		= 0.662		
20Z-47	= 70.0	20Z-59	= 72.9	20Z-69	= 895	20Z-79	= 287000
	= 70.0		= 72.9		= 895		= 2.87×10^5
20Z-48	= 30.6	20Z-60	= 20.5	20Z-70	= 0.886	20Z-80	= 0.580
	= 30.6		= 20.5		= 0.886		= 5.80×10^{-1}
20Z-49	= 3450			20Z-71	= 204		
	= 3.45×10^3				= 204		
20Z-50	= 69.3			20Z-72	= 4.24		
	= 6.93×10^1				= 4.24		

CONTESTANT NUMBER:

FOR GRADER USE ONLY

Test/Tiebreaker (#correct)

____ / ____ Initials ____

____ / ____ Initials ____

Papers contending to place:

____ / ____ Initials ____



**University Interscholastic League
A+ Chess Puzzle Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level: 2 3 4 5 6 7 8

Test (*circle only one answer for each question*)

1. a b c d

2. a b c d

3. a b c d

4. a b c d

5. a b c d

6. a b c d

7. a b c d

8. a b c d

9. a b c d

10. a b c d

11. a b c d

12. a b c d

13. a b c d

14. a b c d

15. a b c d

16. a b c d

17. a b c d

18. a b c d

19. a b c d

20. a b c d

*Questions
#17- 20
only for
Grades 4-8*

Tiebreaker (*circle only one answer for each question*)

1. a b c d

2. a b c d

3. a b c d

4. a b c d

5. a b c d

6. a b c d

7. a b c d

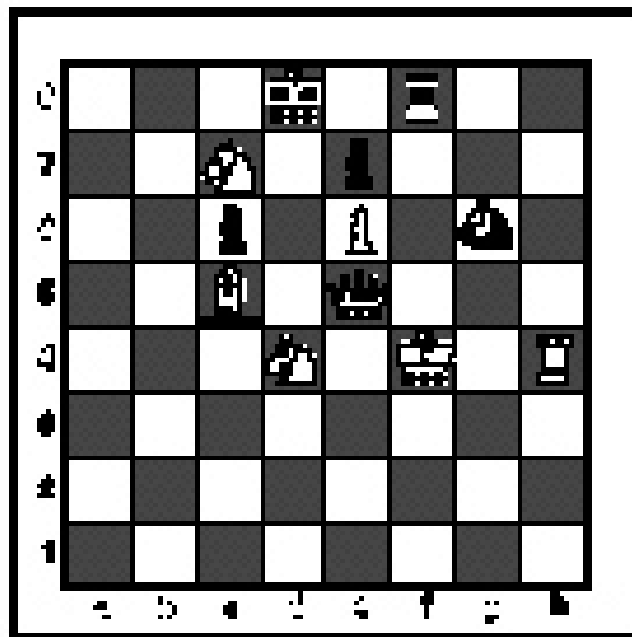
8. a b c d

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



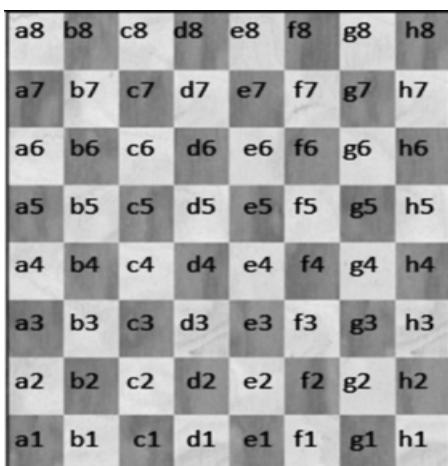
Chess Puzzle Solving

grades 6, 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

How to read and answer questions on this test

- To answer the questions on this test, you'll need to know how to read chess moves. It's simple to do.
- Every square on the board has an "address" made up of a letter and a number.

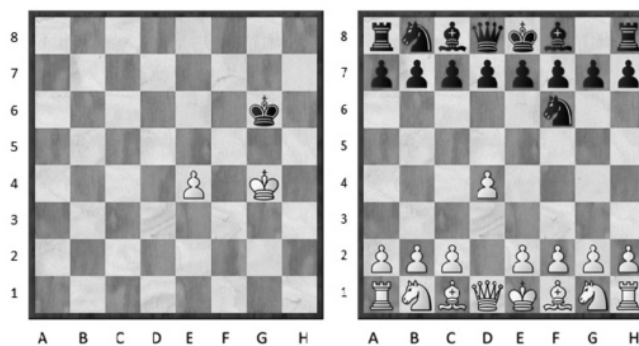


Piece Names	Each chessman can also be represented by a symbol, except for the pawn. (Figurine Notation)
King	
Queen	
Rook	
Bishop	
Knight	
Pawn	a-h (We write the file it's on.)

- To make them easy to read, the questions on this test use the figurine piece symbols on the right, above.
- When answering the puzzle questions, remember that white pawns move "up" the diagrams. Black pawns move "down" the diagrams.

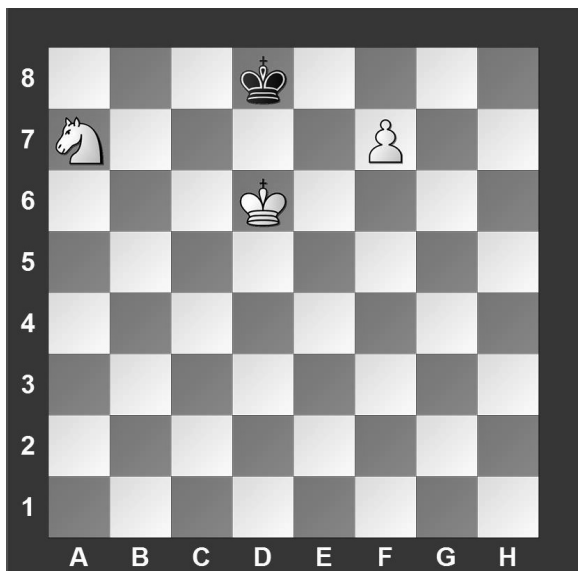
At right are two sample moves.

If you look closely at the diagrams in the questions below, you'll see that the frame around the diagram labels the ranks (1-8) and files (a-h) to help you.



White has just played **e4**. Black has just played ... **f6**

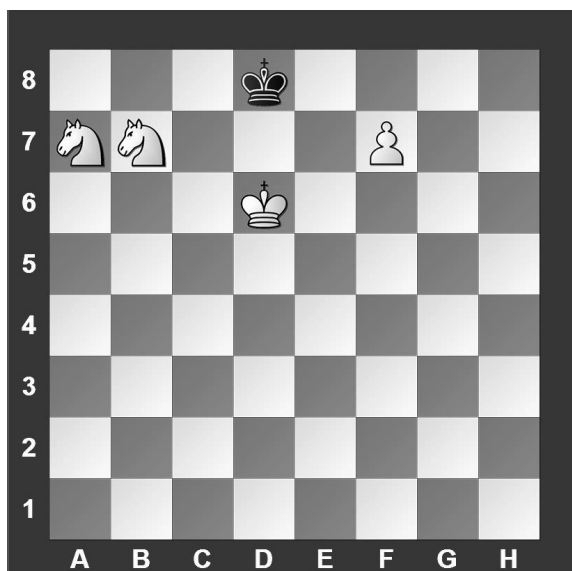
#1. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

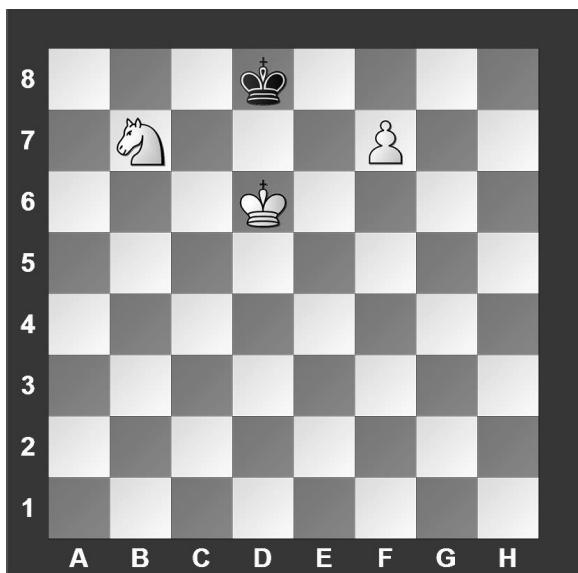
#2. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

#3. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

#4. White to move



Black just played e7 to e5. Which pawn can be captured?

- a) Black's b-pawn
- b) Black's d-pawn
- c) Black's c-pawn
- d) Black's e-pawn

#5.



Which side has material advantage?

- a) White
- b) It is even.
- c) Black
- d) It is not possible to tell.

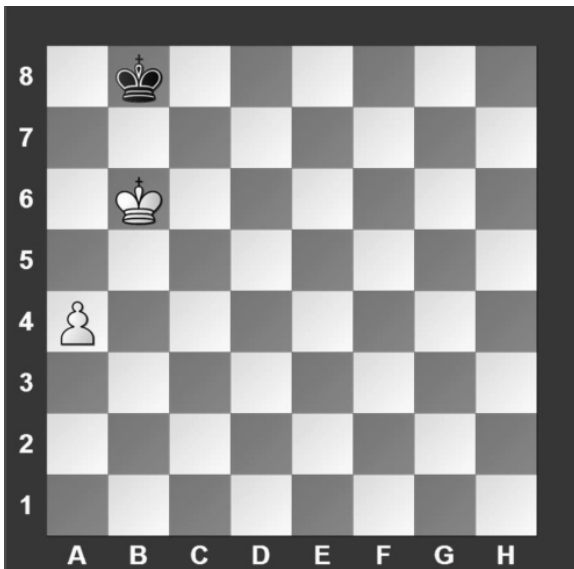
#6. Black to move



Which move is possible for Black?

- a) Short Castle.
- b) Long Castle.
- c) Take White's Queen
- d) Take White's Knight

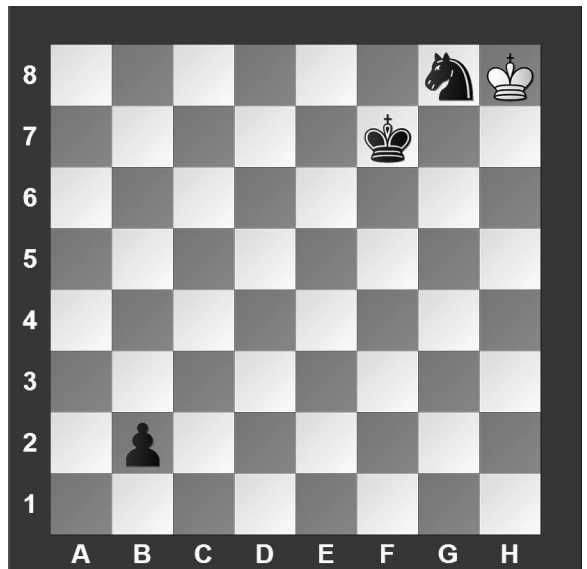
#7. White to move



With the best play, what is the outcome of the game?

- a) White wins
- b) Black wins
- c) Draw
- d) Impossible to tell

#8. Black to move



What is the best move?

- a) Promote to a Queen
- b) Promote to a Rook
- c) Promote to a Knight
- d) Promote to a Bishop

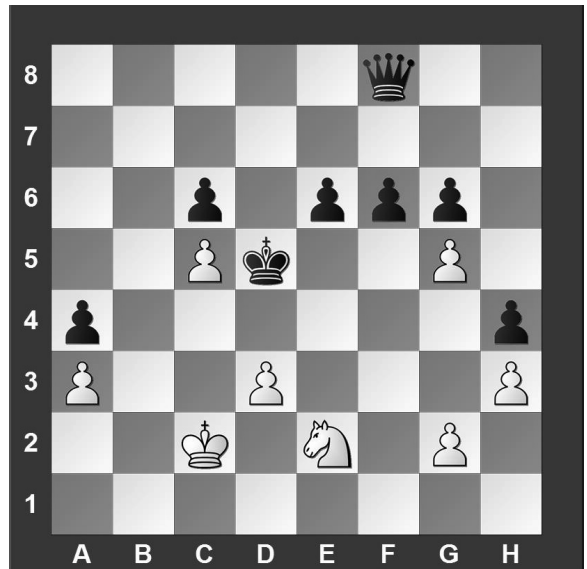
#9. White to move



White can checkmate Black in two moves, what's the *first* move?

- a) b3
- b) ♖h8
- c) ♕h7
- d) ♕f7

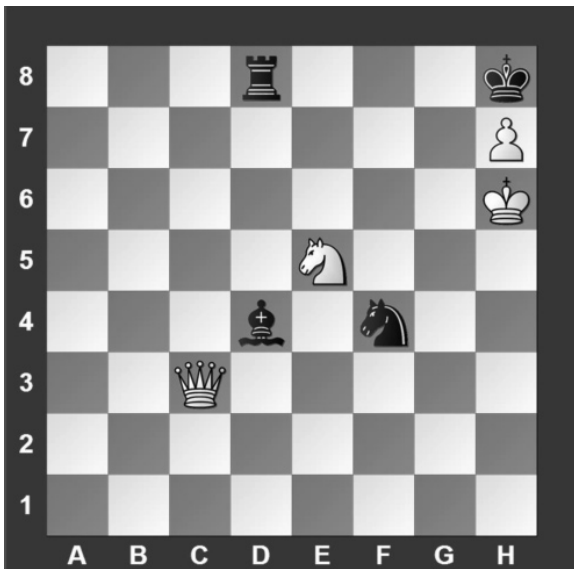
#10. White to move



What is White's best move?

- a) gxf6
- b) ♘c3
- c) ♘f4
- d) ♖c3

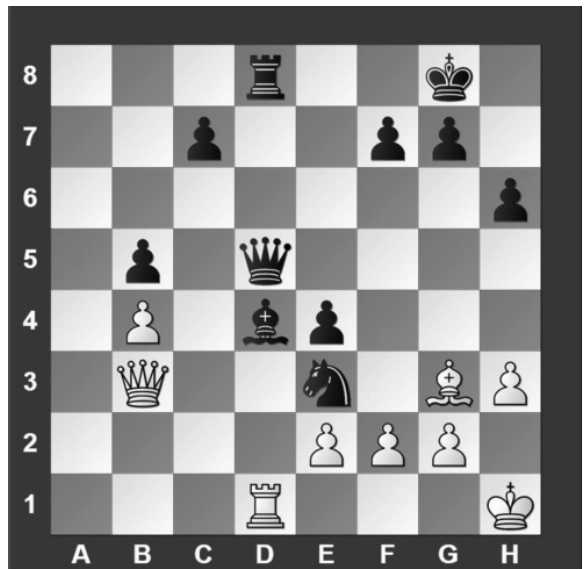
#11. White to move



What is White's best move?

- a) ♘g6
- b) ♘f7
- c) ♕g3
- d) ♕e3

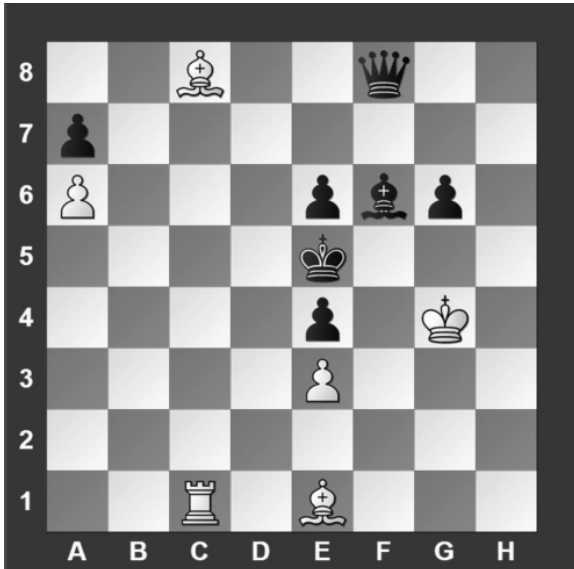
#12. White to move



What piece should White capture?

- a) Black's Knight
- b) Black's Queen
- c) Black's Bishop
- d) Black's Pawn

#13. White to move



White can checkmate Black in two moves, what is the *first* move?

- a) ♔c3
- b) ♔g3
- c) ♖c5
- d) ♔xe6

#14. White to move



What is White's best move?

- a) ♔d4
- b) ♔xa7
- c) ♔xb4
- d) ♖e2

#15. White to move



What is White's best move?

- a) fxe7
- b) ♖xc7
- c) f7
- d) gxf4

#16. White to move



White can checkmate Black in two moves, what is the *second* move?

- a) ♖f7
- b) c3
- c) ♕e2
- d) ♖g6

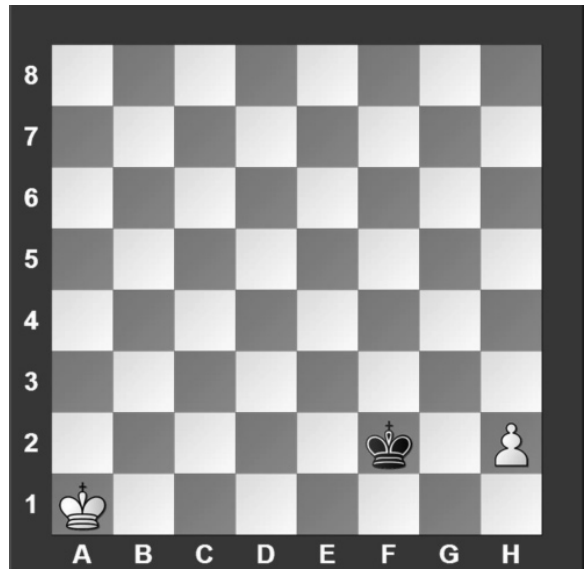
#17. White to move



What is White's best move?

- a) $\text{N} \times \text{f6}$
- b) $\text{N} \text{g7}$
- c) $\text{R} \times \text{d7}$
- d) Castle

#18. White to move



With the best play, what is the outcome of the game?

- a) White wins
- b) Black wins
- c) Draw
- d) Impossible to tell

#19. White to move



What is White's best move?

- a) $\text{N} \text{e4}$
- b) c3
- c) $\text{N} \text{h5}$
- d) f5

#20. White to move



If White can checkmate Black in two moves, what's the *first* move?

- a) $\text{R} \times \text{d8}$
- b) $\text{R} \text{e7}$
- c) d7
- d) $\text{Q} \times \text{g4}$



**University Interscholastic League
A+ Chess Puzzle Contest
2019-2020 Invitational — Grades 6, 7, and 8
ANSWER KEY**

Test

- | | |
|-------|-------|
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| 2. A | 12. B |
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| 4. D | 14. A |
| 5. C | 15. C |
| 6. C | 16. D |
| 7. C | 17. C |
| 8. B | 18. A |
| 9. B | 19. B |
| 10. C | 20. B |

Tiebreaker

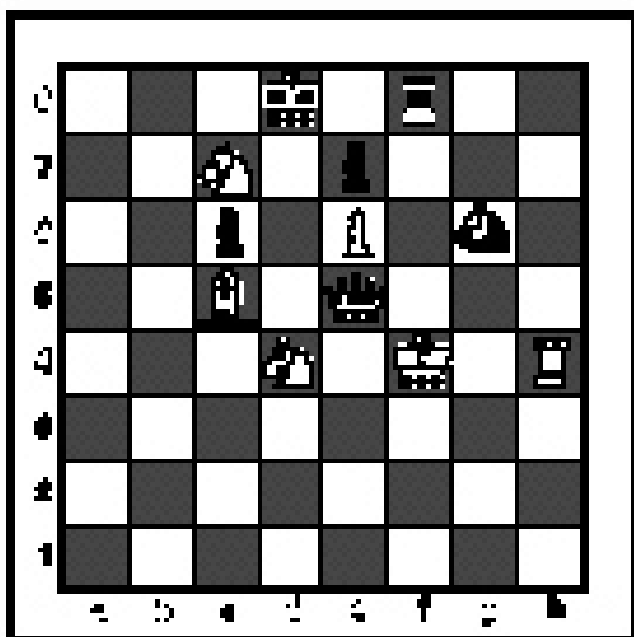
- | | |
|------|------|
| 1. A | 5. A |
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INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League

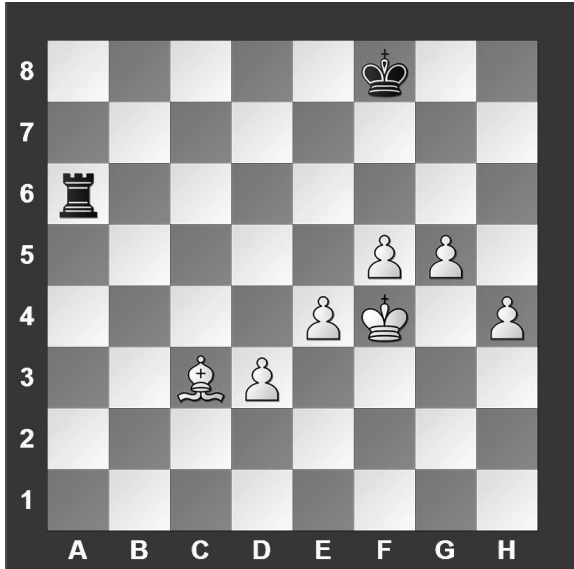


Chess Puzzle Solving

TIEBREAKER - ALL GRADES

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

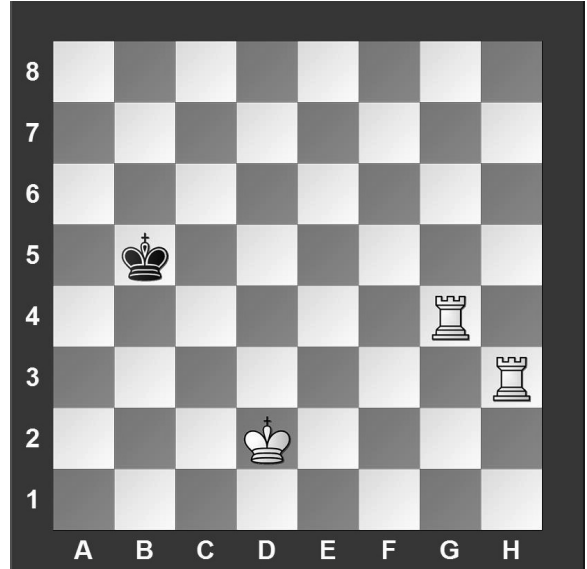
#1. White to move



What should be the outcome of the game?

- a) White wins.
- b) Black wins.
- c) Draw.
- d) It is not possible to tell.

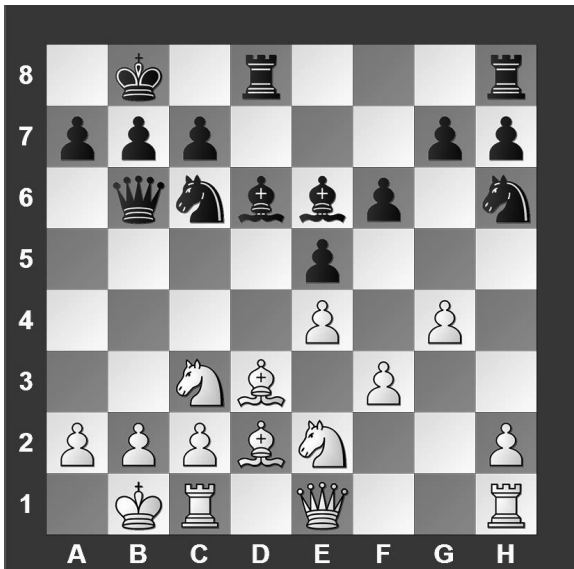
#2. White to move



With the best play, how many moves will it take for White to checkmate Black?

- a) 2
- b) 3
- c) 4
- d) 5

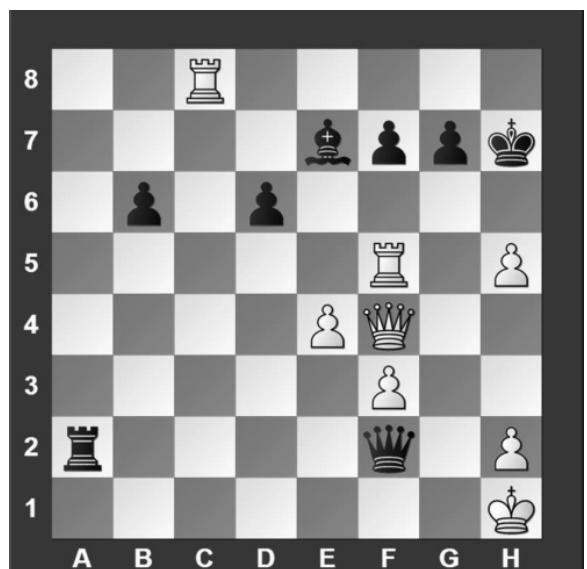
#3. White to move



What is White's best move

- a) Qe3
- b) g5
- c) Na4
- d) Nb5

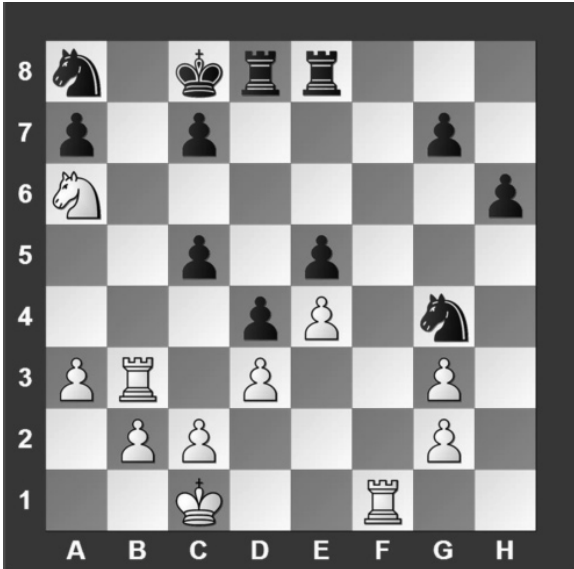
#4. White to move



What is White's best move?

- a) Rh6
- b) Rh8
- c) Rxf7
- d) h6

#5. White to move



What is White's best move?

- a) ♖f7
- b) ♖b8
- c) ♗xc5
- d) ♖f4

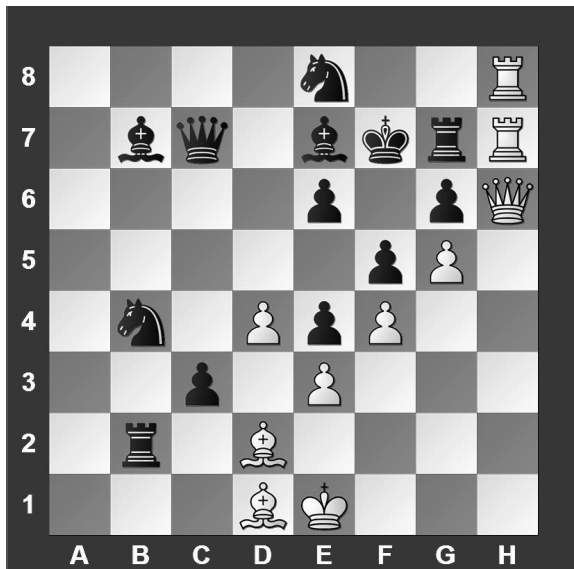
#6. White to move



What is White's best move?

- a) ♖h5
- b) ♖xh7
- c) ♖xf8
- d) ♗xg5

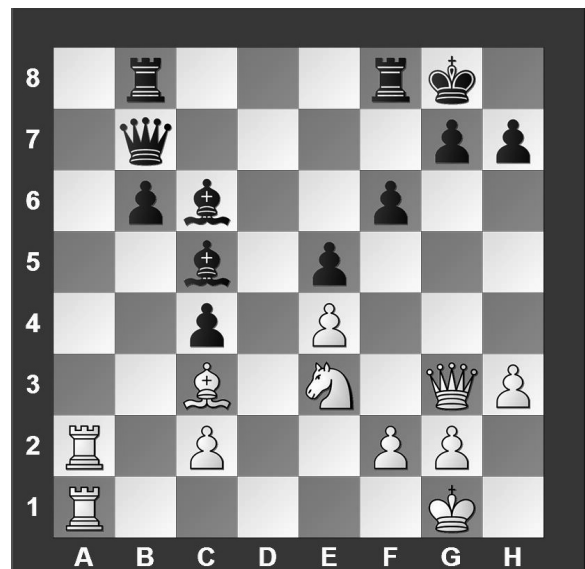
#7. White to move



If White can checkmate Black in two moves, what is White's *second* move?

- a) ♖xg7
- b) ♖xg7
- c) ♖xg6
- d) ♗h5

#8. White to move



What is White's best move?

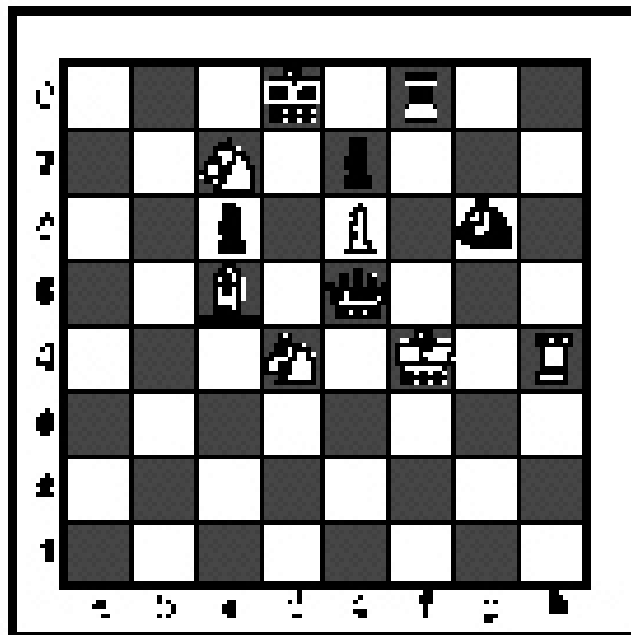
- a) ♗f5
- b) ♖xg7
- c) ♖a7
- d) ♗xe5

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Chess Puzzle Solving

grades 6, 7, 8

**DO NOT OPEN TEST
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How to read and answer questions on this test

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- Every square on the board has an "address" made up of a letter and a number.

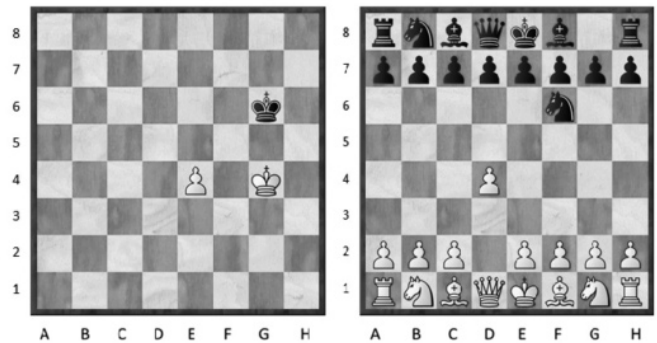


Piece Names	Each chessman can also be represented by a symbol, except for the pawn. (Figurine Notation)
King	
Queen	
Rook	
Bishop	
Knight	
Pawn	a-h (We write the file it's on.)

- To make them easy to read, the questions on this test use the figurine piece symbols on the right, above.
- When answering the puzzle questions, remember that white pawns move "up" the diagrams. Black pawns move "down" the diagrams.

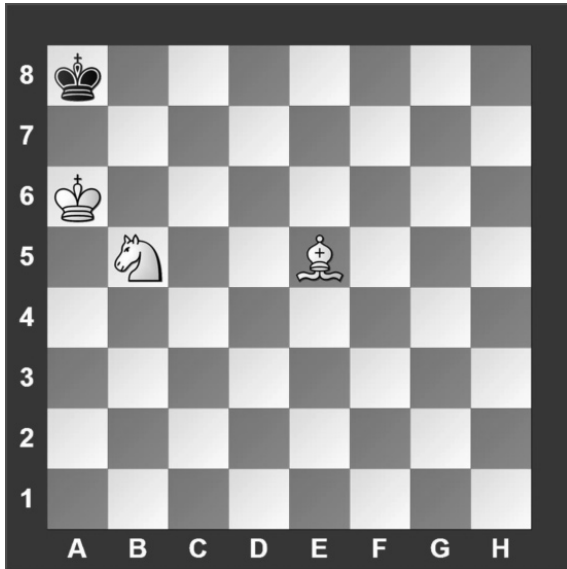
At right are two sample moves.

If you look closely at the diagrams in the questions below, you'll see that the frame around the diagram labels the ranks (1-8) and files (a-h) to help you.



White has just played **e4**. Black has just played ... **f6**.

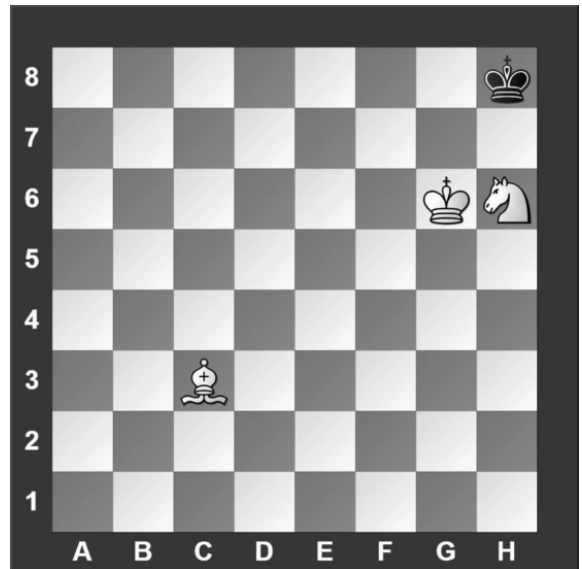
#1. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

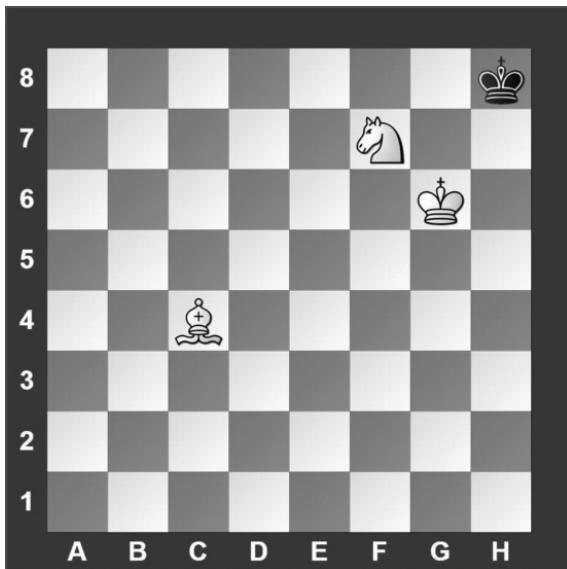
#2. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

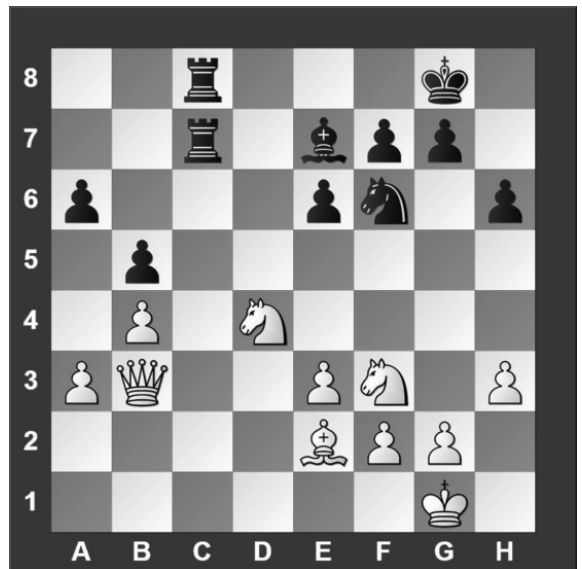
#3. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

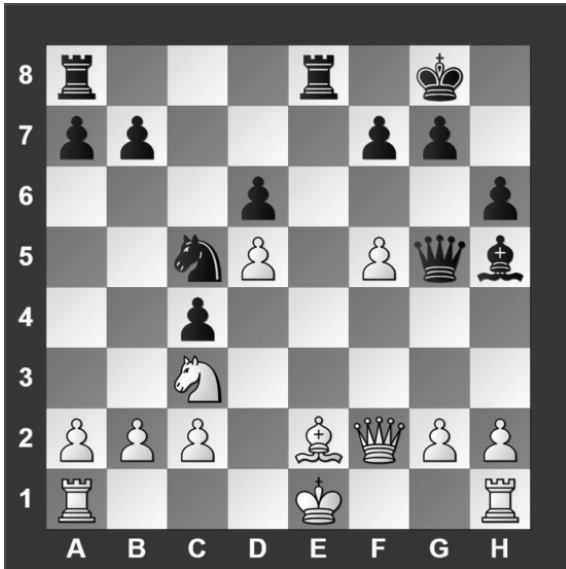
#4.



Which side has material advantage?

- a) White
- b) It is even
- c) Black
- d) It is not possible to tell.

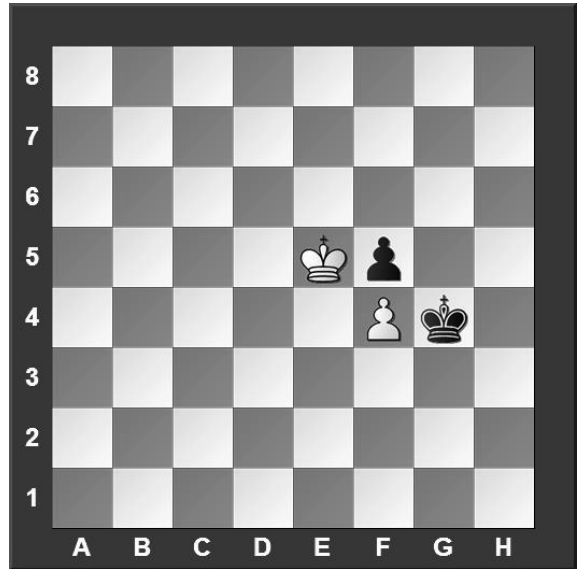
#5. White to move



Which move is possible for White?

- a) Short Castle
- b) Long Castle
- c) Take Black's Bishop
- d) Take Black's Pawn

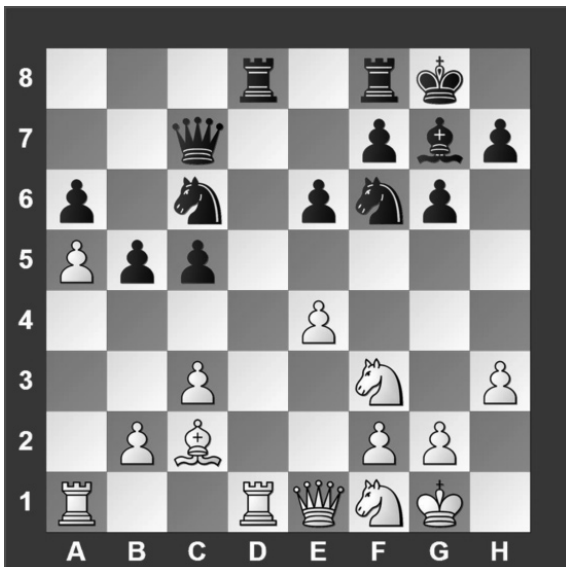
#6. White to move



With the best moves, what is the outcome of the game?

- a) White wins.
- b) Black wins.
- c) Draw.
- d) It is impossible to tell.

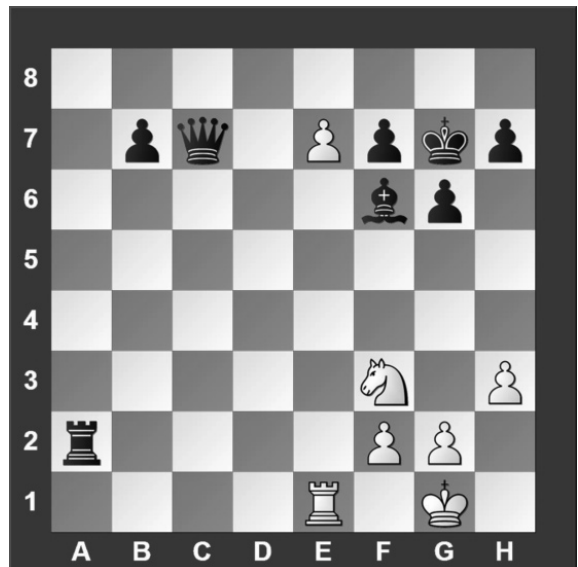
#7. White to move



Black just played b7 to b5. Which pawn can be captured?

- a) Black's a-pawn.
- b) Black's b-pawn.
- c) Black's g-pawn.
- d) White can't capture a pawn.

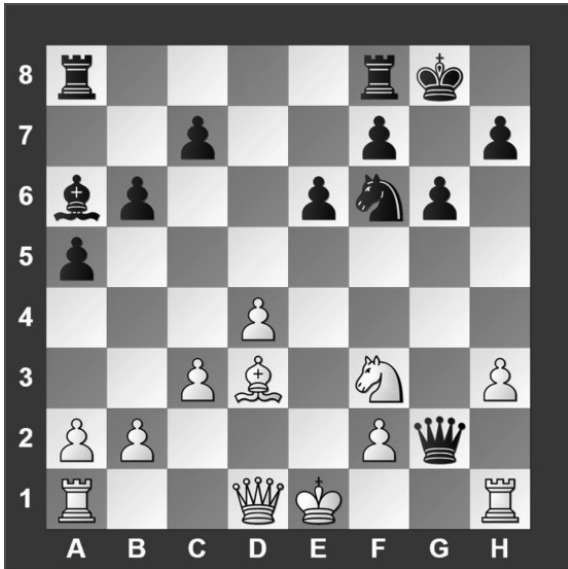
#8. White to move



What piece should White promote to?

- a) Queen
- b) Rook
- c) Bishop
- d) Knight

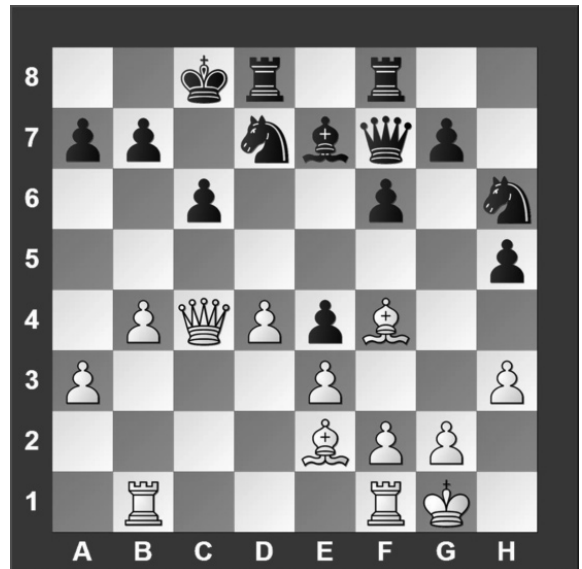
#9. White to move



What is White's best move?

- a) ♖h4
- b) ♖h2
- c) ♖g1
- d) ♗xa6

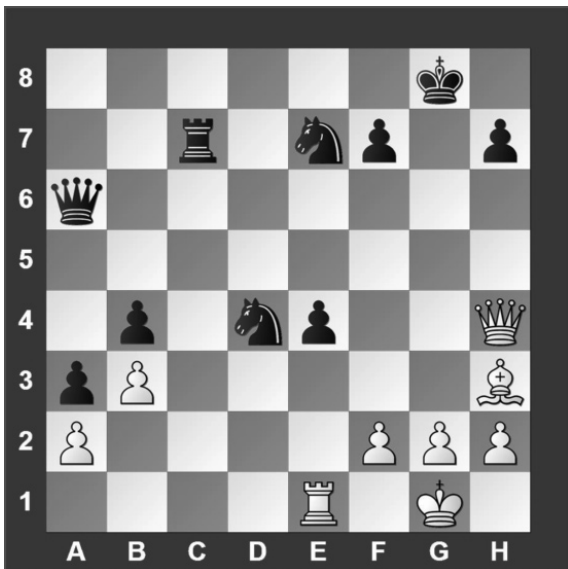
#10. White to move



White can checkmate Black in two moves, what is White's *first* move?

- a) ♖xc6
- b) b5
- c) ♖xf7
- d) d5

#11. White to move



What is White's best move?

- a) ♖xe4
- b) ♖xe4
- c) ♖g3
- d) ♖g5

#12. White to move



What is White's best move?

- a) ♗xc5
- b) ♗g5
- c) ♖xf8
- d) g3

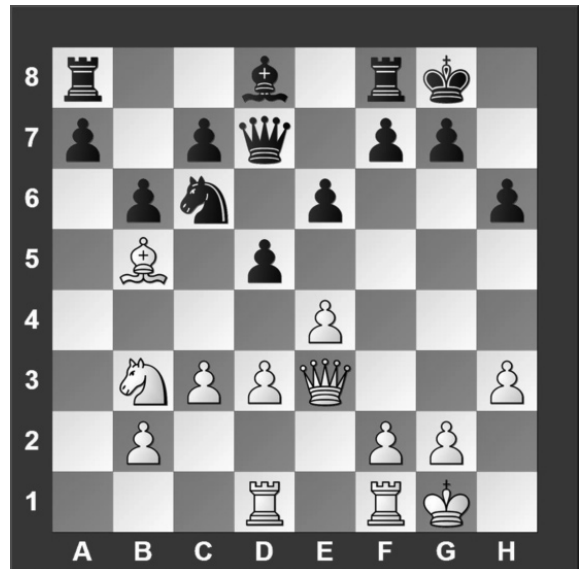
#13. White to move



What is White's best move?

- a) ♔xc3
- b) ♖c1
- c) ♘e6
- d) ♘f7

#14. White to move



What is White's best move?

- a) ♙xc6
- b) exd5
- c) ♘d4
- d) f4

#15. White to move



If White can checkmate Black in three moves, what's White's *second* move?

- a) ♖h1
- b) ♔xh7
- c) ♘g6
- d) e5

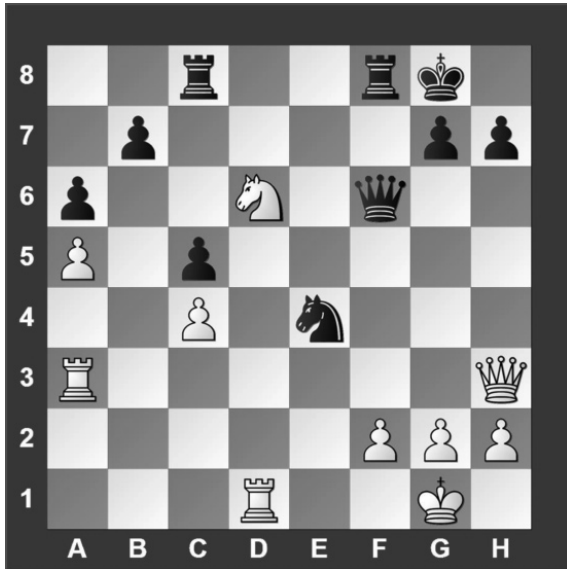
#16. White to move



If White can checkmate Black in two moves, what's White's *first* move?

- a) ♙g6
- b) ♖d8
- c) ♙xc8
- d) ♙xh7

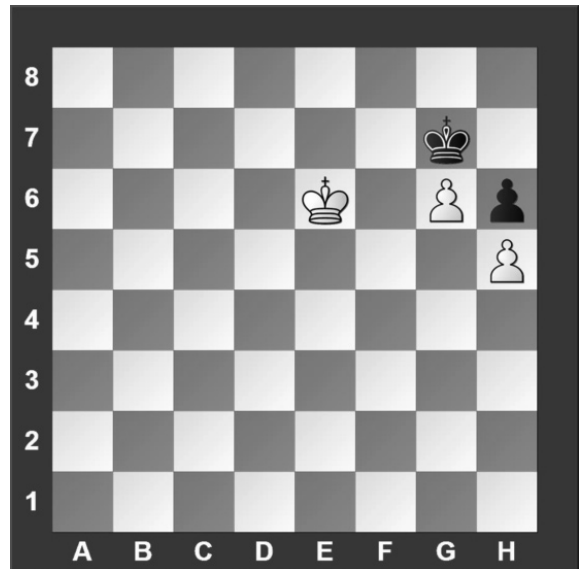
#17. White to move



What is White's best move?

- a) $\text{N} \times \text{c}8$
- b) $\text{N} \times \text{e}4$
- c) $\text{R} \text{f}3$
- d) $\text{f}3$

#18. White to move



With the best moves, what is the outcome of the game?

- a) White wins.
- b) Black wins.
- c) Draw.
- d) It is impossible to tell.

#19. White to move



What is White's best move?

- a) $\text{Q} \times \text{d}5$
- b) $\text{R} \times \text{c}5$
- c) $\text{N} \times \text{c}4$
- d) $\text{e}4$

#20. White to move



What is White's best move?

- a) $\text{R} \times \text{e}8$
- b) $\text{N} \times \text{c}7$
- c) $\text{N} \times \text{e}7$
- d) $\text{N} \times \text{f}6$



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A+ Chess Puzzle Contest
2019-2020 Fall/Winter — Grades 6, 7, and 8
ANSWER KEY**

Test

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| 7. B | 17. B |
| 8. D | 18. C |
| 9. B | 19. D |
| 10. A | 20. C |

Tiebreaker

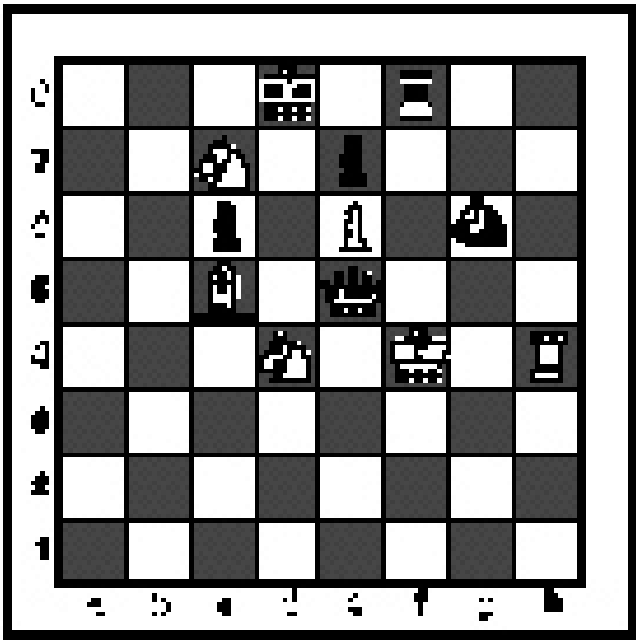
- | | |
|------|------|
| 1. A | 5. B |
| 2. B | 6. C |
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FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League

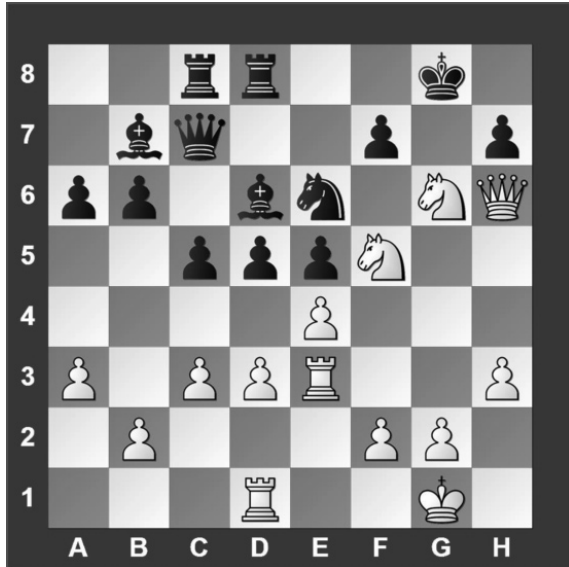


Chess Puzzle Solving

TIEBREAKER - ALL GRADES

**DO NOT OPEN TEST
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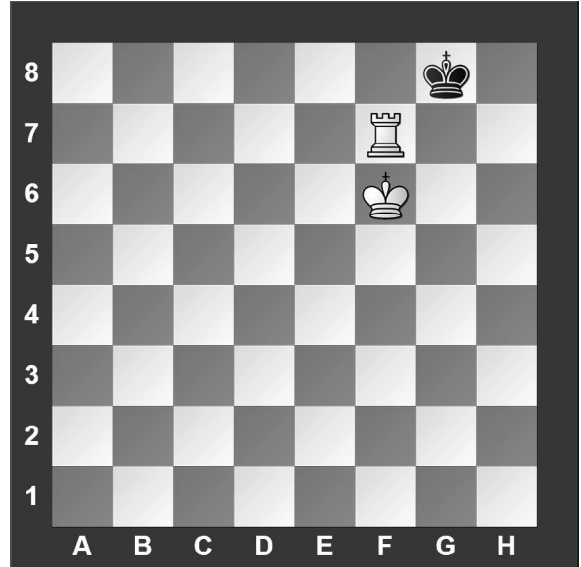
#1. White to move



White can checkmate Black in two moves, what is White's *first* move?

- a) ♔g7
- b) e×d5
- c) ♖g3
- d) ♜×d6

#2. White to move



With the best play, how many moves will it take White to checkmate Black?

- a) 1
- b) 2
- c) 3
- d) 4

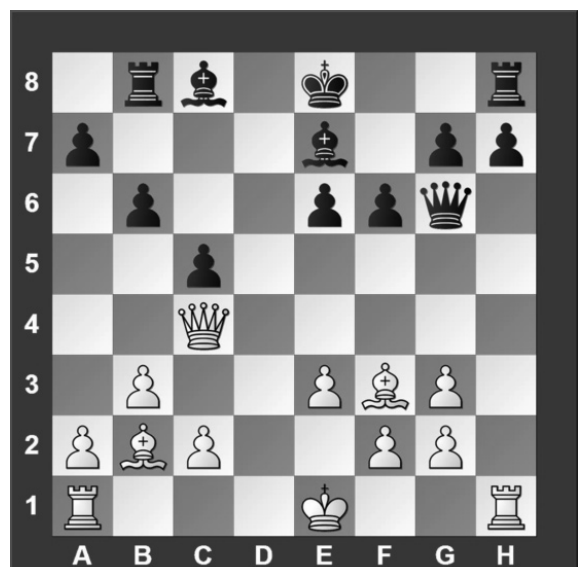
#3. White to move



What is White's best move?

- a) a×b4
- b) ♕f4
- c) ♞b6
- d) ♕×h4

#4. White to move



What is White's best move?

- a) ♔b5
- b) ♔a4
- c) ♕c6
- d) ♕h5

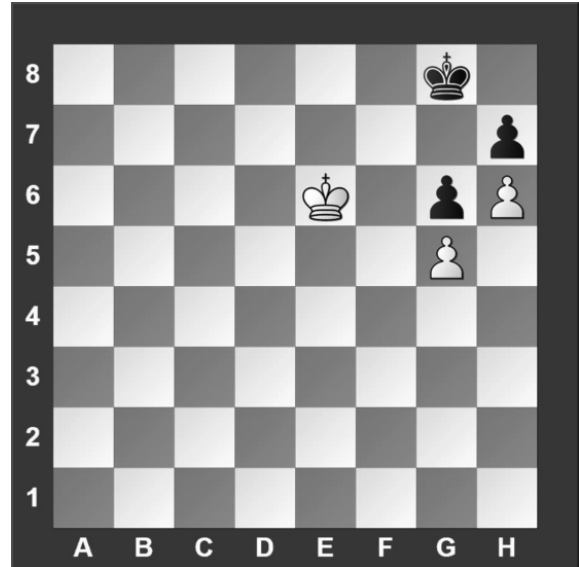
#5. White to move



What is White's best move?

- a) ♖d7
- b) ♘c4
- c) fxe5
- d) ♘d3

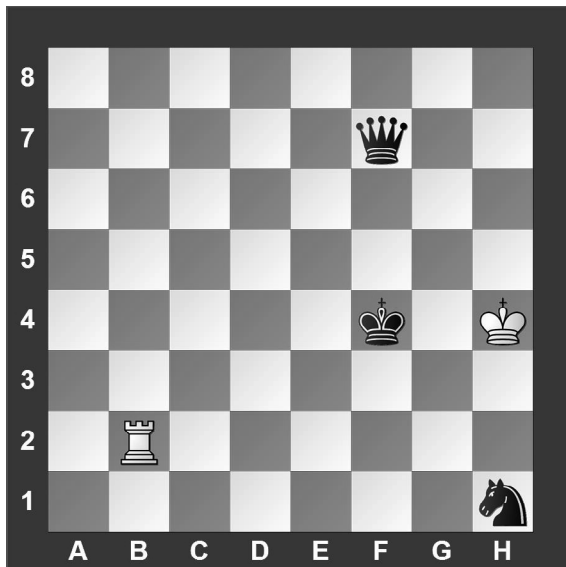
#6. White to move



With the best play, what is the outcome of the game?

- a) White wins
- b) Black wins
- c) It is a draw
- d) It is not possible to tell

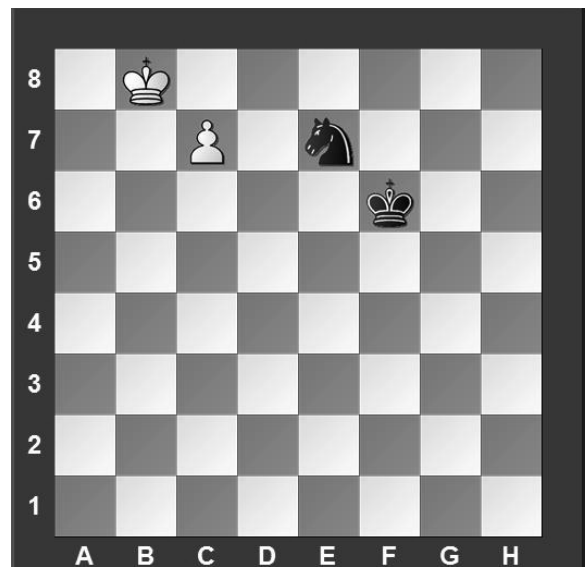
#7. White to move



What is White's best move?

- a) ♖f2
- b) ♖b4
- c) ♔h3
- d) ♖b1

#8. White to move



With the best play, what is the outcome of the game?

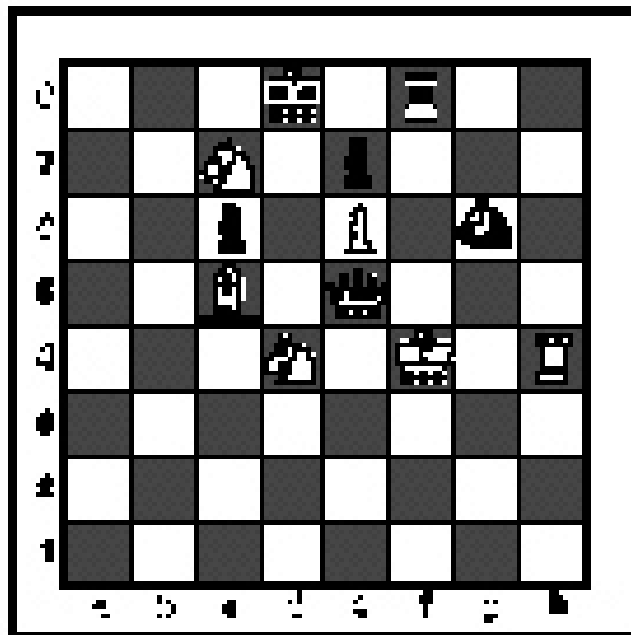
- a) White wins
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SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



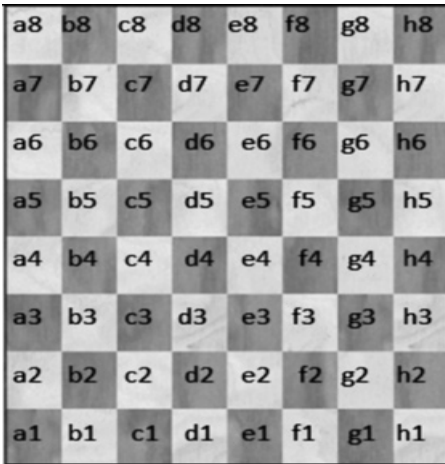
Chess Puzzle Solving






grades 6, 7, 8

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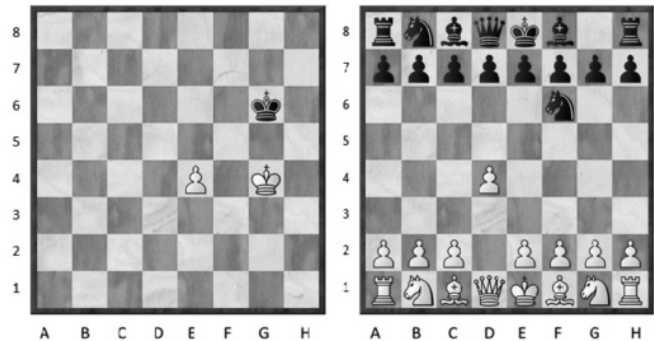


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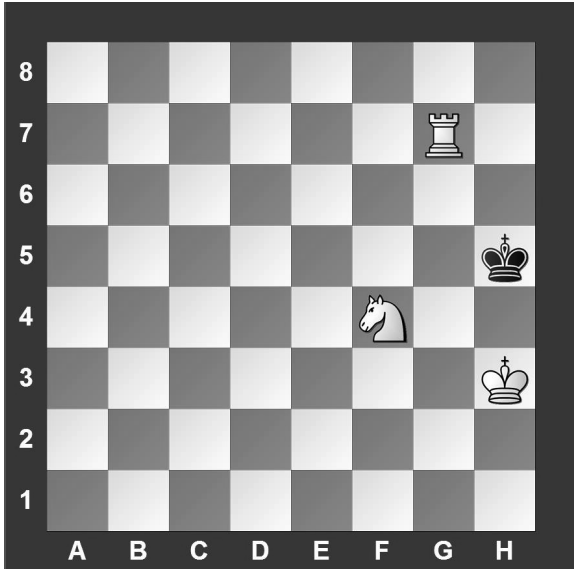
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If you look closely at the diagrams in the questions below, you'll see that the frame around the diagram labels the ranks (1-8) and files (a-h) to help you.



White has just played **e4**. Black has just played ... **Nf6**.

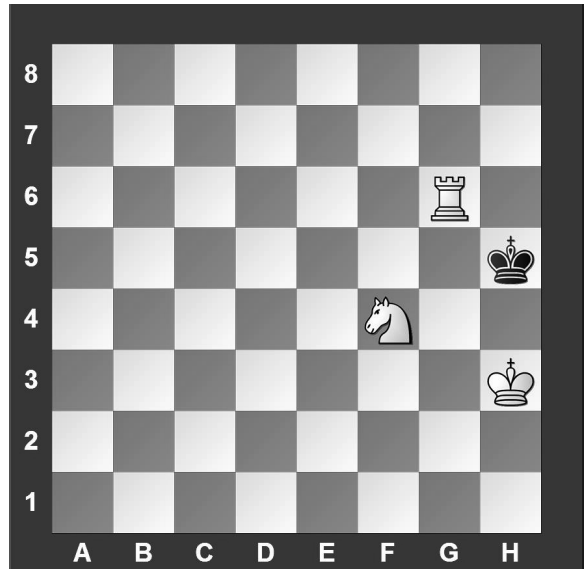
#1. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

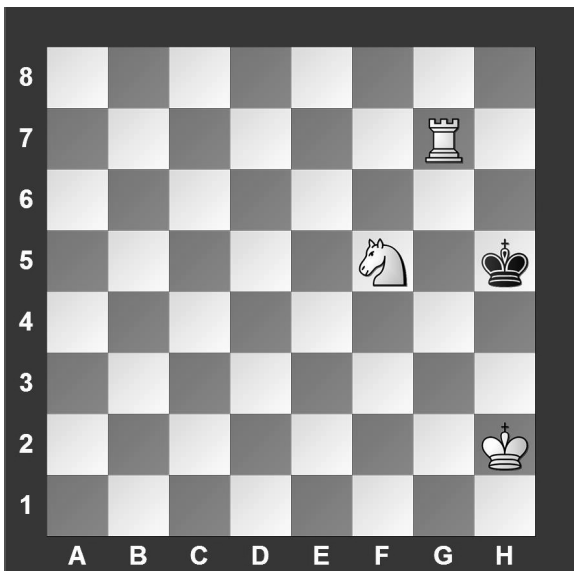
#2. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

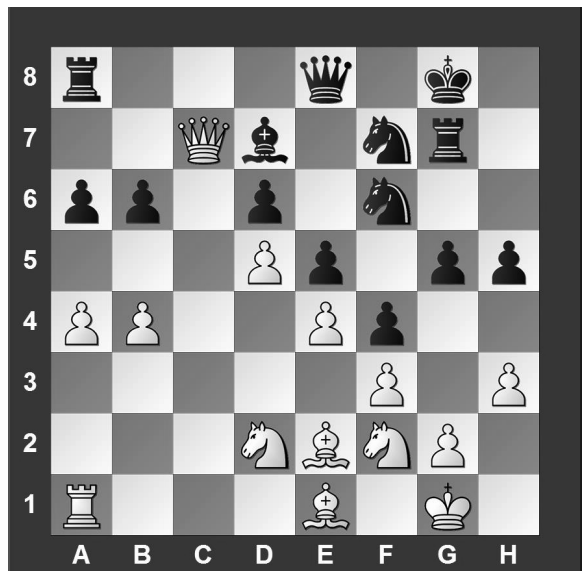
#3. Black to move



What term best describes this situation?

- a) Black is in checkmate.
- b) Black is in stalemate.
- c) Black is in check.
- d) None of the above.

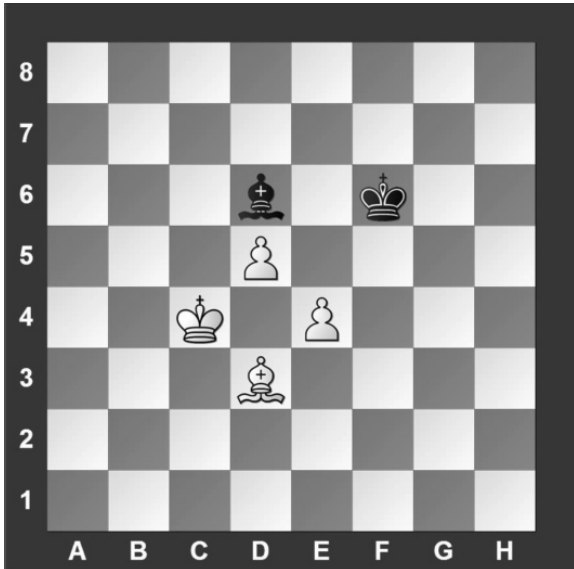
#4.



Which side has material advantage?

- a) White
- b) It is even.
- c) Black
- d) It is not possible to tell.

#5. Black to move



With the best moves, what is the outcome of the game?

- a) White wins.
- b) Draw.
- c) Black wins.
- d) It is not possible to tell.

#6. White to move



Which move is possible for White?

- a) Short Castle.
- b) Long Castle.
- c) Both A and B.
- d) Neither A or B.

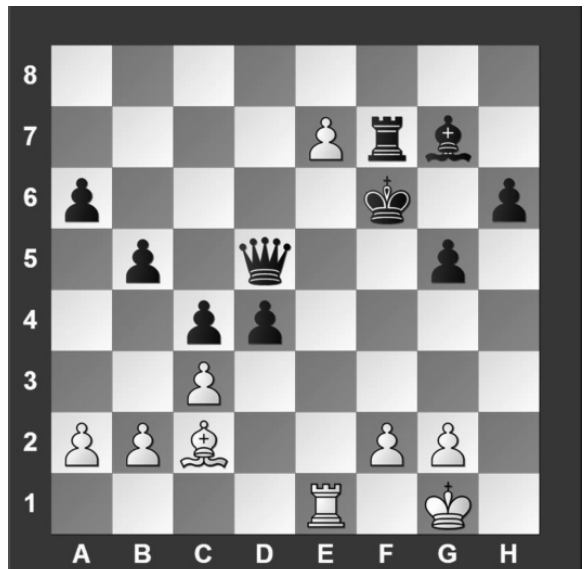
#7. White to move



Black just played f7 to f5. Which pawn can be captured?

- a) Black's b-pawn
- b) Black's d-pawn
- c) Black's f-pawn
- d) White can't capture a pawn

#8. White to move



What piece should White promote to?

- a) Queen
- b) Rook
- c) Knight
- d) Bishop

#9. White to move



What is White's best move?

- a) $f \times g5$
- b) Ke1
- c) $\text{Q} \times a6$
- d) $\text{Q} \times f7$

#10. White to move



What is White's best move?

- a) $e \times d5$
- b) Nd6
- c) $b3$
- d) Ka3

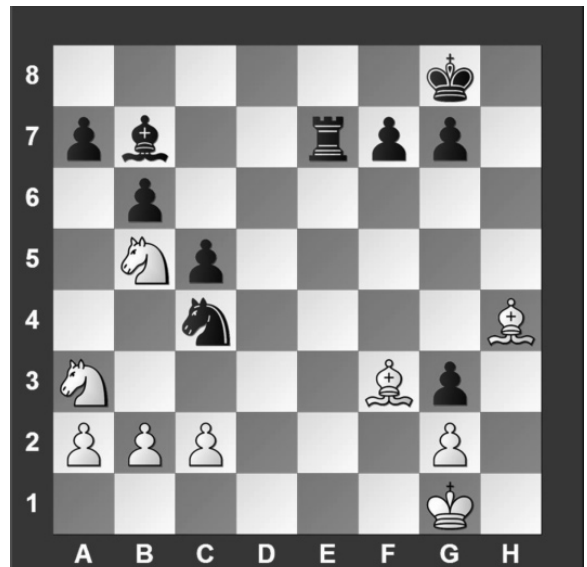
#11. White to move



What is White's best move?

- a) $\text{Nd} \times f6$
- b) $\text{Q} \times c6$
- c) $\text{Nd} \times b6$
- d) $\text{Ke} \times e4$

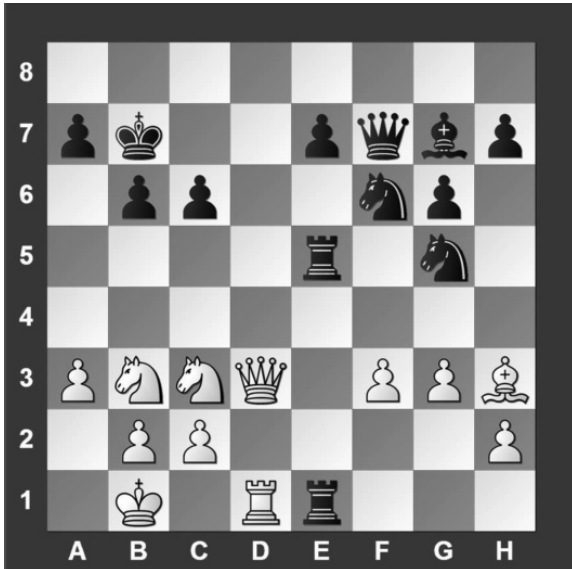
#12. White to move



Which piece should White capture?

- a) Bishop
- b) Rook
- c) Knight
- d) Pawn

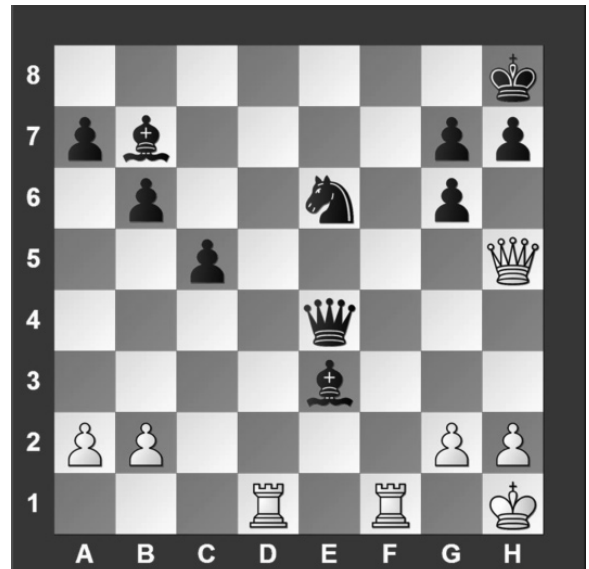
#13. White to move



White can checkmate Black in two moves, what is the *first* move?

- a) ♔c8
- b) ♕d7
- c) ♞a5
- d) ♖a6

#14. White to move



What is White's best move?

- a) ♖h3
- b) ♜f8
- c) ♞d8
- d) ♕f3

#15. White to move



What is White's best move?

- a) ♕x b7
- b) ♜x c8
- c) ♞c7
- d) ♖e3

#16. White to move



What is White's best move?

- a) ♞d6
- b) ♕x f6
- c) ♞g7
- d) ♞x f6

#17. White to move



What is White's best move?

- a) ♖h5
- b) ♖h3
- c) ♖xg6
- d) ♗h5

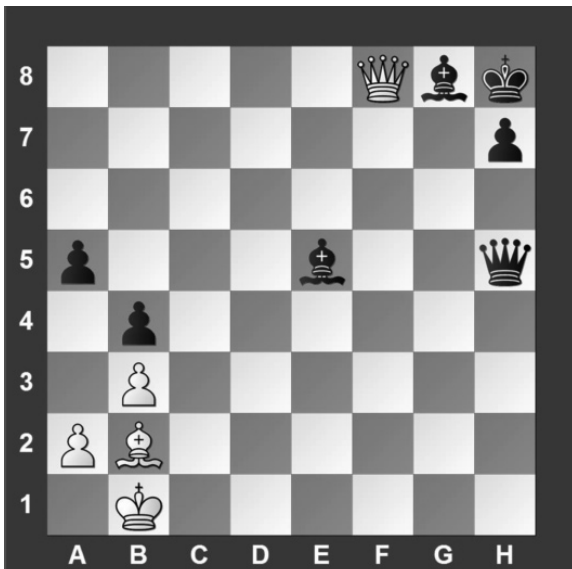
#18. White to move



What is White's best move?

- a) ♔xb7
- b) ♗xe6
- c) ♖h3
- d) ♗c3

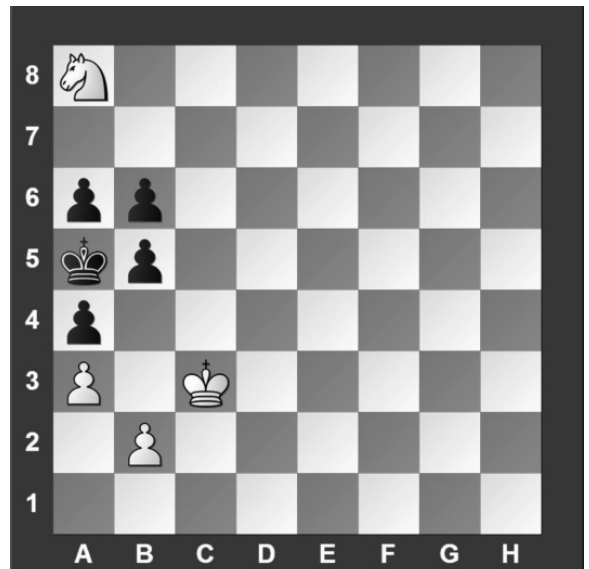
#19. White to move



If White can checkmate Black in two moves, what's the *first* move?

- a) ♔f6
- b) ♗xe5
- c) ♗xg8
- d) ♗c8

#20. White to move



With the best play, how many moves will it take White to checkmate Black?

- a) 1
- b) 2
- c) 3
- d) 4



**University Interscholastic League
A+ Chess Puzzle Contest
2019-2020 Spring — Grades 6, 7, and 8
ANSWER KEY**

Test

- | | |
|-------|-------|
| 1. C | 11. A |
| 2. A | 12. B |
| 3. B | 13. D |
| 4. C | 14. C |
| 5. B | 15. A |
| 6. D | 16. D |
| 7. C | 17. C |
| 8. C | 18. B |
| 9. D | 19. A |
| 10. B | 20. B |

Tiebreaker

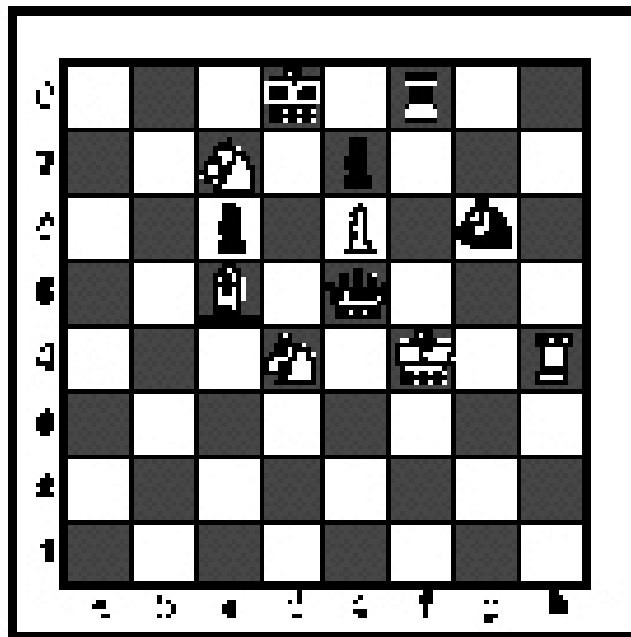
- | | |
|------|------|
| 1. B | 5. B |
| 2. A | 6. D |
| 3. C | 7. A |
| 4. D | 8. C |

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League

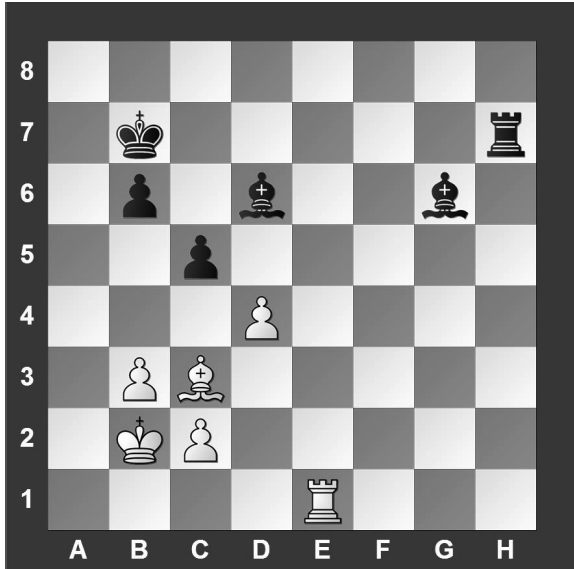


Chess Puzzle Solving

TIEBREAKER - ALL GRADES

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

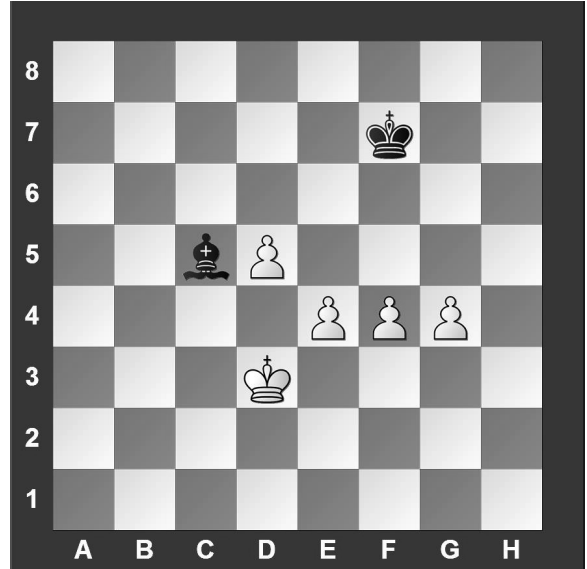
#1. White to move



What is White's best move?

- a) $d \times c5$
- b) $\text{K}e6$
- c) $\text{K}g1$
- d) $d5$

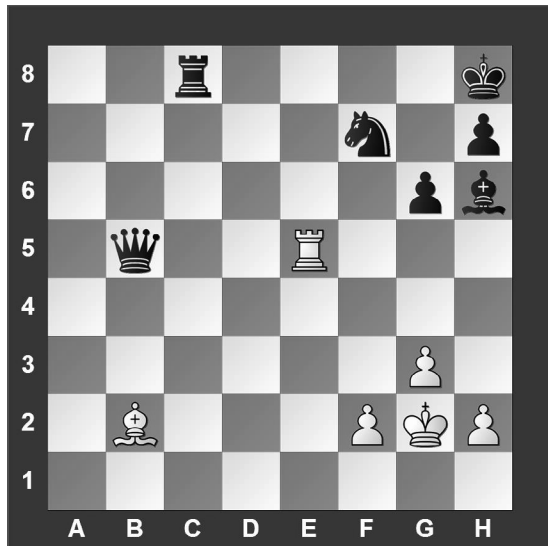
#2. White to move



What should be the outcome of the game?

- a) White wins.
- b) Black wins.
- c) Draw.
- d) It is not possible to tell.

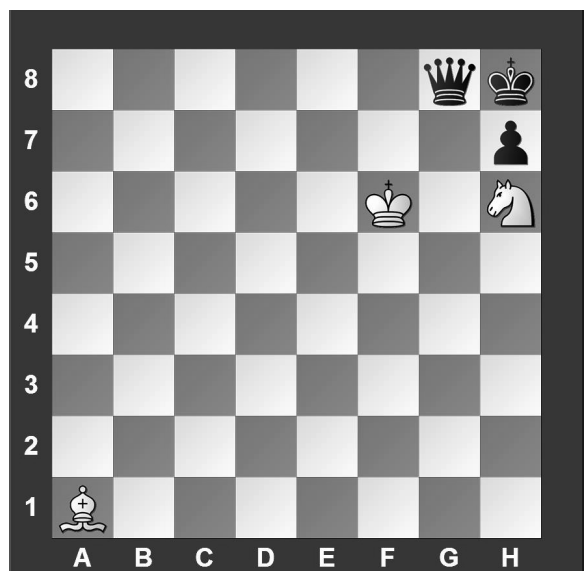
#3. White to move



What is White's best move?

- a) $\text{K} \times b5$
- b) $\text{K}h5$
- c) $\text{K}e8$
- d) $\text{K}c5$

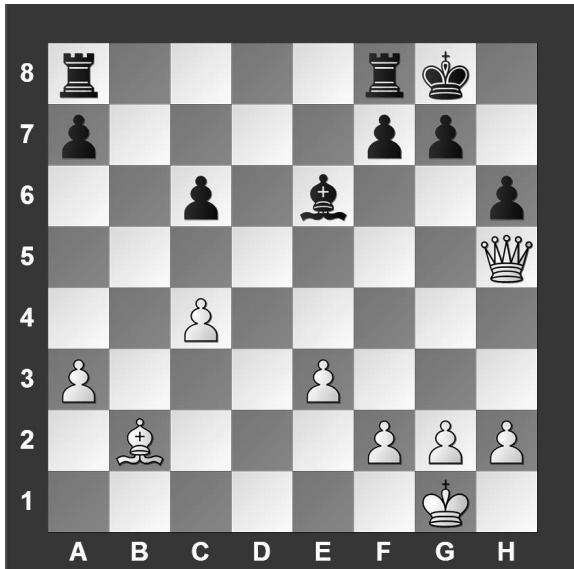
#4. White to move



What is White's best move?

- a) $\text{K}e7$
- b) $\text{K}f5$
- c) $\text{N} \times g8$
- d) $\text{B}f7$

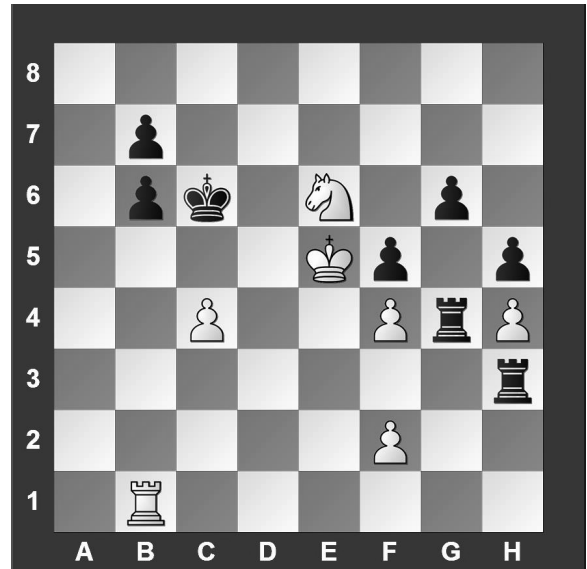
#5. White to move



What is White's best move?

- a) ♖g4
- b) ♕e5
- c) ♗xg7
- d) f4

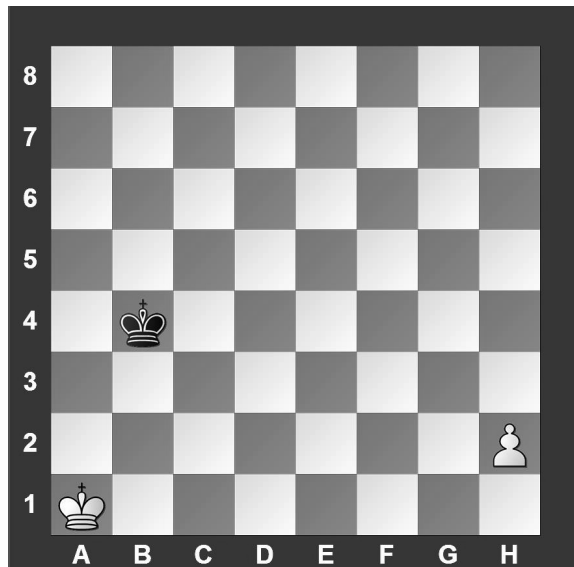
#6. White to move



What is White's best move?

- a) ♘d4
- b) c5
- c) f3
- d) ♖d1

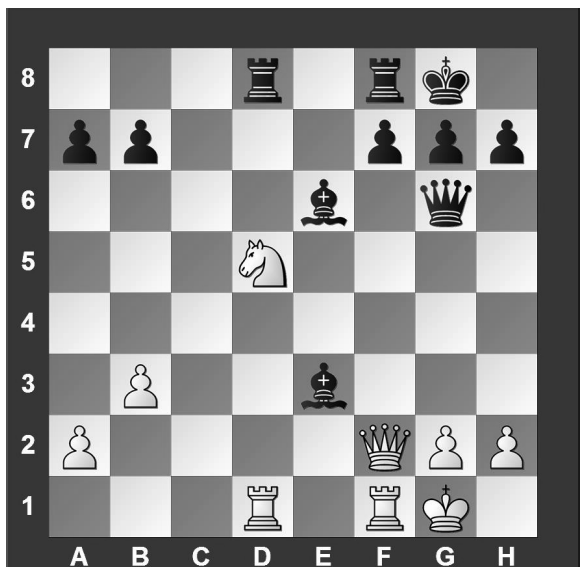
#7. White to move



With the best play, what is the outcome of the game?

- a) White wins.
- b) Black wins.
- c) Draw.
- d) It is not possible to tell.

#8. White to move



What is White's best move?

- a) ♕x e3
- b) ♘x e3
- c) ♘e7
- d) ♘f4

CONTESTANT NUMBER:

FOR GRADER USE ONLY

Score Test Below:

_____ out of 120. Initials _____

_____ out of 120. Initials _____

Papers contending to place:

_____ out of 120. Initials _____



**University Interscholastic League
A+ Dictionary Skills Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level: 5 6 7 8

1. _____

21. _____

2. _____

22. _____

3. _____

23. _____

4. _____

24. _____

5. _____

25. _____

6. _____

26. _____

7. _____

27. _____

8. _____

28. _____

9. _____

29. _____

10. _____

30. _____

11. _____

31. _____

12. _____

32. _____

13. _____

33. _____

14. _____

34. _____

15. _____

35. _____

16. _____

36. _____

17. _____

37. _____

18. _____

38. _____

19. _____

39. _____

20. _____

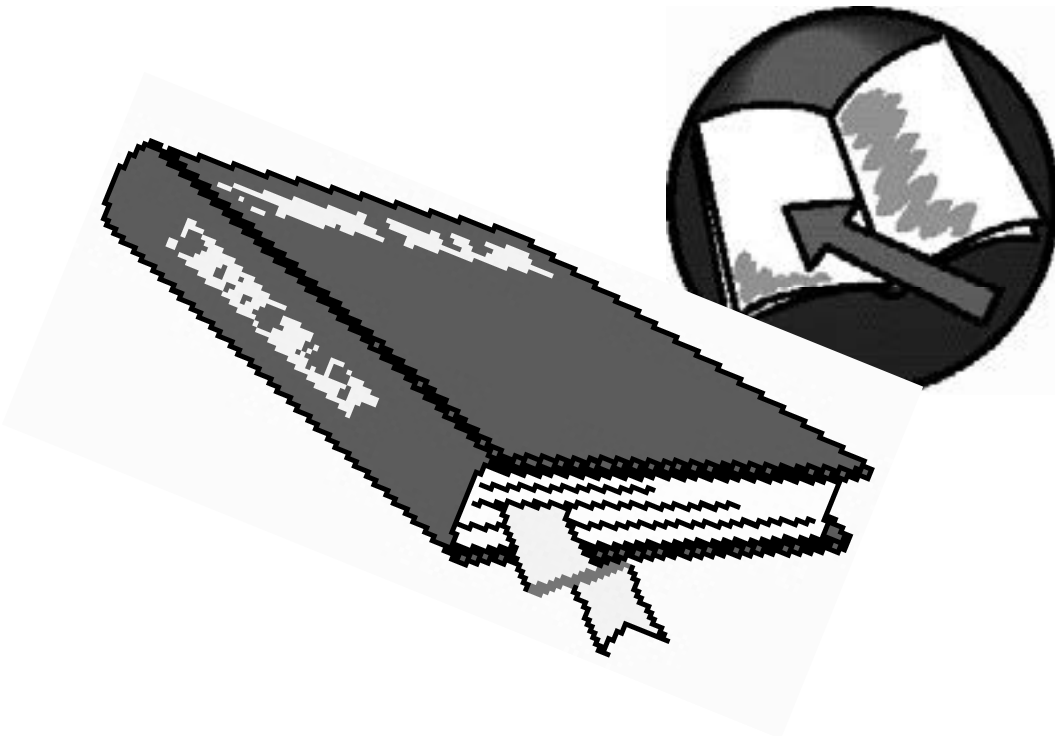
40. _____

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



Dictionary Skills

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

11. What year did Enrico Fermi win the Nobel Prize?
A. 1978
B. 1942
C. 1912
D. 1938
12. According to the theory of plate tectonics, what is caused by the movement of plates?
A. freeze
B. flooding
C. earth quakes
D. global warming
13. When does advent begin?
A. Christmas day
B. four Sundays before Christmas
C. the day after Christmas
D. the day after Christmas
14. Which of the following weights would be classified as flyweight in boxing?
A. 111 lbs
B. 145 lbs
C. 114 lbs
D. 126 lbs
15. Where might one find muttonchops?
A. a grocery store
B. on a face
C. a hardware store
D. a bakery
16. The Great Smoky Mountains are between what two states?
A. Nevada and Utah
B. Alabama and Georgia
C. Nebraska and Kansas
D. North Carolina and Tennessee
17. Which of the following insects cover themselves with foam in the young stages?
A. mantis
B. horseflies
C. spittlebug
D. beetle
18. Which of the following is **NOT** a vital statistic?
A. births
B. deaths
C. retirement
D. disease
19. What is the area between the Tropic of Cancer and the Tropic of Capricorn called?
A. Torrid zone
B. Gulf of Bothnia
C. Changchun
D. Marne
20. A Richter scale is used to measure the strength of what?
A. trains
B. chains
C. waves
D. earthquakes
21. How many feet below sea level is the Caspian Sea?
A. 100 ft
B. 90 ft
C. 27 ft
D. 900 ft

22. What does the abbreviation MRI stand for?
 A. mild run item
 B. multiple reverse interruptions
 C. magnetic resonance imaging
 D. more road instructions
23. If someone is unfledged, what are they not ready for?
 A. commitment
 B. to give up
 C. flight
 D. school
24. What is the sixth letter of the Greek alphabet?
 A. alpha
 B. theta
 C. zeta
 D. phi
25. Who coined the MacGuffin?
 A. Alfred Hitchcock
 B. Vasco Balboa
 C. Oliver Holmes
 D. John Sousa
26. During what century would a ruff have been more popular common to wear?
 A. 21st
 B. 16th
 C. 8th
 D. 19th
27. Which of the following is Morse code for the number eight?
 A. - - · - -
 B. · · · · ·
 C. · - - - -
 D. - - - - ·
28. What direction does a trade wind blow from?
 A. west
 B. south
 C. north
 D. east
29. What year was Carolina divided into two states?
 A. 1749
 B. 1729
 C. 1663
 D. 1678
30. What type of fish might you find clinging to a tiger shark?
 A. blowfish
 B. remora
 C. swordfish
 D. flatfish
31. What would be the age of a Camp Fire Girl?
 A. 10
 B. 5
 C. 19
 D. 3
32. What is another name for a stolon branch?
 A. a runner
 B. a quince
 C. a panicle
 D. a madder

- | | |
|------------------------|---|
| _____ 33. hypertension | A. a fit of anger or irritation |
| _____ 34. plagiarize | B. to have a flavor, trace, or suggestion |
| _____ 35. smack | C. a wild sheep of North Africa |
| _____ 36. martinet | D. high blood pressure |
| _____ 37. huff | E. a long loose heavy overcoat |
| _____ 38. ulster | F. to steal and pass off as one's own |
| _____ 39. aoudad | G. a person who demands strict obedience |
| _____ 40. oddment | H. something left over |

**University Interscholastic League
2019-20 Dictionary Skills Contest
Invitational Test — Grades 7 & 8**

Answer Key

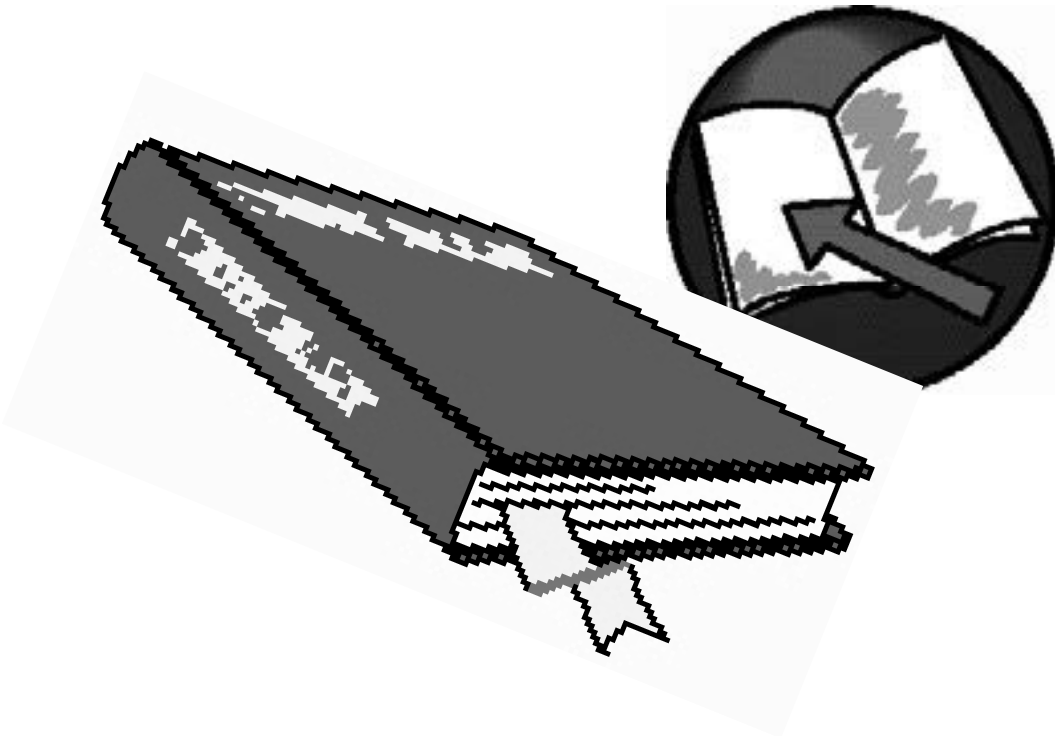
- | | |
|-------|-------|
| 1. C | 21. B |
| 2. B | 22. C |
| 3. B | 23. C |
| 4. D | 24. C |
| 5. A | 25. A |
| 6. C | 26. B |
| 7. C | 27. D |
| 8. B | 28. D |
| 9. A | 29. C |
| 10. D | 30. B |
| 11. D | 31. A |
| 12. C | 32. A |
| 13. B | 33. D |
| 14. A | 34. F |
| 15. B | 35. B |
| 16. D | 36. G |
| 17. C | 37. A |
| 18. C | 38. E |
| 19. A | 39. C |
| 20. D | 40. H |

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Dictionary Skills

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

**University Interscholastic League
2019-20 Dictionary Skills Contest
Fall/Winter District Test — Grades 7 & 8**

1. What is another word for raze?
A. burn
B. demolish
C. float
D. hunt
2. If a horse experiencing a spavin, what part of the horse is swelling?
A. gaskin
B. loin
C. hock
D. croup
3. What is the theory that if one nation becomes Communist-controlled the neighboring nations will also become Communist-controlled?
A. law theory
B. the neighbor theory
C. the domino theory
D. music theory
4. The macadamia nut was named after Australian chemist John Macadam. What year did he pass?
A. 1836
B. 1901
C. 1844
D. 1865
5. What was the name of the Greek philosopher who gave insects the name entomon?
A. Aristotle
B. Plato
C. Socrates
D. Democritus
6. What are molars adapted for?
A. grinding
B. flashing light
C. brushing
D. polishing
7. How many surrounding boroughs are in Greater London?
A. 30
B. 32
C. 42
D. 41
8. What is the study or collection of coins, paper, money and sometimes related objects?
A. geology
B. mycology
C. numismatics
D. ornithology
9. Where did nankeen originally come from?
A. Italy
B. Mexico
C. Australia
D. China

10. What does the abbreviating HTML stand for?
A. hypertext markup language C. hypertext markup list
B. hypertext mass language D. high transfer molecule line
11. What year did Guyana become an independent country?
A. 1980 C. 1960
B. 1970 D. 1990
12. Pernicious anemia is caused by a reduced ability to absorb what?
A. water C. vitamin B12
B. vitamin C D. oxygen
13. Which of the following books are in the Old Testament of the Bible?
A. Jude C. Galatians
B. Titus D. Baruch
14. How many number of bells does a ship sound if the time is 6:30am?
A. 4 C. 1
B. 7 D. 5
15. Where in the body does systole occur?
A. the heart C. the kidney
B. the liver D. the brain
16. Canute the Great was a Danish king of all the following countries **EXCEPT**?
A. England C. Norway
B. Austria D. Denmark
17. According to the history of sideburns, General Ambrose Everett Burnside was a popular figure in what city?
A. New Orleans C. Houston
B. Boston D. Washington
18. If a ship is considered a hulk, what is it being described as?
A. strong C. clumsy
B. green D. slow
19. What is stored in a Leyden jar?
A. electric charge C. coffee
B. sauce D. oxygen
20. What river flows through Saint Petersburg?
A. Mekong river C. Ijssel river
B. Neva river D. Allegheny river

21. A chart, map, or model are all examples of a what?
A. triple play
B. visual aid
C. showcase
D. chaparral
22. A neap tide occurs at what quarters of the moon?
A. third and fourth
B. second and third
C. first and third
D. first and second
23. Which of the following herbs is also called a cowslip?
A. dill
B. chamomile
C. mint
D. marsh marigold
24. If someone is drinking a demitasse, what are they drinking?
A. juice
B. water
C. coffee
D. milk
25. What was William Tell commanded to shoot off of his son's head?
A. a golden spoon
B. a candle
C. a bird
D. an apple
26. According to the signs of the zodiac, when does the sun enter for Virgo?
A. August 23rd
B. July 23rd
C. March 21st
D. January 20th
27. Where does the Loire river flow into??
A. the Indian Ocean
B. the Bay of Biscay
C. the Mediterranean
D. the Gulf of Oman
28. All of the following are filled with kapok **EXCEPT**?
A. sleeping bags
B. mattresses
C. punching bags
D. life preserves
29. Which of the following animals is a cetacean?
A. whale
B. dog
C. orangutan
D. chameleon
30. Whose adventures are narrated in the Arabian Nights' Entertainments?
A. Sir Alexander Fleming
B. Hephaestus
C. Galahad
D. Sinbad the Sailor
31. A tried and true friend is what kind of friend?
A. smart
B. reliable
C. absent
D. rich

32. Which of the following days is an ides day?
- | | |
|----------------------------|---------------------------|
| A. July 13 th | C. March 15 th |
| B. January 2 nd | D. May 5 th |

Match each of the following words to its correct meaning:

- | | |
|----------------------|--|
| _____ 33. hoodwink | A. a Hindu queen |
| _____ 34. rani | B. a slit made by a saw or a cutting torch |
| _____ 35. Wave | C. a closing piece of music |
| _____ 36. jovial | D. to speak or write with great praise |
| _____ 37. postlude | E. to deceive by false appearance |
| _____ 38. kerf | F. any of numerous large marine snails |
| _____ 39. rhapsodize | G. a woman serving in the navy |
| _____ 40. whelk | H. full of or expressing good humor |

**University Interscholastic League
2019-20 Dictionary Skills Contest
Fall/Winter District — Grades 7 & 8**

Answer Key

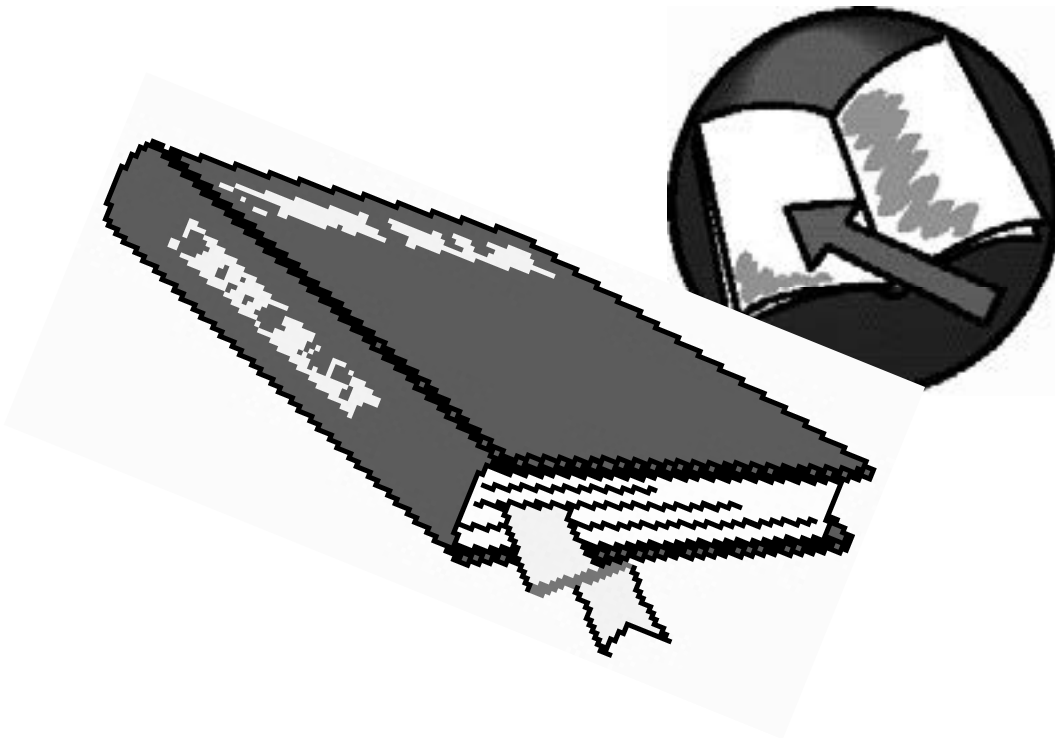
- | | |
|-------|-------|
| 1. B | 21. B |
| 2. C | 22. C |
| 3. C | 23. D |
| 4. D | 24. C |
| 5. A | 25. D |
| 6. A | 26. A |
| 7. B | 27. B |
| 8. C | 28. C |
| 9. D | 29. A |
| 10. A | 30. D |
| 11. B | 31. B |
| 12. C | 32. C |
| 13. D | 33. E |
| 14. D | 34. A |
| 15. A | 35. G |
| 16. B | 36. H |
| 17. D | 37. C |
| 18. C | 38. B |
| 19. A | 39. D |
| 20. B | 40. F |

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Dictionary Skills

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

**University Interscholastic League
2019-20 Dictionary Skills Contest
Spring District — Grades 7 & 8**

1. If a town is considered to be a boomtown, what is it experiencing a sudden growth in?
A. crops
B. waste
C. population
D. snow days
2. What invention was created that replaced a distaff?
A. the crockpot
B. a calculator
C. a stapler
D. the spinning wheel
3. How many incisor teeth does a lagomorph have?
A. 4
B. 6
C. 3
D. 2
4. What shape is formed by the group of stars, Pegasus?
A. square
B. triangle
C. pentagon
D. hexagon
5. According to the history of the abbreviation O.K., what did it stand for?
A. out knowing
B. on key
C. oll korrekt
D. old knowledge
6. All of the following are considered to be bony fish **EXCEPT**?
A. eels
B. stingrays
C. mackerels
D. trout
7. Where would you find a lavalier hanging?
A. a neck
B. a ceiling
C. a chimney
D. a picture frame
8. Who was the goddess of reward and punishment in Greek mythology?
A. Diana
B. Europa
C. Mephistopheles
D. Nemesis
9. Which of the following stars is also called the Dog Star?
A. Sirius
B. Canopus
C. Rigel
D. Arcturus
10. What is a woman traditionally thought to dream of on Saint Agnes's Eve?
A. food
B. her future husband
C. children
D. her past life

11. What is the Waldorf salad named after?
A. a star
B. a nurse
C. a hotel
D. a flower
12. What is the true name of a Richard Roe in court?
A. Mike Smith
B. Unknown
C. Sam Riddle
D. Jim Knight
13. What year did Moldavia become independent?
A. 1998
B. 1981
C. 1992
D. 1991
14. A Mohs' scale is a scale of hardness for minerals. What is the highest range on the scale?
A. 5
B. 50
C. 100
D. 10
15. What color is a car if it is painted cyan?
A. yellowish orange
B. greenish blue
C. light green
D. pastel pink
16. Which of the following is known to be very destructive to fruit trees?
A. trumpet vines
B. cerium
C. a San Jose scale
D. leprosy
17. Who would you most likely see wearing a cope?
A. priest
B. soldiers
C. train conductors
D. referees
18. All of the following can be found in loam **EXCEPT**?
A. silt
B. sand
C. clay
D. ash
19. What was the password that Ali Baba used to enter the cave of the Forty Thieves?
A. Arabian Nights
B. Starlight
C. Abracadabra
D. Sesame
20. What is the principal light-gathering element of a reflector?
A. a diamond
B. a mirror
C. a rubber ball
D. a ruby
21. According to the history of the sandwich, John Montagu was fond of playing what?
A. chess
B. darts
C. cards
D. golf

22. Which of the following objects were especially abundant in the Mesozoic era of geological history?
- A. grebes
 - B. nuthatches
 - C. ammonites
 - D. tomahawks
23. What is arranged in the Japanese art of ikebana?
- A. flowers
 - B. furniture
 - C. fruit
 - D. paper cranes
24. What year was Carolina divided into North Carolina and South Carolina?
- A. 1663
 - B. 1872
 - C. 1806
 - D. 1729
25. Where is the romance language Occitan spoken?
- A. Puerto Rico
 - B. France
 - C. Spain
 - D. Hong Kong
26. Between the late 17th and the early 19th century, a Whig tried to increase the power of what body of government?
- A. the parliament
 - B. the monarch
 - C. the supreme court
 - D. congress
27. Which of the following numbers is considered to be a palindrome?
- A. 2002
 - B. 321
 - C. 456
 - D. 1100
28. Sodium thiosulfate is a chemical compound used to make what permanent?
- A. window tint
 - B. pottery shapes
 - C. hair color
 - D. photographic images
29. Someone with a bad temper could be described as being what?
- A. translucent
 - B. crass
 - C. surly
 - D. jittery
30. Which of the four King Williams reigned over England in 1694?
- A. King William I
 - B. King William II
 - C. King William III
 - D. King William IV
31. What is the name of the ancient trade route that extended from China to the Mediterranean?
- A. Old Point Comfort
 - B. Silk Road
 - C. Strait of Gibraltar
 - D. Waltham Forest
32. At about how many miles above the earth's surface does the E layer occur?
- A. 110 miles
 - B. 55 miles
 - C. 65 miles
 - D. 16 miles

Match each of the following words to its correct meaning:

- | | |
|--------------------|--|
| _____ 33. mogul | A. the basic unit of money in China |
| _____ 34. docile | B. a remedy for all ills |
| _____ 35. garish | C. disliking effort or activity |
| _____ 36. amok | D. a bump on a ski slope |
| _____ 37. panacea | E. too bright or showy |
| _____ 38. scalene | F. having sides that are each a different length |
| _____ 39. yuan | G. in a violently excited state |
| _____ 40. indolent | H. easily taught, led, or managed |

**University Interscholastic League
2019-20 Dictionary Skills Contest
Spring Test — Grades 7 & 8**

Answer Key

- | | |
|-------|-------|
| 1. C | 21. C |
| 2. D | 22. C |
| 3. A | 23. A |
| 4. A | 24. D |
| 5. C | 25. B |
| 6. B | 26. A |
| 7. A | 27. A |
| 8. D | 28. D |
| 9. A | 29. C |
| 10. B | 30. C |
| 11. C | 31. B |
| 12. B | 32. C |
| 13. D | 33. D |
| 14. D | 34. H |
| 15. B | 35. E |
| 16. C | 36. G |
| 17. A | 37. B |
| 18. D | 38. F |
| 19. D | 39. A |
| 20. B | 40. C |



Editorial Writing Evaluation Sheet

contestant #

In order to make this a complete learning experience, judges are asked to complete the evaluation sheet for students.

	FAIR	GOOD	EXCELLENT
The situation or problem is explained in the first two or three paragraphs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The writer takes an obvious stance in the first few paragraphs.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The writer supports the stance through specific examples.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The writer presents a logical solution or conclusion.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

What were the strong points of the editorial?

What were the weak points of the editorial?

What suggestions do you have for improvement?

Judge's Signature _____

UIL Editorial Writing Contest • A+ Invitational • 2019-2020

(Distribute this sheet to judges prior to judging.)

JUDGING INSTRUCTIONS

In each contestant's editorial, please look for clarity of thought, and if the writer came to a clear conclusion. Remember that many of these writers have not been trained in proper editorial writing. Therefore key considerations should be that they have made a statement of the situation and formed a stance. They should back that stance with examples. Those examples do not have to come from the data sheet. The contestant then should come to a specific solution or recommendation.

Remember that for purposes of the contest these students go to Leaguetown Middle School. Contestants should not have to specify Leaguetown Middle School, because everyone reading the school paper knows where they go to school. Also, when they refer to the school board they do not have to say "Leaguetown School Board." Again, they know in what city they live.

Judging criteria has been developed to help you score the papers. The criteria are intended to help you evaluate the writing, not as a control over your background in editorial writing or the writing process.

SAMPLE EDITORIAL

Superintendent Jacob Sames proposed pushing the school start time from 7:45 a.m. to 8:30 a.m. in middle schools and from 7:15 a.m. to 9 a.m. in high schools. The school board will vote on the proposed later start times Thursday.

The school board should side with science. A later start time is what's best for student health.

Studies prove that teenage students who start their day later have seen an increase their academic performance, attendance and overall health. This is what educators should prioritize.

There's no reason 13-year-olds should be falling asleep in their first period classes. The late start time doesn't remove any instructional time, it just pushes that instructional time to when students are alert and able to absorb information at a higher rate. What good does an early start time do students and teachers if they aren't aware enough to learn effectively?

Those opposed to the proposed start time say that this prevents parents from being able to get to work on time. There are plenty of options to get around this, such as bussing or carpooling with other students. With high school now starting later, those with older siblings could get a ride from them.

Another concern parents and students have raised is that it will keep those with after school extracurriculars too late and they will still have to do homework when they get home. One possible solution is to move those meetings and practices to before school if the late start is approved.

A healthy, productive learning environment should be a top priority of a school board. Their vote Wednesday should be reflective of this.



Editorial Writing

A+ Invitational • 2019-2020

You are a reporter for the Leaguetown Press, the student newspaper of Leaguetown Middle School. From the given information, write an **editorial** as you would for the middle school newspaper. Remember that as an editorial writer you should support or oppose **policy or action**; you should not sermonize.

You have **45 minutes**.

Do not write your name or the name of your school on this sheet or entry. **Put your number in the upper right corner of each page of your entry.**

STATEMENT OF SITUATION

Leaguetown Middle School is located in Central Texas and has an enrollment of 1,500 students in grades 6, 7 and 8.

Last week, Superintendent Jacob Sames proposed that starting next fall, all district middle schools will start at 8:30 a.m. and high schools will start at 9 a.m. Currently, middle schools start the day at 7:45 while high schools begin at 7:15.

Sames said he wants to push both start times back following multiple studies showing that teenagers perform better in school with more sleep.

“These studies show that teenage students who start their day later increase their academic performance, attendance and overall health,” Sames said. “This will allow students to be more alert in class.”

If the district approves Sames’ proposal, middle schools would get out at 3:30 p.m. instead of 2:45 p.m. and high schools would get out at 4 p.m. instead of 2:15 p.m. Parents have voiced concerns about pushing the start time back because of conflicts with their work days.

“I have to be in the office at 9 a.m. and my office is across town,” parent Melinda Miller said. “With traffic, the late start time is really pushing it. I also normally have my older son, who is in high school, give my middle school daughter a ride home. Now that won’t be an option. The district needs to rethink this decision.”

The later school day would also result in many extracurricular activities, such as sports practices and games, taking place later into the evening.

“Volleyball practice normally goes until 5 p.m., and now our coach is saying it would go until 6:15 next year,” student Mikayla Williams said. “I’m in three Pre-AP classes on top of that. This late start doesn’t give us more sleep if we are having to stay up later to make up for it.”

However, some are welcoming the proposed late start time.

“I have trouble staying awake in my first period class,” student Kenzie Guidry said. “We aren’t in elementary school any more, most of our parents don’t make us go to sleep early. This late start will give me the extra 45 minutes I need to get my day going.”

Sames’ said he hopes the school board looks at the proven science when voting on the new start time.

“The late start time is what’s best for students’ health — that’s not up for debate.” Sames said. “There’s no reason I should walk around the halls and see middle school students that are clearly sleep deprived.”

The school board will discuss vote on Sames’ proposal at its regular meeting this Wednesday. You are writing for the issue of the Press to be distributed on the Tuesday prior to the meeting.

STANCES

Supporting the proposal

Sleep deprivation is a health issue facing many middle and high school aged students. A late start time has been proven to raise test scores and lower stress for students in other schools who have implemented this. This proposal is in the best interest of the students.

Opposing

Many parents have to work after they drop off their students. A later start time makes this nearly impossible. Those with extracurricular activities already stay at the school late and this only gets worse with a late start time. Students need to learn to work around the current start time, and that starts with going to bed earlier.

UIL Editorial Writing Contest • A+ Fall/Winter District • 2019-2020

(Distribute this sheet to judges prior to judging.)

JUDGING INSTRUCTIONS

In each contestant's editorial, please look for clarity of thought, and if the writer came to a clear conclusion. Remember that many of these writers have not been trained in proper editorial writing. Therefore key considerations should be that they have made a statement of the situation and formed a stance. They should back that stance with examples. Those examples do not have to come from the data sheet. The contestant then should come to a specific solution or recommendation.

Remember that for purposes of the contest these students go to Leaguetown Middle School. Contestants should not have to specify Leaguetown Middle School, because everyone reading the school paper knows where they go to school. Also, when they refer to the school board they do not have to say "Leaguetown School Board." Again, they know in what city they live.

Judging criteria has been developed to help you score the papers. The criteria are intended to help you evaluate the writing, not as a control over your background in editorial writing or the writing process.

SAMPLE EDITORIAL

Following an increase in students using food delivery services to order food for lunch, principal Jennifer Vaske has proposed a ban on all third-party delivery to the school. The school board will vote on the proposal at their meeting Wednesday.

The decision should be an easy one: vote yes for student safety.

Delivery services such as Favor and UberEATS do not screen drivers well enough to allow them near middle school students. The school shouldn't risk the safety of all students just because some would like to order Whataburger for lunch.

Principal Vaske isn't calling for a ban on all deliveries or takeout food, just those from third-party services. With increased concerns about school safety, it's reasonable to want to limit the amount of strangers who enter the school. Parents can still deliver items to their students after showing proper identification.

The cafeteria offers plenty of options for those who don't pack a lunch, and these options are much healthier and cheaper than takeout options. Students only have to eat one meal a day at school. They can eat wherever they want after school and on the weekends. It's not the school's responsibility to collect deliveries for students in the front office.

Those opposed to the proposed ban say that food delivery services provide students with a timely alternative to long lunch lines in the cafeteria. If the lines are that much of an issue, the school should consider adding another lunch period or adding 10 minutes to the existing periods.

A safe learning environment needs to be the top priority of a school district. The school board should vote yes on the proposal Wednesday.



Editorial Writing

A+ Fall/Winter District • 2019-2020

You are a reporter for the Leaguetown Press, the student newspaper of Leaguetown Middle School. From the given information, write an editorial as you would for the middle school newspaper. Remember that as an editorial writer you should support or oppose policy or action; you should not sermonize.

You have 45 minutes.

Do not write your name or the name of your school on this sheet or entry. Put your number in the upper right corner of each page of your entry.

STATEMENT OF SITUATION

Leaguetown Middle School is located in North Texas and has an enrollment of 1,300 students in grades 6, 7 and 8.

Following an increase in students using food delivery services such as Favor and UberEATS to have food brought for lunch, Principal Jennifer Vaske has proposed banning all third-party delivery to the school. Principal Vaske cited the school district's increased focus on safety as the main reason for the ban.

"The front office staff is overwhelmed," Vaske said. "We don't know who these people are bringing food into the school. It's become a safety issue. Banning these services altogether will prevent unnecessary risks."

The school cafeteria provides breakfast and lunch service to students each school day.

"The cafeteria has plenty of food options for students — it's healthier food too," Vaske said. "Most of the food I've seen brought in is fast food. We don't owe students access to McDonalds."

Parents are allowed to drop off food and other items for students in the front office, but some working parents say this option is not helpful.

"My wife and I work 9 to 5 jobs," parent Bryce Rowman said. "Why should food deliveries be limited to students with stay at home moms? These delivery services are convenient and the drivers have gone through background checks."

If implemented, the proposal would prohibit any third-party delivery service from bringing items for students during the school day. With long lines for cafeteria food, some students say ordering food has become a more reliable option.

"The lunch period is only 30 minutes, which includes 10 minutes of passing period," 7th grader Chase Lyle said. "Sometimes it can take up to 15 minutes to get through the lunch line, and that leaves me with only five minutes to eat. I started ordering food on days that I don't have time to pack my lunch, and it saves me so much time."

With the increased use of delivery services, teachers have expressed concerns about students leaving class to get deliveries.

"There have been multiple instances in my class where I have students ask to go to the restroom and come back with food," science teacher Stephen Wagner said. "I don't have an issue with students ordering food for lunch, but they have taken advantage of the system. I definitely support Principal Vaske's proposal."

The school board will vote on Vaske's proposal at their regular meeting this Wednesday. You are writing for the issue of the Press to be distributed on the Tuesday prior to the meeting.

STANCES

Supporting the proposal

The proposal is reasonable and the right thing to do to help increase safety. Students can purchase food from the cafeteria or bring their lunch from home if they choose. Allowing students to order food to the school is a distraction, and the front office shouldn't have to collect these deliveries for students.

Opposing

The cafeteria lines are already too long and these delivery services provide a quick alternative. Banning these services is unfair to parents who work. Stay at home parents would still be able to bring food to students. The delivery drivers have gone through background checks to insure safety. This proposal is an overreaction.

UIL Editorial Writing Contest • A+ Spring District • 2019-2020

(Distribute this sheet to judges prior to judging.)

JUDGING INSTRUCTIONS

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Judging criteria has been developed to help you score the papers. The criteria are intended to help you evaluate the writing, not as a control over your background in editorial writing or the writing process.

SAMPLE EDITORIAL

Last month, the district announced it would provide funding for resurfaced tracks at all three middle schools. Last week, Principal Alan Young announced that because of budget cuts to fine arts, the previously year-long art and theatre classes would be offered jointly as semester long classes.

On Thursday, parents, teachers and students plan to speak out against this misallocation of funding. It's clear what the district cares about — and it isn't students' academic experience.

Students will begin meeting with their counselors next week to plan their schedules. Limiting both art and theatre to a semester doesn't provide enough time for students to complete long-term art projects or put on a play at the end of the course. Not only that, but not every student interested in either of the courses is a fit for both. For instance, some students who want to take art are introverted and wouldn't be comfortable in a drama classroom. The school has offered art and theatre as individual courses for years. There has to be a better solution.

Those in favor of the district's funding argue that the new track will benefit far more students for a longer period of time than additional art and theatre classes would. That doesn't account for the needs of current students. Education isn't a business and students aren't an investment.

While the new track is probably needed, it would be reasonable for coaches to utilize other workouts in the weight room and inside the gym until there is enough funding to move forward on the project. Physical education isn't limited to the track, but art and theatre are limited to the classroom.

The school board should listen to the concerns presented at their meeting Thursday. Students are the ones in the classroom everyday and they should act in their favor.



Editorial Writing

A+ Spring District • 2019-2020

You are a reporter for the Leaguetown **Press**, the student newspaper of Leaguetown Middle School. From the given information, write an **editorial** as you would for the middle school newspaper. Remember that as an editorial writer you should support or oppose **policy or action**; you should not sermonize.

You have **45 minutes**.

Do not write your name or the name of your school on this sheet or entry. **Put your number in the upper right corner of each page of your entry.**

STATEMENT OF SITUATION

Leaguetown Middle School is located in East Texas and has an enrollment of 650 students in grades 6, 7 and 8.

Following district-wide budget cuts, last Monday Principal Alan Young announced there will no longer be year-long art and theatre elective offerings and instead an option to take a semester-long course of each. Last month the district announced each of the three middle schools would be getting their outdoor tracks resurfaced.

“This is the best option that still allows students interested in taking either of the courses to gain experience in both,” Young said. “Decisions on where to allocate funding come from above me.”

Students will meet with their counselors to plan their schedules starting next week. With the decision to cut arts classes, some parents have expressed frustration at the lack of options.

“My child does not have any interest in taking athletics classes,” parent Melba Goodwin said. “He loves to paint and draw, but he is very introverted. He already told me he wouldn’t be comfortable taking a theatre class.”

Theatre teacher Brenda Booth said the shortened class doesn’t give her students enough time to learn, rehearse and put on a play at the end of the year.

“I’m heartbroken the students will have to miss out on this opportunity,” Booth said. “I can teach them as much as I can in a semester, but there’s just not enough time. It’s hard for students to understand theatre without putting their skills toward a production.”

However, some students are excited they will be able to take both classes.

“I love both art and drama and now I don’t have to choose which to take,” student Kacey Miller said. “I know a lot of my friends that want to take the new hybrid course.”

All middle school students are required to take at least one year of physical education. Athletics director Chrissy Chapman said the track has been in desperate need of renovations since last year.

“Almost every day that it is nice outside, we have students working out on that track,” Chapman said. “The district’s funding of the new track will impact more students than another art and theatre class would.”

Students, parents and teachers plan to speak at the next school board meeting this Thursday to ask the district to allocate more funding toward fine arts programs in middle schools. You are writing for the issue of the **Press** to be distributed on the Tuesday prior to the meeting.

STANCES

Supporting district’s funding

The district doesn’t have an unlimited amount of money. Shortening the art and theatre classes is the best option that still allows students to take those courses. Every student has to take PE classes. The new track will benefit more students for a longer period of time.

Opposing

Middle school students should be able to pursue what they are passionate about. Limiting students to only a semester of art and theatre doesn’t give them enough time to complete longer art projects or put on a play at the end of the year. The district can wait to renovate the track if it comes at the cost of students’ learning.



Impromptu Speaking

EVALUATION SHEET

INSTRUCTIONS

Contestants should be evaluated and ranked based on effectiveness of delivery, organization of ideas and the overall impression of the speech. Students draw three topics and have three minutes to prepare a speech. The maximum time limit for speaking is five minutes. There is no minimum time limit. Topics may be serious or humorous in nature. Note cards may not be used during the presentation. Please make your comments using language understandable to the contestant. Students and instructors appreciate constructive narrative comments. Please do not confer with other judges before ranking students. Judging decisions are an individual responsibility.

Speaker Number _____

Speaker Name _____

Section _____

Topic _____

CRITERIA

Evaluate the contestant in each category. Do NOT total these numbers to determine rank in the round. They are only designed to give the contestant an indication of strengths and weaknesses.

QUESTION	NEEDS WORK	GOOD	SUPERIOR		
1. Was the presentation organized clearly and effectively?	1	2	3	4	5
2. Was the speaker's delivery smooth and articulate?	1	2	3	4	5
3. Did the student have adequate eye contact?	1	2	3	4	5
4. Did the student have a creative approach to the topic?	1	2	3	4	5
5. Was the speaker poised and confident?	1	2	3	4	5
6. Did the speaker have vocal variety?	1	2	3	4	5
7. Was the speaker interested and enthusiastic?	1	2	3	4	5
8. Did the speaker communicate with the audience?	1	2	3	4	5

WRITTEN EVALUATION

Comments should be constructive and supportive.

Judge's signature _____



A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Invitational
PRELIMINARY ROUND

1. A time when I felt supported was...
2. My favorite subject in school is...
3. What it means to be a friend is...
4. A new animal I discovered in the wild is...
5. The best part about school is...
6. It's important to compromise because...
7. Compassion means...
8. I learned from my parents that...
9. I will never forget the first time I...
10. If I had a million dollars, I'd...
11. It's important to be kind because...
12. If I could travel to the future, I would...
13. I want to be a...
14. My favorite place is...
15. A time I learned from my mistakes...

A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Invitational
PRELIMINARY ROUND

CUT APART FOR TOPIC SELECTION

1. A time when I felt supported was...
2. My favorite subject in school is...
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4. A new animal I discovered in the wild is...
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A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Invitational
FINAL ROUND

1. Courage is important because...
2. A charity organization I believe in is...
3. My proudest moment is...
4. A problem I hope technology can solve is...
5. I find a secret cave, so I...
6. You shouldn't judge a book by its cover because...
7. If I was a scientist, I would study...
8. The best day of my life...
9. I overcame my fear by...
10. A hero is someone who...
11. If I could meet anyone from history, I'd...
12. I put someone else before myself when...
13. A current issue I care about is...
14. If everything was free, I'd...
15. If I was the only person on earth, I'd...

A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Invitational
FINAL ROUND

CUT APART FOR TOPIC SELECTION

1. Courage is important because...
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A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Fall/Winter District
PRELIMINARY ROUND

1. A parent must be...
2. My favorite holiday is...
3. I wish my pets could...
4. My favorite memory is when...
5. If I could change one thing about school, I'd...
6. Honesty means...
7. If I was famous, it would be for...
8. A good friend should...
9. If a genie granted me three wishes, I'd...
10. I'm concerned about...
11. If I could become invisible, I would...
12. A person who has made a difference in my life is...
13. My favorite song's meaning is about...
14. If I could eat something every day, I would...
15. My favorite story is...

A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Fall/Winter District
PRELIMINARY ROUND

CUT APART FOR TOPIC SELECTION

1. A parent must be...
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A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Fall/Winter District
FINAL ROUND

1. A skill I wish I had is...
2. A time when hard work paid off is when...
3. Three words that describe me are...
4. The hardest job is...
5. I protect the environment by...
6. The phrase "those who forget history are doomed to repeat it" means...
7. I learned a valuable lesson when...
8. I want to help others by...
9. I step inside the haunted house and...
10. Before I grow up I'd like to...
11. The greatest invention ever was the...
12. One thing that's harder than it looks is...
13. If I found out that my friend was an alien, I would...
14. A slogan for my life is...
15. It is important to focus on the positives because...

A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Fall/Winter District
FINAL ROUND

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A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Spring District
PRELIMINARY ROUND

1. If I could live anywhere I would...
2. Creativity is...
3. You can make friends by...
4. My favorite superhero is...
5. A time when I supported others was...
6. My dream job...
7. You can help others by...
8. Bravery means...
9. My favorite memory from school is...
10. My favorite book is...
11. My favorite time of day is...
12. If I had a superpower I would...
13. Dogs...
14. It's important to never give up because...
15. By the time I finish school, I want to...

A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Spring District
PRELIMINARY ROUND

CUT APART FOR TOPIC SELECTION

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15. By the time I finish school, I want to...



A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Spring District
FINAL ROUND

1. If TVs did not exist...
2. Books teach us...
3. If I founded a brand-new country, I'd...
4. If I could be any fictional character, I'd...
5. It's important to be respectful because...
6. People disagree because...
7. I faced a setback, so I...
8. I think that one day, phones will...
9. I am inspired by...
10. Responsibility means...
11. If I could solve any problem, I'd...
12. If I could be anyone from history, I'd...
13. What it means to be an American...
14. I got lost in the woods, so I...
15. A time when I was brave...

A+ IMPROMPTU SPEAKING TOPICS
2019-2020 Spring District
FINAL ROUND

CUT APART FOR TOPIC SELECTION

1. If TVs did not exist...
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15. A time when I was brave...

CONTESTANT NUMBER:

FOR GRADER USE ONLY

Score Test Below:

_____ out of 75. Initials _____

_____ out of 75. Initials _____

Papers contending to place:

_____ out of 75. Initials _____



**University Interscholastic League
A+ Listening Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level : 5 6 7 8

1. _____

2. _____

3. _____

4. _____

5. _____

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23. _____

24. _____

25. _____

UIL LISTENING CONTEST - GRADES 7 & 8 INVITATIONAL MEET 2019-2020

Contest Script- "The History of the Texas State Flag"

Most of us have heard of an amusement park in Texas named Six Flags. What many people don't know is that the name came from the fact that Texas has flown the flag of six different countries. From 1519 to 1685, Texas was claimed by the country of Spain. Then from 1685 to 1690, it was claimed by France. However, ownership of Texas reverted back to Spain in 1690 and Texas remained under the Spanish rule until 1821. From 1821 to 1836, Texas was part of Mexico. In 1836, Texas gained its independence from Mexico and then began fly its own flag. That's where we will begin with the history of the Texas State Flag.

1:00 After Texas gained independence from Mexico, it was known as the Republic of Texas. The newly named republic needed a flag that represented everything that Texans stood for. In December of 1835, Stephen F. Austin designed a flag that he felt represented Texan ideals. His flag was designed in New Orleans while he was serving as a commissioner to the United States. His design had sixteen green and white stripes, a red and white English jack in the canton, and a red and white star in the fly. The canton is the upper left-hand corner of the flag. If you are thinking about the United States flag, it would be the section that contains the stars. The fly is the body of the flag. In Stephen F. Austin's flag, the red and white star was almost dead center. Other commissioners, Branch T. Archer and William H. Wharton modified the design resulting in a flag with thirteen blue and white stripes, a red and white English jack in the canton, and a sun with the head of George Washington surrounded by the words "Lux Libertatis" which means "Light of Liberty" in the fly. This flag, although quite impressive, was ultimately not adopted.

Another flag design that was considered was the de Zavala flag. Some say that this flag was adopted in the Convention in March 1836 that drafted the Texas Declaration of Independence from Mexico and the original Texas Constitution. The flag was blue with a white star in the center. Around the star, the letters T-E-X-A-S were positioned between each star point. Although we can imagine what it looked like, unfortunately, none of them remain in existence today.

Sam Houston approved the first official national flag of Texas, however, on December 10, 1836. This Texas flag, known as the "National Standard of Texas," consisted of an azure background with a large golden five-pointed star. Azure is sometimes described as being the color of the sky on a bright sunny day. This flag served as the national flag until January 25, 1839.

On December 28, 1838, Senator William H. Wharton introduced a bill to the Congress that contained a design for a new flag. This bill was referred to a committee consisting of Senator Oliver Jones along with two others. The flag that we know as the Lone Star Flag was adopted by the Texas Congress on January 21, 1839 and was approved by Texas President Mirabeau B. Lamar on January 25, 1839. The instructions were clear. "The national flag of Texas shall consist of a blue perpendicular strip of the width of one third of the whole length of the flag, with a white star of five points in the center thereof, and two horizontal stripes of equal breadth, the upper stripe white, the lower red, of the length of two thirds of the whole length of the flag. The official art for the Lone Star Flag was drawn by Peter Krag and approved by President Lamar. No one is sure if Wharton designed the flag or not. The Republic of Texas was recognized by the government of the United States as a sovereign and independent nation under this flag. In 1837, Texas applied for annexation and statehood. However, at this time U.S. President Martin Van Buren declined the request. Texas remained a free and sovereign nation until December 29, 1845, when it was annexed to the United States.

The Lone Star Flag was the legal national flag of Texas until Texas became a state in 1845. At that point, the United States flag officially became the national flag of Texas,

but Texas kept the Lone Star Flag as its state flag. The Texas state flag is the only United States state flag that was once the flag of a separate sovereign nation.

During the Civil War, Texas joined the Confederate States of America. Between 1861 and 1865, the national flag of Texas was the Confederate flag rather than the United States flag. The Confederate flag looks like the US flag, but instead of 13 red and white stripes, it has only 3 (two red, one white) and instead of 50 stars it only has 7, one for each of the 7 states in the Confederacy. At the end of the Civil War, Texas again flew the United States flag as its national symbol.

5:00 On September 1, 1879, new legislation was enacted that repealed many existing laws. Included in those laws was the law signed in 1839 that created the official flag. As a result, from 1879 to 1933, although the flag was still flown, it was not considered the legal state flag. On August 31, 1933, the Flag Act was passed which recognized the state flag as the Lone Star Flag. The 1933 description of the flag was extremely detailed and included specific placement and design instructions for the Lone Star. The colors of the stripes – blood red, azure blue, and white – were assigned meaning. Blood red was to stand for bravery. Azure blue was to stand for loyalty. White stood for purity. However, even though the colors were specifically stated, there was no real definition or example of the exact color of blood red or azure blue. In the original description of the flag, the dimensions were stated. But there were many flags created that did not truly match the description. The description also states that the single (lone) star "represents ALL of Texas and stands for our unity as one for God, State, and Country."

6:00 In 1993, sixty years later, the Texas legislature revised the description of the flag to include a statement declaring that the flag should be a rectangle with a width to length ratio of two to three containing:

"1) a blue vertical stripe one-third the entire length of the flag wide, and two equal horizontal stripes, the upper stripe white, the lower red, each two-thirds the entire length of the flag long; and

(2) a white, regular five-pointed star in the center of the blue stripe, oriented so that one point faces upward, and of such a size that the diameter of a circle passing through the five points of the star is equal to three-fourths the width of the blue stripe."

The 1993 law also states that the red and blue should be the same colors used in the United States Flag often called Old Glory Red and Old Glory Blue. These colors are defined by the Standard Color Reference of America and are strictly enforced.

7:00 The Texas flag is required by law to be displayed on or near the main administration building of each state institution during each state or national holiday, and on any special occasion of historical significance, permanently above both doors of the Texas State Capitol, alone at the north door, and under the U.S. flag at the south door. The only exception to this rule is if the flags are at half-mast or if the POW/MIA flag is being flown with the U.S. flag. If this is the case, the state flag will be flown at the North Door. When the flag is displayed vertically instead of on a flag pole, the blue stripe should be at the top, and the white stripe should be to the left of the red stripe.

Texas is one of the only states to have a state pledge. The pledge was adopted by the Texas Legislature in 1933. The pledge states: Honor the Texas Flag; I pledge allegiance to thee, Texas; One state under God; One and indivisible.

8:00 Although not the official state flag, Texas has had several memorable flags. One of the flags many people remember is the Come and Take It flag created by the people of Gonzales back in March, 1831. This flag contained the phrase "Come and Take It" along with an image of a small cannon. During the Texas war for independence from Mexico, a small group of Texans successfully resisted the Mexican forces who had been given orders to seize the cannon. The Texans flew the flag as a sign of defiance. After winning the Battle of Gonzales, many people flew the flag as a sign of victory and independence.

Certainly, the most unusual Texas flag is the official county flag for the Texas sesquicentennial, celebrated in 1986. This flag was designed by Mrs. Joydelle G. Wolfram for Falls County and subsequently recognized by the legislature on February 28, 1985, for

use by counties. It shows the county's name, date of formation, and a large white star on a royal blue field, surrounded by two white arcs and 254 gold, red, blue, and green stars. The use of this flag is optional.

Today when you pass by the flagpole at your school, take note of the flag and feel pride.

9:00 Your flag represents ALL of Texas and stands for our unity. Texans will always remain proud citizens of the most remarkable state in the USA.

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



Listening

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 7-8
INVITATIONAL 2019-2020
TEST

"The History of the Texas State Flag"

1. Where was Stephen F. Austin when he designed his version of the Texas state flag?
 - A. Austin
 - B. Galveston
 - C. New Orleans
 - D. Mobile
2. After Texas gained independence from Mexico, it was known as
 - A. The Independent Nation of Texas
 - B. The Republic of Texas
 - C. The State of Texas
 - D. The Sovereign Country of Texas
3. The official art for the Lone Star Flag was drawn by
 - A. Mirabeau Lamar
 - B. Peter Krag
 - C. Martin Van Buren
 - D. William H. Wharton
4. When was the flag that we know as the Lone Star Flag adopted by the Texas Congress?
 - A. January 25, 1835
 - B. December 28, 1838
 - C. January 21, 1839
 - D. December 29, 1845
5. The Lone Star Flag was the legal national flag of Texas until
 - A. Texas annexed as a state of the United States
 - B. Texas declared its independence
 - C. new legislation was enacted repealing it
 - D. the end of the Civil War
6. In Stephen F. Austin's flag, where was the red and white star?
 - A. in the cannon
 - B. on the top right corner
 - C. almost dead center
 - D. on the lower right side
7. Which of the following words are not associated with the colors of the Texas flag?
 - A. bravery
 - B. loyalty
 - C. purity
 - D. fidelity

8. Why was the Flag Act passed?
- A. to officially name the Lone Star flag as the state flag
 - B. to officially sanction the creation of a new state flag
 - C. to describe the colors of the flag
 - D. to rename the flag from the Texas State Flag to the Lone Star Flag.
9. Which of the following states also have a pledge to their state flag?
- A. Louisiana
 - B. Alabama
 - C. New Mexico
 - D. No other state
10. On the flag created by the people of Gonzales in March 1831, what was the "it" mentioned in the phrase "Come and Take It"?
- A. The Alamo
 - B. a small cannon
 - C. the Galveston Bay
 - D. the land belonging to Texas
11. The words "Lux Libertatas" mean
- A. For love of a better life
 - B. Liberty for all
 - C. Light of Liberty
 - D. Freedom and life
12. Which country claimed Texas from 1519 to 1685?
- A. Spain
 - B. France
 - C. Mexico
 - D. the United States
13. Where is the canton located on a flag?
- A. The upper right-hand corner
 - B. the upper left-hand corner
 - C. The lower right-hand corner
 - D. the lower left-hand corner
14. What was the first official national flag of Texas called?
- A. The Lone Star Flag
 - B. The National Standard of Texas
 - C. The State Flag of Texas
 - D. The National Flag of Texas
15. One striking feature of the de Zavala flag was
- A. A sun with the head of George Washington
 - B. Sixteen green and white stripes
 - C. A red and white English Jack in the canton
 - D. A white star surrounded by the letters TEXAS

16. Which President approved the first official National Flag of Texas?
- A. Sam Houston
 - B. Mirabeau Lamar
 - C. Stephen F. Austin
 - D. William H. Wharton
17. In what year was the Texas sesquicentennial celebrated? _____
18. What color is azure?
- A. the color of the sky on a bright sunny day
 - B. the color of the sun as it sets in the west
 - C. the color of the night sky when the stars come out
 - D. the color of the blood of the heroes who fought for liberty

True/False

19. As a result of the Flag Act, from 1879 to 1933, although the Lone Star flag was still flown, it was not considered the official state flag of Texas.
20. Texas law states that the red and blue should be the same colors used in the United States Flag, but there is no standard color reference that allows it to be enforced.
21. The last remaining copy of the de Zavala flag hangs inside the Texas State Capitol in Austin.
22. The first official National Flag of Texas consisted of an azure background with a large golden five-pointed star.
23. No one is sure whether Senator William H. Wharton designed the Lone Star Flag.
24. The description of the Texas flag in the Flag Act includes a statement declaring that the single star represents ALL of Texas and stands for our unity as one for God, State, and Country.
25. The flag designed by Mrs. Joydelle G. Wolfram showed the county's name, date of formation, and a large royal blue star on a white stripe surrounded by 50 gold, red, blue and green stars.

UIL LISTENING CONTEST - GRADES 7-8
INVITATIONAL 2019-2020

ANSWER KEY

"The History of the Texas State Flag"

1. C

2. B

3. B

4. C

5. A

6. C

7. D

8. A

9. D

10. B

11. C

12. A

13. B

14. B

15. D

16. A

17. 1986

18. A

19. False

20. False

21. False

22. True

23. True

24. True

25. False

UIL LISTENING CONTEST - GRADES 7 & 8 Fall/Winter District 2019-2020

Contest Script- "W.K. Kellogg - American Philanthropist"

Have you ever gone to the grocery store and seen the rows and rows of breakfast cereal? Have you ever wondered how it all began? The first breakfast cereal was invented by a man named Will Keith Kellogg.

Will Keith Kellogg was born on April 7, 1860 in Battle Creek Michigan, a city located about 110 miles west of Detroit. He was the seventh of sixteen children. His parents, John Preston Kellogg and Ann Janette Kellogg were members of a religious group known as the Seventh Day Adventists. This is a Protestant Christian denomination that is known for observing its holy day on Saturday instead of Sunday. Members were urged to follow the church's recommended diet which did not allow meat, alcohol, or caffeine. While he was growing up, his family followed the church's teachings.

1:00

Will had no formal education after grade school because his parents didn't believe it necessary. The early Seventh Day Adventists believed that the world would end in their lifetimes. Will Kellogg was allowed to attend Parson's Business College, however, in Kalamazoo, Michigan after he became an adult. However, most of his shrewd business sense developed on the job. He worked 15-hour days at his family's holistic health center, the Western Health Reform Institute. After his parents disassociated from the church, Kellogg's older brother John, who was a doctor, took over the Institute and renamed it the Battle Creek Sanitarium. John helped build its reputation for being a center for holistic health. Holistic health supporters believe in considering all aspects of a person's health when treating ailments.

As a young businessman, Will Kellogg set out on his own and began selling brooms. However, in 1880, he married Ella Osborn Davis. He wanted to be a responsible husband, so he moved to Battle Creek, Michigan and began helping his brother run the

Sanitarium. Ella and Will had five children - four sons and a daughter. Ella tragically died in 1912. During this time, Will's brother John acted as the public face of the Battle Creek Sanitarium, but Will ran the operation from the ground up. He was the bookkeeper and fulfilled mail orders and answered letters. Sometimes he even worked as a handyman and janitor. Some accounts say that John even made Will shine his shoes and act as his personal assistant. Eventually this uneven balance of workload became a problem and tension grew between the brothers. However, all of this experience gave Will a thorough knowledge of how the business ran and became the foundation of his own future business goals.

In the 19th century, most people consumed eggs, meat, toast, or hot cereal for breakfast. Because of their Adventist diet and John's doctoral degree, the brothers began to experiment with a different kind of breakfast for their patients at the sanitarium. They felt that such a heavy breakfast was hard to digest. They began working on a wheat paste that would be more easily digested than the typical heavy breakfast. One day, purely by accident, someone left the paste out for several hours causing it to dry out. Instead of throwing it away, the brothers decided to put the paste through a cereal roller. The result was small flakes of wheat paste. The brothers baked the flakes resulting in the invention of the first dry flake breakfast cereal.

John started a side business called Sanitas Nut Food Company in 1897. The brothers decided to use his business to develop the cereal. Will wanted to keep the new invention a secret, but John wanted more publicity. He made the mistake of showing sanitarium clients the new cereal while giving a tour of the facility. One of those clients was a man named C.W. Post who took their idea and started his own cereal company, Post Cereals. This created even more tension between the brothers. The brothers continued to clash on business issues. Will wanted to begin advertising. John did not. Will wanted to add sugar to the flakes, but John was against it. One thing they did agree on, however, was to change the grain from wheat to corn. Will eventually set out on his own and started his own company, Battle Creek Toasted Corn Flake Company, in 1906.

Eventually, Will changed the name of his company to the Kellogg Company. His ideas about promotion and advertising helped him get the company off to a good start. He advertised in newspapers, women's magazines, and on billboards. He was even the first to offer promotional gifts with his product. His company was the first to give away toys and prizes inside of cereal boxes. As a result of his efforts, the Kellogg Company began to show a profit and quickly became very successful earning millions of dollars each year.

In 1918, Will married Carrie Staines Kellogg. They were married for 30 years. She died in 1948.

4:00 Because of his religious upbringing, Will believed that great wealth often leads to moral corruption. He decided to use his millions to spread good in the world. In 1934, he started the W.K. Kellogg Foundation and donated \$66 million as its beginning. This foundation promotes global initiatives in health and education. In fact, his company was one of the first to put nutrition labels on food so that consumers could know what they were buying. Will Kellogg is quoted as saying, "I will invest my money in people." During the Great Depression which began in 1929, Kellogg added an additional work shift at his cereal plant. Four shifts, each lasting six hours, would give more people in Battle Creek the opportunity to work. In 1925, Kellogg established the Fellowship Corporation to help young people. Kellogg's grandson had fallen from a second-story window and was paralyzed. Despite his millions, Kellogg could not find suitable care for his grandson. This caused him to wonder how needy families coped with their medical problems. The Fellowship Foundation was formed to provide aid for young people. Mr. Kellogg also helped out his hometown. He donated nearly \$3 million to for building a civic auditorium, a junior high school and a youth recreation center.

5:00 For most of the 1930s, the Kellogg Foundation focused its attention on the area around Battle Creek. Its first effort focused on children's health through the Michigan Community Health Project, otherwise known as the MCHP. The MCHP served seven counties in south central Michigan. This project worked to improve the condition of education for kindergarten through grade 12. Many schools in that area were only one room schoolhouses. The Foundation also

worked to improve public health and sanitation. Because of the lack of money during this time, many homes, business, and schools still had outhouses for restroom facilities. Kellogg funded the provision of upgraded restrooms in many public places.

Kellogg also funded the opening of the Ann J. Kellogg School named after his mother. This school pioneered the practice of teaching children with disabilities in classrooms along with children who did not have disabilities. This was a groundbreaking idea that had never been tried before. This concept of "mainstreaming" is still practiced today in public schools across the nation. The Ann J. Kellogg School continues to operate today. Kellogg believed that education offers the best opportunity for improving one generation over another. In light of that belief, in the mid-1930s, the foundation began experimenting with outdoor education by building schools and outdoor camps in rural Michigan. In 1940, one of the camps at Clear Lake became the first year-round public-school camp in Michigan. Outdoor education is now an important part of education in Michigan.

6:00

Will Kellogg always had a love of horses. In fact, his favorite horse was the Arabian. In 1925, he purchased 377 acres in Pomona, California for \$250,000 to establish an Arabian horse ranch. He called his ranch the Kellogg Arabian Ranch. He started his breeding stock with horses descended from the stock of Homer Davenport and W.R. Brown. Homer Davenport had been allowed by Theodore Roosevelt the opportunity to purchase horses from the Ottoman Empire which we know today as Turkey. These horses were high quality Arabian horses and very rare in the United States. W.R. Brown was also an influential Arabian horse breeder, the founder and owner of the Maynesboro Stud, and an authority on Arabian horses. Kellogg then purchased horses from England. His ranch became well known not only for its horse breeding program but also for its weekly horse exhibitions which were open to the public. Hollywood celebrities were known to attend the exhibitions regularly. The actor Rudolph Valentino used the Kellogg stallion "Jadaan" for his 1926 movie *Son of the Shiek*.

7:00

From 1928 to 1932, the ranch contained the W.K. Kellogg Airport, the largest privately-owned airport in the country. In 1932, Will Kellogg donated the ranch, which had grown to 750 acres, to the University of California. During World War II, the U.S. War Department took over the ranch and named it the Pomona Quartermaster Depot. In 1948, the ranch became the property of the U.S. Department of Agriculture. In 1949, the land was returned to the W.K. Kellogg Foundation. Later that same year, the land was donated to California Polytechnic State College. It was known as the Kellogg Campus. In 1966, the Kellogg Campus became the California State Polytechnic University in Pomona. Today the sprawling ranch functions as an equine research and breeding facility of the university.

Mr. Kellogg was blinded by advancing glaucoma over the last few years of his life. He is said to have stated that he would give all his wealth "just to see the sun and the green grass again." In his last years, Kellogg said that his greatest joy came from being driven to the cereal factory and simply sitting in the parking lot, listening to the machinery hum and smelling the toasted grain. Will Keith Kellogg outlived most of his children but died at the age of 91 in Battle Creek, Michigan on October 6, 1951 of heart failure. His only 2 surviving children were Karl Hugh and Elizabeth Ann. He had one living grandson, Norman Williamson Jr.

8:00

Will Keith Kellogg was truly an American philanthropist. Our country was forever changed by his generosity and moral values.

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Listening

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UIL LISTENING CONTEST - GRADES 7-8
FALL/WINTER DISTRICT 2019-2020
TEST

“W.K. Kellogg - American Philanthropist”

1. Will Keith Kellogg was born in
 - A. Kalamazoo, Michigan
 - B. Battle Creek, Michigan
 - C. Detroit, Michigan
 - D. Pomona, California

2. Why did Will Kellogg increase the working shifts in his plant from 3 to 4 in 1929?
 - A. They could not keep up with the demand for product.
 - B. The plant was too small to hire more workers for the same shifts.
 - C. He wanted to provide more jobs to help the community.
 - D. He wanted to run the plant 24 hours per day to create more profit.

3. What was the purpose of the Fellowship Corporation?
 - A. to help needy young people
 - B. to promote friendship and equality
 - C. to bring jobs into the community
 - D. to give an equality education for all

4. How many acres did the original Kellogg Arabian Ranch contain? _____

5. Who was Ann J. Kellogg?
 - A. Will’s first wife
 - B. Will’s second wife
 - C. Will’s daughter
 - D. Will’s mother

6. Why was Will not allowed to attend Junior High and High School?
 - A. He was a poor student and his parents didn’t believe it was worth it.
 - B. His church rules and regulations did not allow it.
 - C. His family needed his help in the Sanitarium.
 - D. His church believed the end of the world was near.

7. Which of these was not a belief of the Seventh Day Adventist church Will Kellogg’s family belonged to?
 - A. church on Saturday
 - B. holistic healing only
 - C. no caffeine or alcohol
 - D. a diet with no meat

8. What was John Kellogg’s role when running the Sanitarium?
 - A. He paid the bills and collected the money.
 - B. He cooked the food according to strict regulations.
 - C. He was the face of the company and talked to the public.
 - D. He worked as a medical consultant.

9. Why did the brothers begin experimenting with different breakfast foods?
- A. They felt the traditional breakfast was too heavy and hard to digest.
 - B. They wanted to find a way to beat C.W.Post's cereal company.
 - C. Many of their clients were unable to eat fatty foods like eggs and bacon.
 - D. A holistic diet did not contain eggs or meat.
10. When was the Sanitas Nut Food company founded?
- A. 1887
 - B. 1890
 - C. 1894
 - D. 1897
11. What was the original name of the Kellogg Company?
- A. Battle Creek Wheat Flakes Company
 - B. Battle Creek Toasted Corn Flake Company
 - C. Seventh Day Sanitarium Food Company
 - D. Institute for Holistic Health and Wellness
12. What was the name of Will Kellogg's first wife?
- A. Elizabeth Ann
 - B. Carrie Staines
 - C. Ella Osborne
 - D. Nora Williamson
13. What physical ailment caused Will Kellogg the biggest problem throughout his later years of life?
- A. He was unable to walk.
 - B. He became deaf.
 - C. He began to have dementia.
 - D. He became blind.
14. The Kellogg Arabian Ranch was well known for which two things?
- A. quality bred horses and weekly horse shows
 - B. English stallions and Turkish mares
 - C. strong, beautiful horses and monthly stock auctions
 - D. large contributions to the community and donations to local schools
15. How many children did Will Kellogg's parents have? _____
16. Where did Will Kellogg attend college?
- A. Battle Creek
 - B. Kalamazoo
 - C. St. Louis
 - D. Western Hills
17. Will Kellogg died in 1951 of
- A. pneumonia
 - B. heart failure
 - C. glaucoma
 - D. cancer

18. The concept of mainstreaming in means
- A. providing simple meals that give the main vitamins and minerals the body needs for healthy living
 - B. donating enough funds directly to communities to make possible proper hygiene in public schools
 - C. teaching children with or without disabilities in the same classrooms
 - D. breeding horses deliberately in order to develop a stronger species

True/False

19. As a young businessman, Will Kellogg set out on his own and began selling brooms.
20. Will Kellogg is quoted as saying, "I will invest my money in the business of feeding people."
21. After Kellogg's grandson fell from a second-story window and was paralyzed, Kellogg realized that there was a lack of suitable care for young people with medical needs.
22. The Michigan Community Health Project, otherwise known as the MCHP, served seven counties in south central Michigan and worked to improve the condition of education for kindergarten through grade 12.
23. In 1965, one of the outdoor education camps at Clear Lake became the first year-round public-school camp in Michigan.
24. The actor Rudolph Valentino used the Kellogg stallion "Jadaan" for his 1926 movie *Black Beauty*.
25. In his last years, Kellogg said that his greatest joy came from being driven to the cereal factory and simply sitting in the parking lot, listening to the machinery hum and smelling the toasted grain.

UIL LISTENING CONTEST - GRADES 7-8
FALL/WINTER DISTRICT 2019-2020

ANSWER KEY

"W.K. Kellogg - American Philanthropist"

- | | |
|--------------------------------------|------------------|
| 1. B | 14. A |
| 2. C | 15. 16 (sixteen) |
| 3. A | 16. B |
| 4. 377 (three hundred seventy-seven) | 17. B |
| 5. D | 18. C |
| 6. D | 19. True |
| 7. B | 20. False |
| 8. C | 21. True |
| 9. A | 22. True |
| 10. D | 23. False |
| 11. B | 24. False |
| 12. C | 25. True |
| 13. D | |

UIL LISTENING CONTEST - GRADES 7 & 8
Spring District 2019-2020

Contest Script- "The History of GPS"

Have you ever been lost? If you are like most people, at one time or another you have lost your way. If you have, you understand what it feels like to make some wrong turns and maybe have even had to stop and ask someone for directions. You might have seen someone use a map to get to a place they have never been. Have you ever wondered how the explorers found the right way to go when they had no real maps to follow? For centuries, navigators and explorers used the location of the sun, moon and stars to help them locate their position on the earth and reach their planned destination.

It was complicated, and it often took a long time to navigate to the correct location. As they journeyed, they made maps so that the people following after them could have some guidance. Map makers, called topographers, have worked for centuries to meticulously map out the entire surface of the earth including cities, streets and locations of interest.

1:00 But, using the stars or even a map can prove to be difficult. In recent years, however, new technology has been developed that makes finding your way around unknown territory a breeze. It's called the GPS.

First of all, you should know that GPS stands for Global Positioning System. It's pretty straightforward. You want to find your position on the globe, so you use the system. Easy, right? GPS originated back in the 1960s, over 50 years ago. It all started with Sputnik. On Oct. 4, 1957, Sputnik 1, the first human-made satellite was successfully launched by Russia and entered Earth's orbit. Thus, began the space age. The successful launch shocked the world, giving the former Soviet Union the distinction of putting the first human-made object into space. The word 'Sputnik' originally meant 'fellow traveler,' but has become synonymous with 'satellite' in modern Russian. Many people in the United States felt that we were falling behind the Russians in the race to space. Not long after that, the United States began working to find a way to send our own satellites, and

2:00 eventually astronauts, into space. Technology began to be invented at an amazing pace. Astronauts even landed on the moon on July 20, 1969. What seemed at the time like a major defeat turned out to be the catalyst for one of the most important technologies of the 20th century, and maybe the 21st.

On October 4th, 1957, scientists at MIT noticed that the frequency of the radio signals transmitted by Sputnik increased as it approached and decreased as it moved away.

This was caused by the Doppler Effect, the same thing that makes the sound of a car's horn or an ambulance's siren change as they approach and then rush by. The Doppler effect explains how we perceive changes in sound when the source of the sound is moving. Even though the ambulance siren doesn't change pitch at all, we perceive that it changes as the vehicle moves past us. It's all very scientific, but GPS relies on this predictable effect to work. Scientists are able to calculate the exact location of an object by measuring the sound waves that bounce off it in relation to the receiver of the waves.

3:00 In the 1960s, the United States Navy conducted satellite navigation experiments to find an efficient way to track US submarines carrying nuclear missiles. They built the first real satellite navigation system which they called TRANSIT. By observing six satellites that had been placed into orbit around the north and south poles, scientists on the submarines were able to record the satellite changes in Doppler and pinpoint the submarine's location. This gave the scientists a grand idea. Satellites could be tracked from the ground by measuring the frequency of the radio signals they emitted. It made sense, then, that the locations of receivers on the ground could be tracked by their distance from the satellites. Eventually the six satellites grew to ten. Although it sometimes took submarines hours to receive the signals from the satellites, this set the stage for true GPS with continuous signaling from satellites in space. The GPS receiver in your phone or on the dash of a car learns its location, rate of speed, and elevation by measuring the time it takes to receive radio signals from four or more satellites floating overhead.

4:00 It would be wrong not to recognize one scientist who played a major role in all of the groundwork that occurred before GPS was even thought of. Dr. Ivan Getting was born

in 1912 in New York City. He attended the Massachusetts Institute of Technology as an Edison Scholar, receiving his Bachelor of Science in 1933. Following his undergraduate study at MIT, Dr. Getting was a Graduate Rhodes scholar at Oxford University. He was awarded a Ph.D. in Astrophysics in 1935. In 1951, Ivan Getting became the vice president for engineering and research at the Raytheon Corporation. While he was there, the Air Force needed a guidance system to help the military locate and pinpoint targets. In response to this request, he and a team of scientists developed the first three-dimensional, time-difference-of-arrival position-finding system.

5:00 When Ivan Getting left Raytheon in 1960, this proposed technique was among the most advanced ideas of navigational technology in the world. Under Dr. Getting's direction Aerospace engineers and scientists studied the use of satellites as the basis for a navigation system for vehicles moving rapidly in three dimensions, ultimately developing the concept essential to GPS. He conceived that a system of satellites could be used to pinpoint locations on earth with great accuracy. These concepts were crucial stepping stones in the development of the Global Positioning System or GPS.

GPS has come a long way since those basic beginnings. In 1963, the Aerospace Corporation completed a study for the military that proposed a system of space satellites that would continuously send signals to receivers on the ground. By using the information from these receivers, the military could locate vehicles moving rapidly across the surface of the earth or in the air.

6:00 In the early 1970s, the Department of Defense wanted to ensure that the navigation system would continue to be robust and stable. Using the previous information and ideas scientists had developed, the Department of Defense decided to launch its first Navigation System with Timing and Ranging – NAVSTAR – satellite. In the late 1970s, the military launched 11 more test satellites into space to test the NAVSTAR system. By that time, they had started calling it the GPS System. The satellites carried atomic clocks with them to more precisely measure transmission times. Atomic clocks are precise to within a

billionth of a second. The clocks were created by physicists beginning in 1955 who had no idea that their quest to find answers about the universe would be used to better a global system of navigation. By the 1980s, some of the satellites carried sensors that could detect the launch or detonation of nuclear devices. In 1983, the Russians shot down Korean Air flight 007 after it wandered off course into Soviet airspace. As a result, president Ronald Reagan offered to let all civilian commercial aircraft use the GPS system to improve navigation and air safety.

7:00 The GPS system needed to be updated in order for civilians to use it effectively. In 1985, the government contracted with private companies to develop airborne, shipboard and portable GPS receivers. Four years later, the U.S. Air Force launched the first fully functional satellite specifically designed for GPS in 1989. Although it had originally planned to launch the satellite on the space shuttle, after the Challenger disaster occurred in 1986 in which everyone onboard was killed, the Air Force decided to use a Delta II rocket instead. That same year the Magellan Corporation entered the market in the US with the first hand-held navigation device, the Magellan NAV 1000.

8:00 Another GPS satellite was launched on November 26, 1990 and became operational on December 10, 1990. This satellite is the oldest GPS satellite still in operation. This began a series of launchings which set up the Global Positioning System that we know today. On June 26, 1993, the U.S. Air Force launched the 24th NAVSTAR satellite into orbit, completing the network of satellites. Three spare satellites were launched in 1995 so that they could be used as replacements should any of the 24 active satellites fail. These satellites which weigh between three and four thousand pounds each circle the globe twice per day. They are situated so that at least four of them are visible from any place on earth at any time of day.

By 1999, cell phones were being manufactured that contained a GPS system. Along with that, the Defense Department changed its regulations on commercial GPS systems allowing it to be ten times more accurate. New technology was invented that allowed

cell phones to use their cellular signals together with GPS signals. This combination of signals allowed users to pinpoint locations with a margin of error of just a few feet. Soon all kinds of industries began using it. As the GPS receiver technology improved, it became smaller, cheaper, and more readily accessible. In-car navigation devices became the norm and companies like Tom Tom and Garmin became household names. It is rare to find a new car that does not contain a GPS screen. Hand-held GPS devices allow hikers and bikers to use GPS as well. There is even a game played world-wide with GPS location called geocaching. Treasure boxes are hidden, and seekers find the box by using GPS devices. Once the treasure box has been found, geocachers take a treasure and add one or two of their own to be found by the next seeker.

Currently, the US Air Force manages 31 operational GPS satellites, plus three decommissioned satellites that can be reactivated as needed. By using this constellation of satellites, they can be assured that at least 24 are active at least 95% of the time. There are several Global Navigation Satellite Systems being used world-wide. Russia has GLONASS. The European Union uses a system called Galileo. The United States has split its GPS into two categories. One is for civilian applications and another for military. As the capabilities of technology continue to grow, it's anyone's guess what it will look like in the future. We have come a long way from the days of paper maps and star charts. Who knows? Maybe getting lost will become a thing of the past.

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Listening
grades 7 & 8

**DO NOT OPEN TEST
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UIL LISTENING CONTEST - GRADES 7-8
SPRING DISTRICT 2019-2020
TEST

“The History of GPS”

1. The acronym GPS stands for
 - A. Global Positive Satellite
 - B. Global Positioning System
 - C. Global Position Station
 - D. Global Positioning Service

2. What was Sputnik?
 - A. the first human-made satellite to be launched successfully
 - B. the first Russian spaceship to land on the moon
 - C. the first Russian/American project that precluded the Challenger
 - D. the first American space shuttle to leave Earth’s orbit

3. Why did the United States Navy conduct satellite navigation experiments in the 1960s?
 - A. to determine whether or not a rocket could be launched from an aircraft carrier
 - B. to find an efficient way to track US submarines carrying nuclear missiles
 - C. to investigate unexplained disappearances of aircraft and personnel
 - D. to explore the appearance of unexplained navigational phenomena

4. In what year did the U.S. Air Force launch the first fully functional satellite specifically designed for GPS?
 - A. 1965
 - B. 1973
 - C. 1978
 - D. 1989

5. How many GPS satellites does the US Air Force currently manage?
 - A. zero
 - B. 24
 - C. 34
 - D. 31

6. What do topographers do?
 - A. design satellites
 - B. make maps
 - C. install cell towers
 - D. determine longitude and latitude

7. What is the Doppler Effect?
 - A. the raising and lowering of pitch caused by change in its frequency
 - B. how our mind translates the sound waves caused by radio frequencies
 - C. the measurement of distance between stars using sound waves
 - D. how we perceive changes in sound when the source of the sound is moving

8. What was the first real satellite navigation system called?
- A. GPS
 - B. TOM-TOM
 - C. TRANSIT
 - D. NAVSTAR
9. What game is played worldwide that uses GPS location devices?
- A. geocaching
 - B. GPS treasure hunting
 - C. geo-locating
 - D. BPS seek and find
10. On what date did the first human-made satellite enter the Earth's orbit?
- A. December 10, 1990
 - B. October 4, 1957
 - C. June 26, 1993
 - D. July 20, 1969
11. What is the meaning of the Russian word *Sputnik*?
- A. orbiting object
 - B. space rocket
 - C. traveling friend
 - D. flying freely
12. How do scientists use the Doppler effect to measure distance and pinpoint location of an object?
- A. Scientists measure sound waves that bounce off an object in relation to the satellite receiver.
 - B. Scientists send radio waves from the satellite to a receiver on the object and then back again.
 - C. Scientists use cell towers to triangulate the radio waves sent out from cell phones.
 - D. Scientists use 5 satellites to create a star of radio waves surrounding the object.
13. How often do each of the 24 functional satellites orbit the earth?
- A. once per day
 - B. twice per day
 - C. every 8 hours
 - D. every 36 hours
14. What was the result of the Russians shooting down Korean Air flight 007 after it wandered off course into Soviet airspace?
- A. The United States military declared a Cold War on Russia.
 - B. The United States military retaliated by shooting down Russian satellites orbiting Earth.
 - C. President Ronald Reagan allowed commercial airlines to have GPS for safety.
 - D. The United Nations called for a scientific study into the use of GPS on all aircraft worldwide.
15. How many categories of GPS does the United States have? _____
16. What percentage of the time does the US Air Force claim to have 24 functional satellites running?
- A. 75%
 - B. 85%
 - C. 95%
 - D. 100%

17. What company sold the first hand-held personal GPS device?
 - A. Magellan
 - B. Tom-Tom
 - C. Garmin
 - D. Raytheon

18. Why did the Department of Defense decide to launch its first Navigation System with Timing and Ranging?
 - A. They wanted to ensure that the USA had the best navigation system in the world.
 - B. They wanted to ensure that the newly developed navigation system would continue to be robust and stable.
 - C. They wanted to be able to locate any target quickly
 - D. They wanted to provide the United States with a state-of-the-art defense system should the Russians try to attack from space.

True/False

19. In 1963, the Aerospace Corporation completed a study for the military that proposed a system of space satellites that would continuously send signals to receivers on the ground which allowed the military to locate vehicles moving rapidly across the surface of the earth or in the air.

20. On November 26, 1990 the oldest GPS satellite still in existence was made operational.

21. There are several Global Navigation Satellite Systems being used world-wide including the Russian GLONASS and the European Union uses a system called Columbus.

22. In 1999, the Defense Department changed its regulations on commercial GPS systems allowing it to be ten times more accurate.

23. Atomic clocks, which are precise to within a trillionth of a second, were created by physicists beginning in 1955 who hoped to develop a more efficient global system of navigation.

24. Although it had originally planned to launch the satellite on the space shuttle, after the Challenger disaster occurred in 1986 in which everyone onboard was killed, the Air Force decided to use a Delta II rocket instead.

25. While working at Raytheon, Dr. Ivan Getting and a team of scientists developed the first three-dimensional, time-difference-of-arrival position-finding system to help the US Air Force pinpoint targets.

UIL LISTENING CONTEST - GRADES 7-8
SPRING DISTRICT 2019-2020

ANSWER KEY

"The History of GPS"

- | | |
|-------|-------------|
| 1. B | 14. C |
| 2. A | 15. 2 (two) |
| 3. B | 16. C |
| 4. D | 17. A |
| 5. C | 18. B |
| 6. B | 19. True |
| 7. D | 20. False |
| 8. C | 21. False |
| 9. A | 22. True |
| 10. B | 23. False |
| 11. C | 24. True |
| 12. A | 25. True |
| 13. B | |

FOR GRADER USE ONLY

Score Test Below:

_____ Initials _____

_____ Initials _____

Papers contending to place:

_____ Initials _____



**University Interscholastic League
A+ Maps/Graphs/Charts Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level: 5 6 7 8

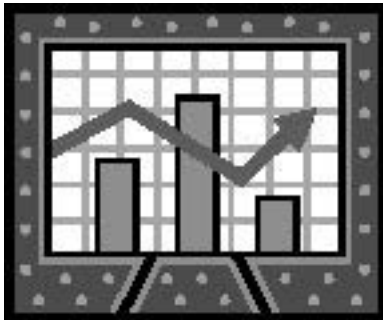
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|-------|---|---|---|-------|---|---|-------|-------|---|---|---|
| 1. A | B | C | D | 26. | T | F | 51. A | B | C | D | |
| 2. A | B | C | D | 27. | T | F | 52. A | B | C | D | |
| 3. A | B | C | D | 28. | T | F | 53. A | B | C | D | |
| 4. A | B | C | D | 29. | T | F | 54. A | B | C | D | |
| 5. A | B | C | D | 30. | T | F | 55. A | B | C | D | |
| 6. A | B | C | D | 31. A | B | C | D | 56. A | B | C | D |
| 7. A | B | C | D | 32. A | B | C | D | 57. A | B | C | D |
| 8. A | B | C | D | 33. A | B | C | D | 58. A | B | C | D |
| 9. A | B | C | D | 34. A | B | C | D | 59. A | B | C | D |
| 10. A | B | C | D | 35. A | B | C | D | 60. A | B | C | D |
| 11. A | B | C | D | 36. A | B | C | D | 61. A | B | C | D |
| 12. A | B | C | D | 37. A | B | C | D | 62. A | B | C | D |
| 13. A | B | C | D | 38. A | B | C | D | 63. A | B | C | D |
| 14. A | B | C | D | 39. A | B | C | D | 64. A | B | C | D |
| 15. A | B | C | D | 40. A | B | C | D | 65. A | B | C | D |
| 16. A | B | C | D | 41. | T | F | 66. A | B | C | D | |
| 17. A | B | C | D | 42. | T | F | 67. A | B | C | D | |
| 18. A | B | C | D | 43. | T | F | 68. A | B | C | D | |
| 19. A | B | C | D | 44. | T | F | 69. A | B | C | D | |
| 20. A | B | C | D | 45. | T | F | 70. A | B | C | D | |
| 21. A | B | C | D | 46. A | B | C | D | 71. | T | F | |
| 22. A | B | C | D | 47. A | B | C | D | 72. | T | F | |
| 23. A | B | C | D | 48. A | B | C | D | 73. | T | F | |
| 24. A | B | C | D | 49. A | B | C | D | 74. | T | F | |
| 25. A | B | C | D | 50. A | B | C | D | 75. | T | F | |

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



Maps, Graphs & Charts

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

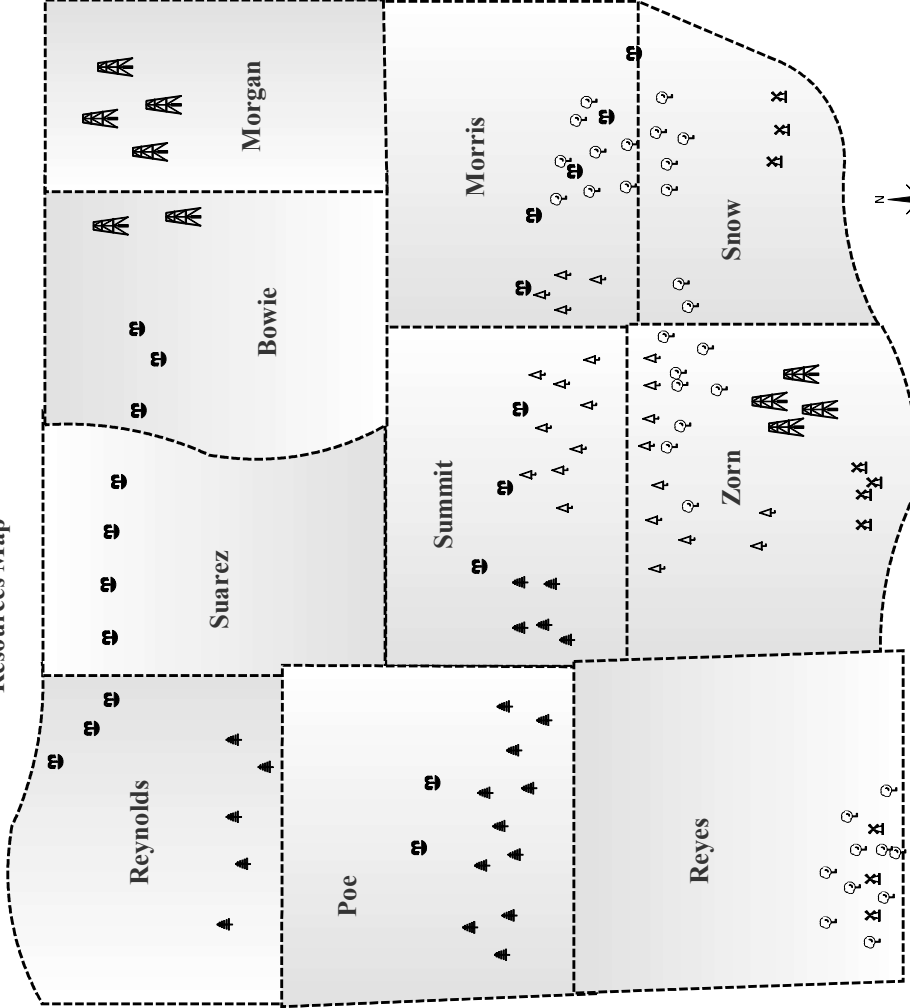
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South America

- What is the European ethnic composition percentage in Peru?
 - 12
 - 54
 - 47
 - 3.7
- What does the red line on the Elevation Map represent?
 - continental boundary
 - international boundary
 - time zone
 - other
- What is the climate type in southern Chile?
 - Tropical
 - Steppe
 - Mediterranean
 - Marine
- The Andes do not run through which of the following countries?
 - Venezuela
 - Uruguay
 - Ecuador
 - Peru
- San Felix Island is a territory of what country?
 - Brazil
 - Chile
 - Argentina
 - Guyana
- Which of these Brazilian cities has the largest population?
 - Natal
 - Boa Vista
 - Macapa
 - Belem
- How far is it from Rosario, Argentina to the capital of the country?
 - About 100 miles
 - About 175 miles
 - About 300 miles
 - About 500 miles
- The Uruguay River is part of the border of Brazil and what other country?
 - Argentina
 - Peru
 - Suriname
 - French Guiana
- What is the main land cover type in Guyana?
 - Cropland
 - Greenland
 - Tropical Rain Forest
 - Broadleaf forest
- Which country is the most densely populated?
 - Brazil
 - Venezuela
 - Colombia
 - Ecuador
- Which of the following crops grows at an elevation of 8,000 feet?
 - Bananas
 - Wheat
 - Barley
 - Rice
- Which of the following resources can be found in Paraguay?
 - Coal
 - Gold
 - Nickel
 - None of the above
- What is the highest level of annual precipitation that the country of Suriname receives?
 - Over 80 inches
 - 40 to 80 inches
 - 20 to 40 inches
 - 10 to 20 inches
- Which of the following countries appears on the Northwestern South America Map?
 - Brazil
 - Paraguay
 - Argentina
 - None
- What large lake is at the highest elevation?
 - Lake Maracaibo
 - Lake Titicaca
 - Lake Aconcagua
 - Mirim Lake

Western Counties Resources and Population Maps

Resources Map



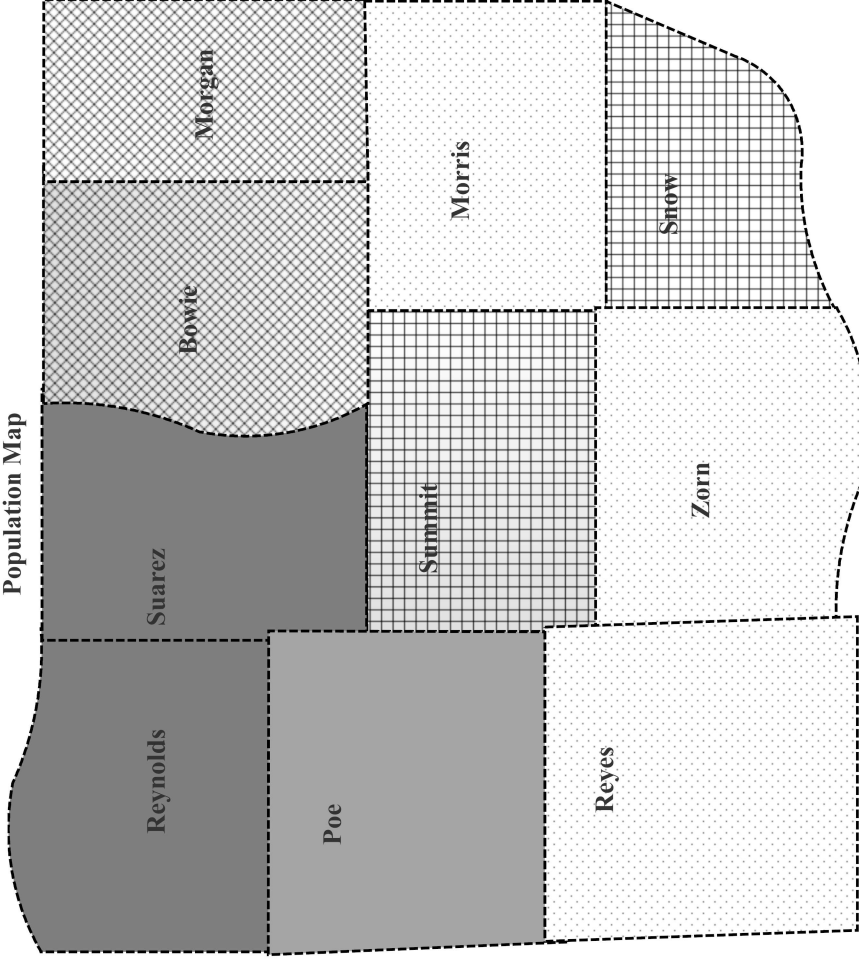
Legend

- County Border
- X Wind
- ≡ Lumber
- △ Oil
- ☼ Water
- ☺ Cotton

1 inch = 25 miles



Population Map



Population Per sq. mile

- Under 5
- 5 to 50
- 50 to 100
- 100 to 250
- Over 250

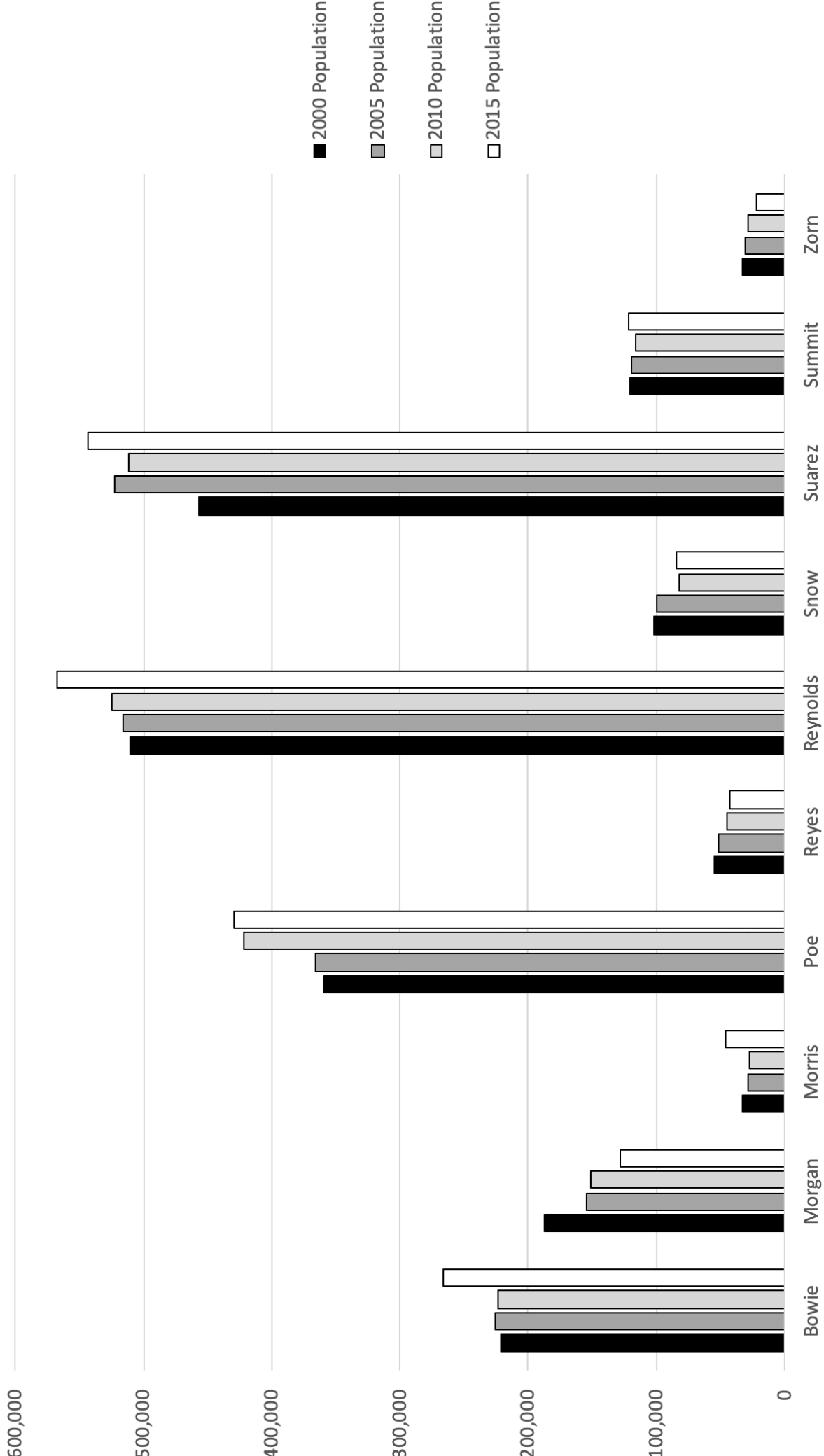
1 inch = 25 miles



Western Counties Resources and Population Maps

16. Which of the following counties has the highest population per square mile?
- Zorn
 - Morgan
 - Morris
 - Poe
17. Which county is located south of Zorn?
- Summit
 - Reynolds
 - Morgan
 - None of the above
18. Three inches would equal how many miles on the population map?
- 25
 - 50
 - 75
 - 100
19. Which of the following resources is not present in Morris County?
- Wind
 - Water
 - Cotton
 - Lumber
20. What do the dotted lines represent?
- State lines
 - County borders
 - Resource boundaries
 - City limits
21. How many counties with oil have a population of under 5 per square mile?
- 0
 - 1
 - 2
 - 3
22. Which county has the fewest towns located in it?
- Reynolds
 - Suarez
 - Bowie
 - Not indicated on the map
23. How many counties have cotton listed as a resource?
- 2
 - 3
 - 4
 - 5
24. Which resource can be found in counties that have populations equal to or above 100 per sq. mile?
- Water
 - Oil
 - Cotton
 - All of the above
25. How many resources are represented on the population map?
- 0
 - 6
 - 7
 - 8
- TRUE/FALSE**
26. Zorn is the county with the highest variety of resources.
27. All of the wind resources are in the map's northern counties.
28. The scale of both maps is the same.
29. Oil is the resource found in the most counties on the map.
30. Every county containing wind resources also contains cotton resources.

County Population



County Population Chart

31. How many individual years are represented by the graph?
- 4
 - 10
 - 15
 - 20
32. How many counties are displayed on the graph?
- 4
 - 5
 - 10
 - 20
33. What does the darkest bar represent?
- The county of Bowie
 - The county of Poe
 - The year 2000
 - The year 2015
34. What information is found on the Y axis?
- The year
 - The population number
 - The name of the county
 - Both A and C
35. The population of how many counties went down every year shown on the graph?
- 1
 - 2
 - 3
 - 4
36. How many counties hit peak population in 2010?
- 0
 - 1
 - 2
 - 3
37. Which of the following counties had the largest increase in population between 2010 and 2015?
- Poe
 - Reynolds
 - Morgan
 - Snow
38. In what year did Zorn have its highest population?
- 2000
 - 2005
 - 2010
 - 2015
39. Which of the following counties had the greatest decrease in population over the years indicated?
- Reyes
 - Summit
 - Zorn
 - Snow
40. In Poe County, what year saw the biggest jump in population from the previous recorded year?
- 2000
 - 2005
 - 2010
 - 2015

TRUE/FALSE

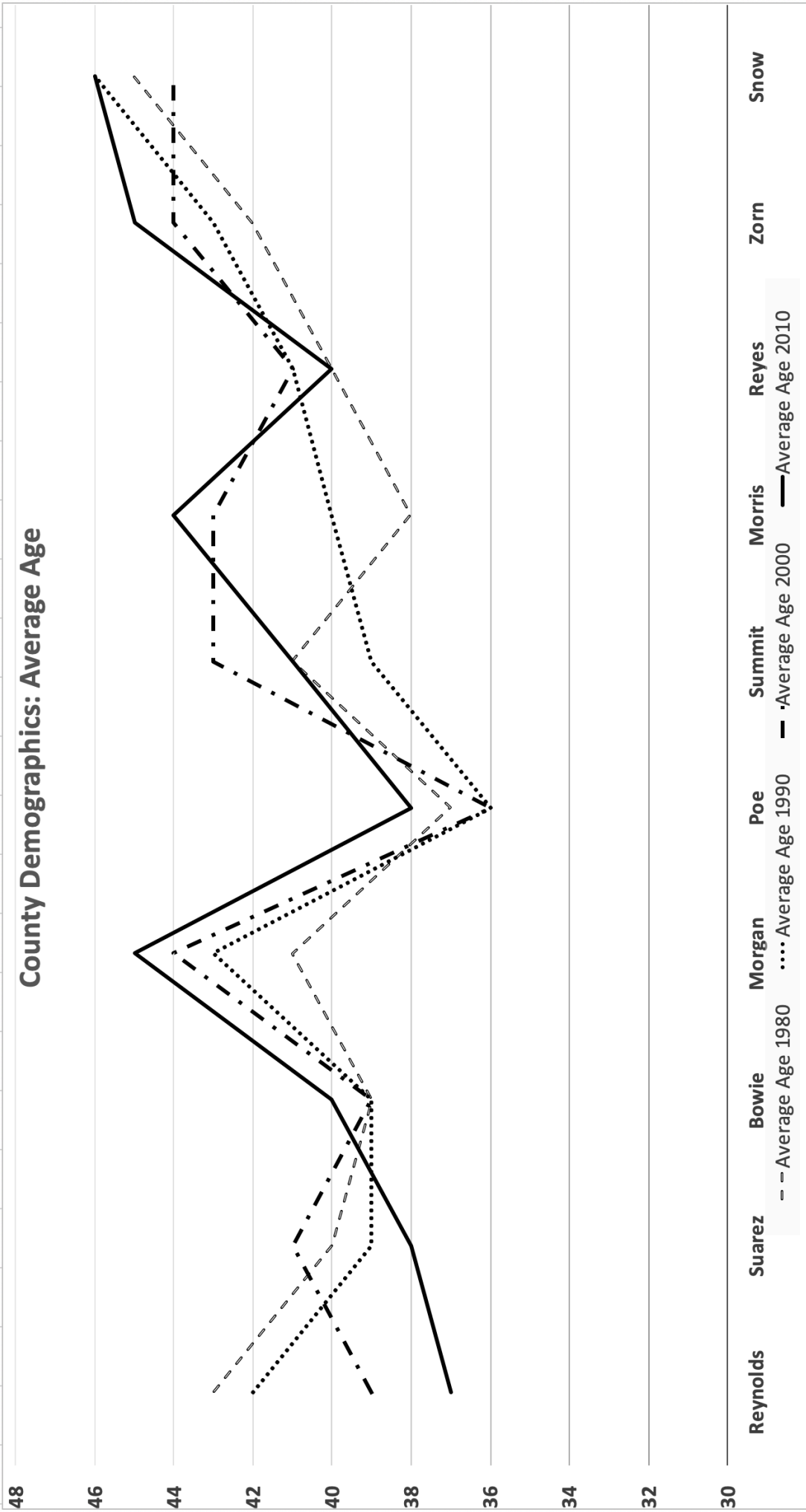
41. The more populous counties tended to gain population.
42. Reynolds always had the highest population.
43. Suarez saw an increase in population every year except 2015.
44. Reyes had a higher population than Morris every year.
45. The graph indicates growth in Reynolds country prior to 2000.

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North America

46. What is the yearly precipitation range in Panama?
- Over 80 inches per year
 - 40 to 80 inches per year
 - 20 to 40 inches per year
 - 10 to 20 inches per year
47. How many kilometers is two centimeters on the North Central U.S. map?
- 47
 - 94
 - 140
 - 280
48. What does the red line on the East Central U.S. map indicate?
- continental boundary
 - international boundary
 - interstate highway
 - longitudes
49. What type of agricultural product is produced in New Mexico?
- Corn
 - Wheat
 - Beef
 - Dairy
50. The Bering Strait separates the United States from what country?
- Mexico
 - Russia
 - Canada
 - Cuba
51. Which of the following Canadian provinces has mining with a value of over 5 billion?
- Ontario
 - Yukon Territory
 - Nunavut
 - New Brunswick
52. The largest urban area on the continent is where?
- Eastern United States
 - Western United States
 - Mexico
 - Canada
53. Where can the land cover type tundra be found?
- Mexico
 - Cuba
 - United States
 - None of the above
54. Which country is the largest by area?
- Mexico
 - Cuba
 - United States
 - Canada
55. How many miles is it from Lima, Ohio to Defiance, Ohio?
- About 20 miles
 - About 40 miles
 - About 60 miles
 - About 80 miles
56. What is the main economic use of land in Utah?
- Commercial farming
 - Ranching or herding
 - Forestry
 - No widespread use
57. What is the main climate type in Cuba?
- Tropical Rain Forest
 - Savanna
 - Steppe
 - Desert
58. Guadalupe Island is a territory of what country?
- Mexico
 - Cuba
 - United States
 - Canada
59. The Missouri Rivers forms a border between Iowa and what other state?
- Missouri
 - Minnesota
 - Wisconsin
 - Nebraska
60. Which Canadian province is the furthest west?
- British Columbia
 - Ontario
 - Quebec
 - Alaska

County Demographics: Average Age



County Demographics: Average Age

61. Which county had the highest average age in 1990?
- Morgan
 - Summit
 - Reyes
 - Snow
62. What span of time does the graph cover?
- 4 years
 - 10 years
 - 30 years
 - 40 years
63. How much time is it between data points for each county?
- 4 years
 - 10 years
 - 30 years
 - 40 years
64. What year did Summit have its lowest average age?
- 1980
 - 1990
 - 2000
 - 2010
65. Which of the following counties had an older population in every subsequent decade?
- Morgan
 - Reyes
 - Snow
 - Suarez
66. What county had the most change in average age between 1980 and 2010?
- Suarez
 - Poe
 - Snow
 - Reynolds
67. How many times did the average age in Summit go up from the previous decade?
- 0
 - 1
 - 2
 - 3
68. Which of the following counties had the highest average age in 2010?
- Morgan
 - Reynolds
 - Poe
 - Morris
69. What year did the average age of Morris first surpass the average age of Summit?
- 1980
 - 1990
 - 2000
 - 2010
70. Which of the following counties had the least amount of average fluctuation over the time indicated?
- Suarez
 - Zorn
 - Morgan
 - Bowie

TRUE/FALSE

71. The average age went up every decade in Snow.
72. Reynolds started in 1980 with the oldest population and ended up as the youngest in 2000.
73. The single biggest jump in average age in 2000 was in Summit.
74. Average age decreased every decade in only one county.
75. Poe's average age did not fluctuate from 1980 to 1990.



University Interscholastic League
A+ Maps/Graphs/Charts Contest • 2019-2020
7/8 Invitational
Answer Key

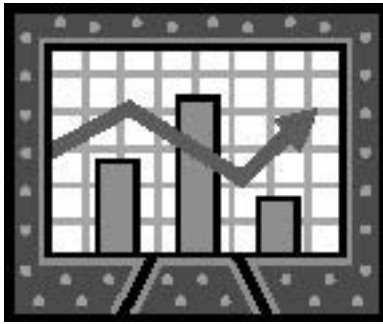
1. A	26. T	51. A
2. B	27. F	52. C
3. D	28. T	53. C
4. B	29. F	54. D
5. B	30. T	55. B
6. D	31. A	56. B
7. B	32. C	57. B
8. A	33. C	58. A
9. C	34. B	59. D
10. D	35. C	60. A
11. C	36. A	61. D
12. D	37. B	62. C
13. A	38. A	63. B
14. A	39. D	64. B
15. B	40. C	65. A
16. D	41. T	66. D
17. D	42. F	67. B
18. C	43. F	68. A
19. A	44. F	69. B
20. B	45. F	70. D
21. B	46. A	71. F
22. D	47. B	72. F
23. C	48. C	73. T
24. A	49. D	74. T
25. A	50. B	75. F

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Maps, Graphs & Charts

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

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Asia

- The Iranian city of Tabriz is how far from the capital of the country?
 - About 325 miles
 - About 400 miles
 - About 525 miles
 - About 600 miles
- Major oil fields are in what area of Saudi Arabia?
 - North
 - South
 - East
 - West
- The Northern Mariana Islands are a territory of what country?
 - India
 - Russia
 - Japan
 - United States
- The deepest lake on the continent is located in what country?
 - China
 - Russia
 - Kazakhstan
 - Indonesia
- Which of the following countries has a border that spans two continents?
 - Russia
 - Azerbaijan
 - Kazakhstan
 - All of the above
- How much of the continent receives 20 inches or less precipitation per year?
 - About one tenth
 - About twenty-five percent
 - About one third
 - More than half
- What is the main land cover type on the North China Plain?
 - Cropland
 - Grassland
 - Semi-desert & desert
 - Broadleaf forest
- Which of the following countries has the highest annual birth rate?
 - India
 - China
 - Laos
 - Turkey
- What do the red lines on the Elevation map show?
 - Elevation differences
 - Continental boundaries
 - Rivers
 - International boundaries
- Which city has the highest population?
 - Uliastay, Mongolia
 - Chita, Russia
 - Kanpur, India
 - Changji, China
- What is the climate type in and around the Russian city of Tiksi?
 - Desert
 - Hot summer
 - Cool Summer
 - Tundra
- Which of the following has the lowest population growth?
 - China
 - India
 - Laos
 - The World
- What natural resource can be found in Pakistan?
 - Oil
 - Gold
 - Coal
 - Zinc
- What country capital is located on the banks of the Red River?
 - Beijing, China
 - Hanoi, Vietnam
 - Moscow, Russia
 - None
- A portion of the largest island on the continent is part of what country?
 - Malaysia
 - Russia
 - India
 - Japan

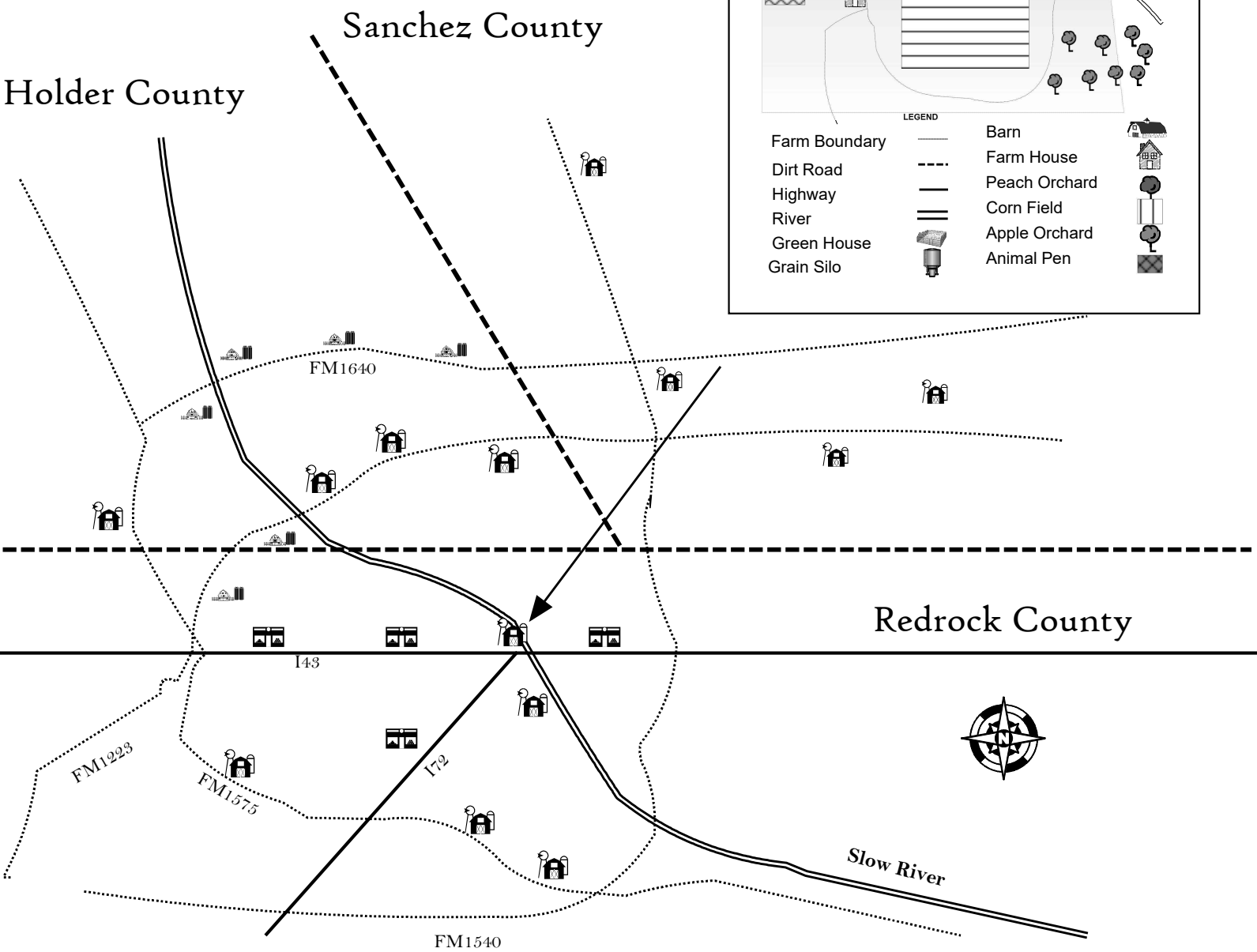
Tri-County Farm/Ranch/Fruit Stand Map



Travis Farm
Sonnet, Texas
Establish 1879

LEGEND

Farm Boundary	—	Barn	
Dirt Road	- - -	Farm House	
Highway	==	Peach Orchard	
River	===	Corn Field	
Green House		Apple Orchard	
Grain Silo		Animal Pen	



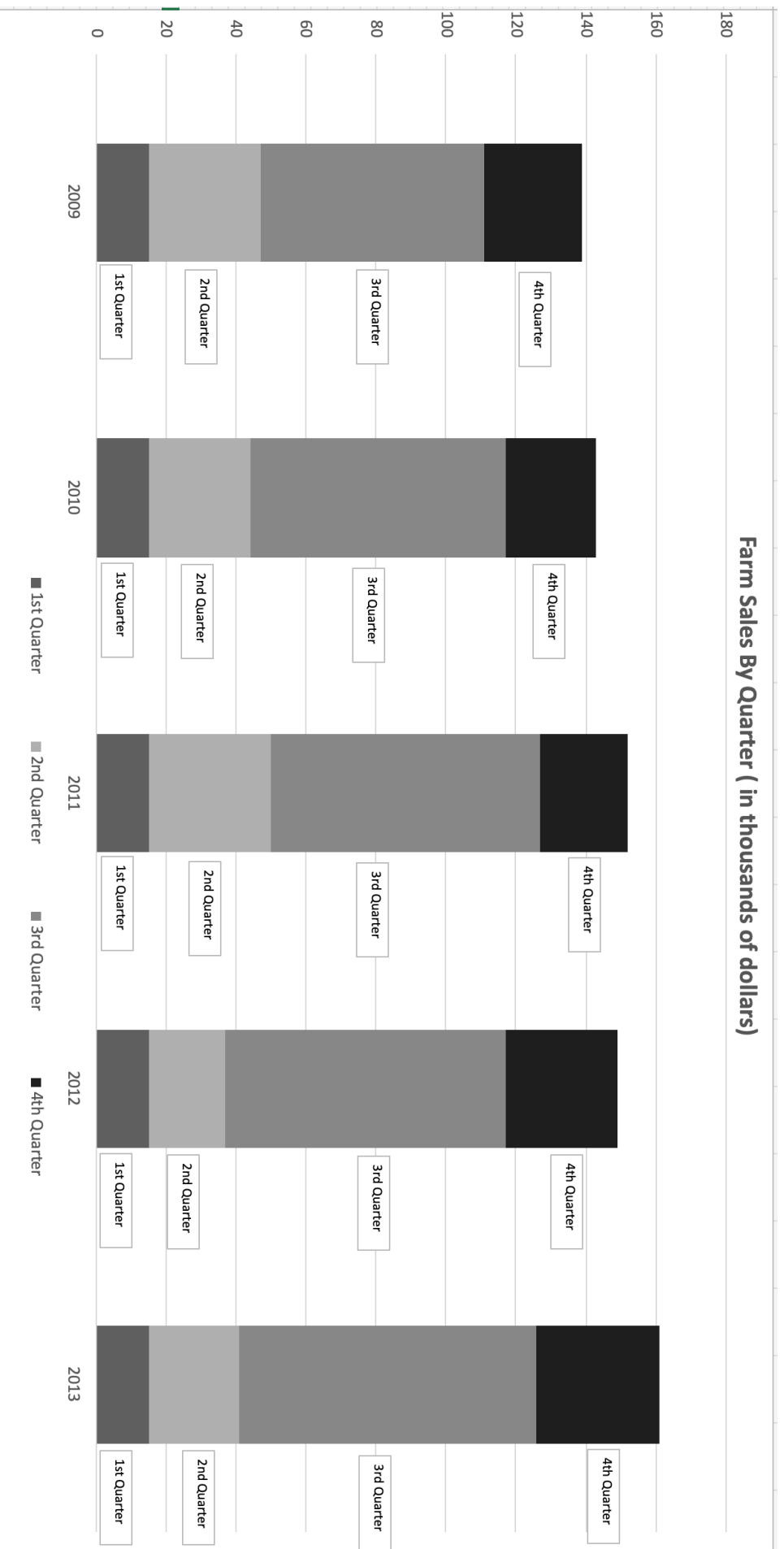
Legend

County Line	- - - - -	Farm	
Highway	==	Fruit Stand	
Farm Road	Ranch	
River	===		

Tri-County Farm/Ranch/Fruit Stand Map

16. How many counties are shown on the map?
- 2
 - 3
 - 4
 - 5
17. One inch equals how many miles?
- 1
 - 5
 - 10
 - Scale not indicated
18. What does the dotted line on the main map indicate?
- Highway
 - Farm Road
 - River
 - Farm Boundary
19. How many ranches are located in the southernmost county?
- 0
 - 1
 - 2
 - 3
20. The insert shows detail for what?
- A farm in Sanchez County
 - A ranch in Redrock County
 - A fruit stand in Holder County
 - None of the above
21. What type of crop is grown on Travis Farm?
- Corn
 - Wheat
 - Barley
 - Cotton
22. Which county has the most farms located in it?
- Redrock
 - Holder
 - Travis
 - Sanchez
23. How many counties have fruit stands located in them?
- 0
 - 1
 - 2
 - 3
24. The open grazing area is located on what portion of Travis Farm?
- West
 - South
 - East
 - North
25. How many animal pens are shown on the insert map?
- 0
 - 1
 - 2
 - 3
- TRUE/FALSE**
26. All fruit stands are located on highways.
27. FM 1640 runs through all counties shown on the map.
28. The Slow River runs through Travis Farm.
29. FM 1640 is south of both the highways shown on the map.
30. The double line on the main map and the insert both indicate highways.

Farm Sales By Quarter (in thousands of dollars)



Farm Sales By Quarter

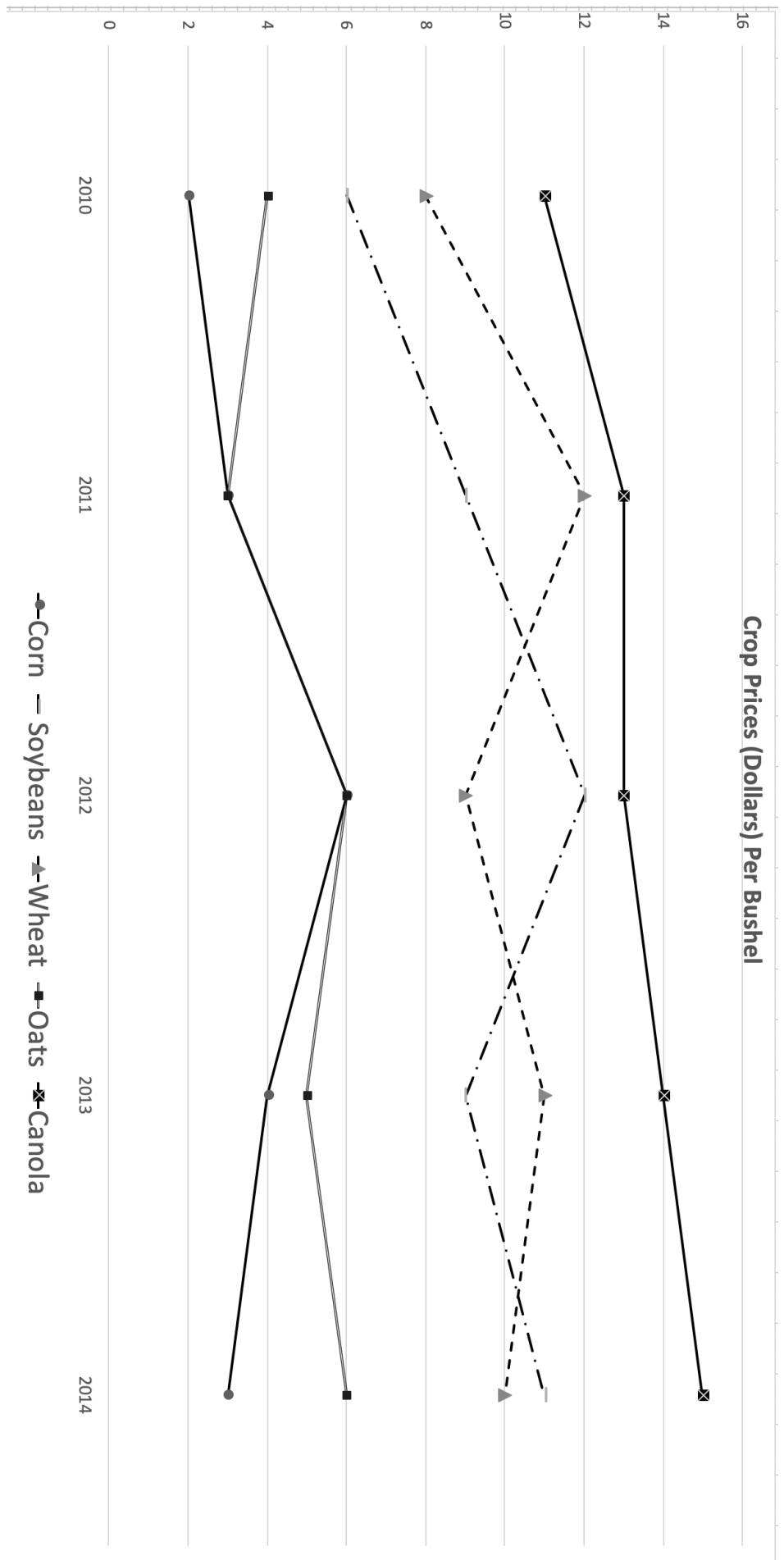
31. What do the numbers on the x axis represent?
- Sales by thousands of dollars
 - The quarter
 - The year
 - None of the above
32. What year had the highest amount of sales?
- 2010
 - 2011
 - 2012
 - 2013
33. What does the darkest portion of the columns represent?
- 2009
 - 2013
 - 1st quarter
 - 4th quarter
34. What year saw the most sales in the second quarter?
- 2010
 - 2011
 - 2012
 - 2013
35. How many quarters had a decrease in sales every year?
- 0
 - 1
 - 2
 - 3
36. How many quarters had their highest sales in the last year represented on the chart?
- 0
 - 1
 - 2
 - 3
37. What was the total amount of sales (in dollars) in 2010?
- \$145
 - \$1,450
 - \$14,500
 - \$145,000
38. In how many quarters were there more sales in 2009 than 2012?
- 0
 - 1
 - 2
 - 3
39. Which quarter of 2013 had the greatest increase from the same quarter of 2012?
- 1st
 - 2nd
 - 3rd
 - 4th
40. How many times did sales in the first quarter surpass \$2,000?
- 0
 - 1
 - 4
 - 5
- TRUE/FALSE**
41. Total sales have gone up every year.
42. Sales are highest in the third quarter of every year.
43. Every quarter in 2013 saw sales of at least \$20,000.
44. Five years are represented on the graph.
45. Third quarter sales accounted for at least half of total sales for every year.

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Australia and Oceania

46. What island is separated from Australia by the Bass Strait?
- Tasmania
 - Melville Island
 - New Zealand
 - Timor
47. The Nullarbor Plain is located in what area of Australia?
- North
 - South
 - East
 - West
48. Which indigenous people group is native to the island of New Guinea?
- Melanesians
 - Polynesians
 - Micronesians
 - Aborigines
49. What Australian city can be found at 38° S, 144 E?
- Albany
 - Ballarat
 - Port Hedland
 - Townsville
50. Which is the largest ethnic population in New Zealand?
- European
 - Maori
 - Asian
 - Other Polynesian
51. The Cook Islands are part of what country?
- Australia
 - Vanuatu
 - New Zealand
 - United States
52. What does the yellow line around the Northern Mariana Islands indicate?
- Official international boundaries
 - Cultural differentiation
 - A disputed boundary
 - Island groups with the same government
53. The east coast of Australia receives which of the following ranges of precipitation per year?
- Over 80 inches
 - 40 to 80 inches
 - 20 to 40 inches
 - None of the above
54. Which of the following is east of the International Date Line?
- China
 - The Hawaiian Islands
 - Kiribati
 - None of the above
55. What are the white dots on the Political Relief Map?
- Continental Boundary
 - International Boundary
 - International Date Line
 - The Equator
56. Which of the following rivers is the longest?
- Darling
 - Murray
 - Lachlan
 - Finders
57. In New Zealand, what are large sheep ranches called?
- Stations
 - Sheep Farms
 - Sheep Pens
 - Outbacks
58. The Cook Strait runs next to what country capital?
- Wellington, New Zealand
 - Canberra, Australia
 - Jakarta, Indonesia
 - Blenheim, New Zealand
59. The Great Barrier Reef is located off what Australian Coast?
- Southeast
 - Southwest
 - Northeast
 - Northwest
60. Which is the capital of the state of Queensland?
- Perth
 - Brisbane
 - Gold Coast
 - Sydney

Crop Prices (Dollars) Per Bushel



● Corn — Soybeans ▲ Wheat ■ Oats ✕ Canola

Crop Prices (Dollars) Per Bushel

61. What does the line with the square with an "x" represent?
- The year 2010
 - The year 2011
 - Oats
 - Canola
62. How many different crops are represented?
- 4
 - 5
 - 10
 - 15
63. Which crop averaged the highest price over the time covered in the graph?
- Canola
 - Corn
 - Soybeans
 - Wheat
64. How many crops had a lower price in 2011 when compared to 2010?
- 0
 - 1
 - 2
 - 3
65. How many times did different crops end up with the same price in a single year?
- 0
 - 1
 - 2
 - 3
66. Which crop had the biggest price gain in a single year?
- Canola
 - Corn
 - Soybeans
 - Wheat

67. How many crops rose in price every year?
- 0
 - 1
 - 2
 - 3
68. How many times did the price of wheat drop when compared to the previous year?
- 0
 - 1
 - 2
 - 3
69. The price is indicated in dollars per what?
- Pound
 - 100 pounds
 - Kilo
 - None of the above
70. How many crops had their highest price in 2010?
- 0
 - 1
 - 2
 - 3

TRUE/FALSE

71. The graph does not indicate the profit made from each crop.
72. Corn either had the lowest price or tied for the lowest price every year.
73. The price of soybeans only declined twice.
74. All crops had their lowest price in the first year shown on the graph.
75. The highest price any crop reached in any year was \$16 per bushel.



**University Interscholastic League
A+ Maps/Graphs/Charts Contest • 2019-2020
7/8 Fall District
Answer Key**

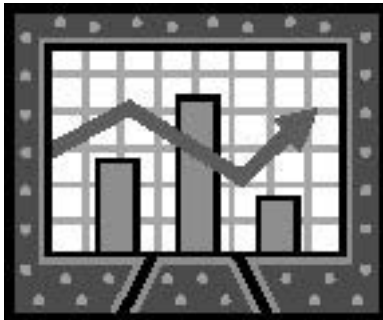
1. A	26. T	51. C
2. C	27. F	52. D
3. D	28. T	53. B
4. B	29. F	54. B
5. D	30. F	55. A
6. D	31. C	56. B
7. A	32. D	57. A
8. C	33. D	58. A
9. D	34. B	59. C
10. C	35. A	60. B
11. D	36. D	61. D
12. A	37. D	62. B
13. A	38. B	63. A
14. B	39. C	64. B
15. A	40. D	65. C
16. B	41. F	66. D
17. D	42. T	67. A
18. B	43. T	68. C
19. B	44. T	69. D
20. D	45. T	70. A
21. A	46. A	71. T
22. A	47. B	72. T
23. B	48. A	73. F
24. D	49. B	74. F
25. D	50. A	75. F

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Maps, Graphs & Charts

grades 7 & 8

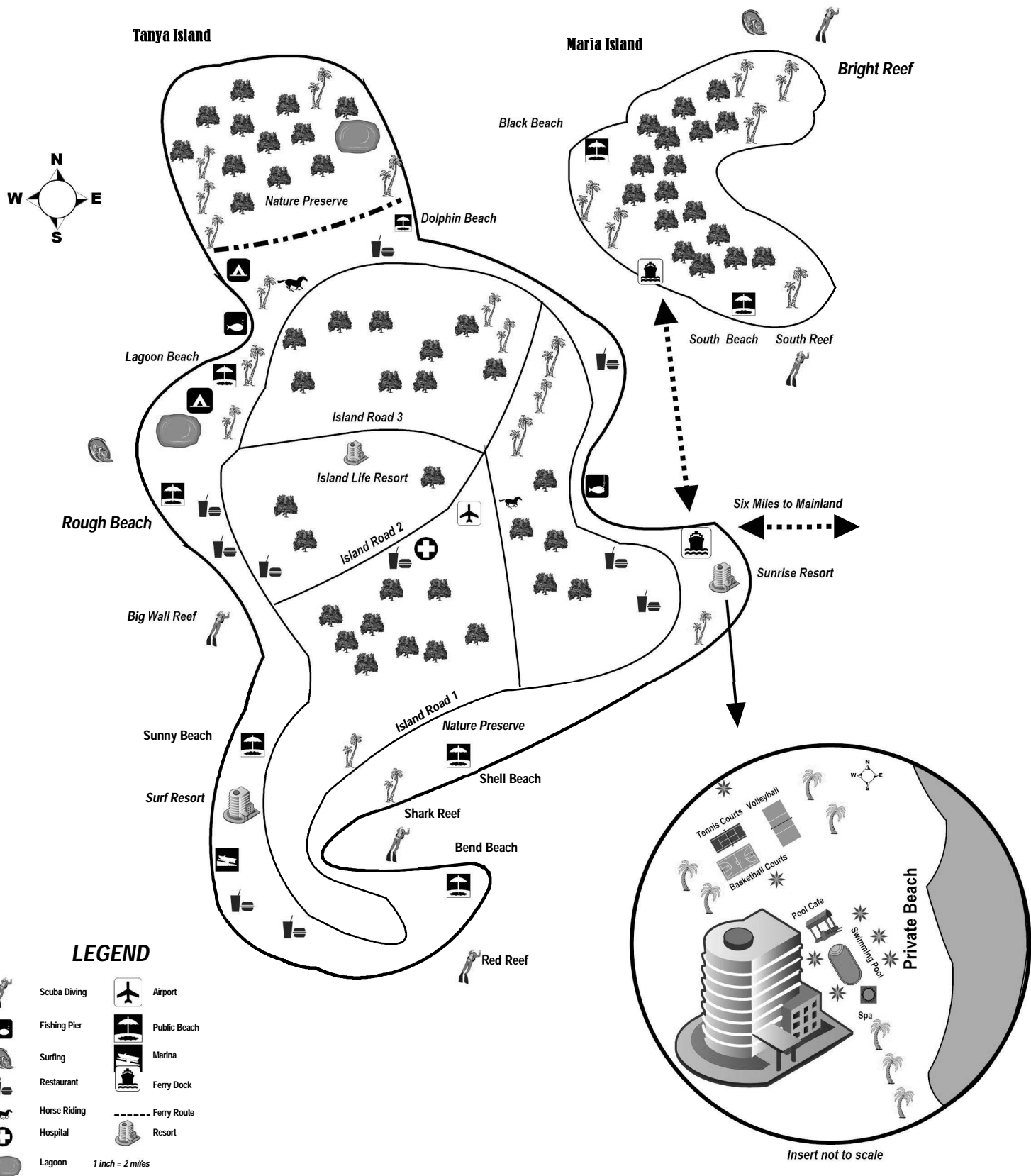
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UNTIL TOLD TO DO SO**

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Europe

1. What is the climate type in southern Bulgaria?
 - a. Cool Summer
 - b. Hot summer
 - c. Marine
 - d. Mediterranean
2. The continent's largest lake is located in what area of the continent?
 - a. Northwest
 - b. Southeast
 - c. Northeast
 - d. Southwest
3. Which of the following countries gets the highest percentage of their energy from hydroelectricity?
 - a. Norway
 - b. France
 - c. Finland
 - d. Spain
4. The Carpathian Mountains run through which of the following countries?
 - a. Sweden
 - b. Russia
 - c. Slovakia
 - d. France
5. The Labrador Current runs in what direction?
 - a. North to south
 - b. South to north
 - c. East to west
 - d. West to east
6. What do the blue and white lines on various maps indicate?
 - a. Water and sea floor
 - b. International boundaries
 - c. Rivers
 - d. Dams
7. How far is it from Gavle, Sweden to Kiruna, Sweden?
 - a. About 200 miles
 - b. About 300 miles
 - c. About 400 miles
 - d. About 500 miles
8. What is the highest elevation range in Latvia?
 - a. Below sea level
 - b. 0 to 500 feet
 - c. 1,000 feet to 2,000 feet
 - d. 5,000 feet to 10,000 feet
9. What is the main land cover type of Ireland?
 - a. Cropland
 - b. Grassland
 - c. Tundra
 - d. Needleleaf forest
10. What is the population range around the area of Milan, Italy?
 - a. 0 to 5 per square mile
 - b. 50 to 100 per square mile
 - c. 100 to 250 per square mile
 - d. Over 250 per square mile
11. Which of the following countries contains one of the largest urban areas in Europe?
 - a. Germany
 - b. Russia
 - c. Spain
 - d. Italy
12. Lake Geneva forms the border of which of the following countries?
 - a. Ukraine
 - b. Finland
 - c. Norway
 - d. France
13. What percentage of the Netherlands lies below sea level?
 - a. About 25 percent
 - b. About 50 percent
 - c. About 75 percent
 - d. Almost 100 percent
14. Which of the following countries has areas of ranching or herding?
 - a. Spain
 - b. Poland
 - c. United Kingdom
 - d. Denmark
15. The Don River flows into what body of water?
 - a. Barents Sea
 - b. Sea of Azov
 - c. North Sea
 - d. Lake Ladoga

Two Sisters Islands



LEGEND

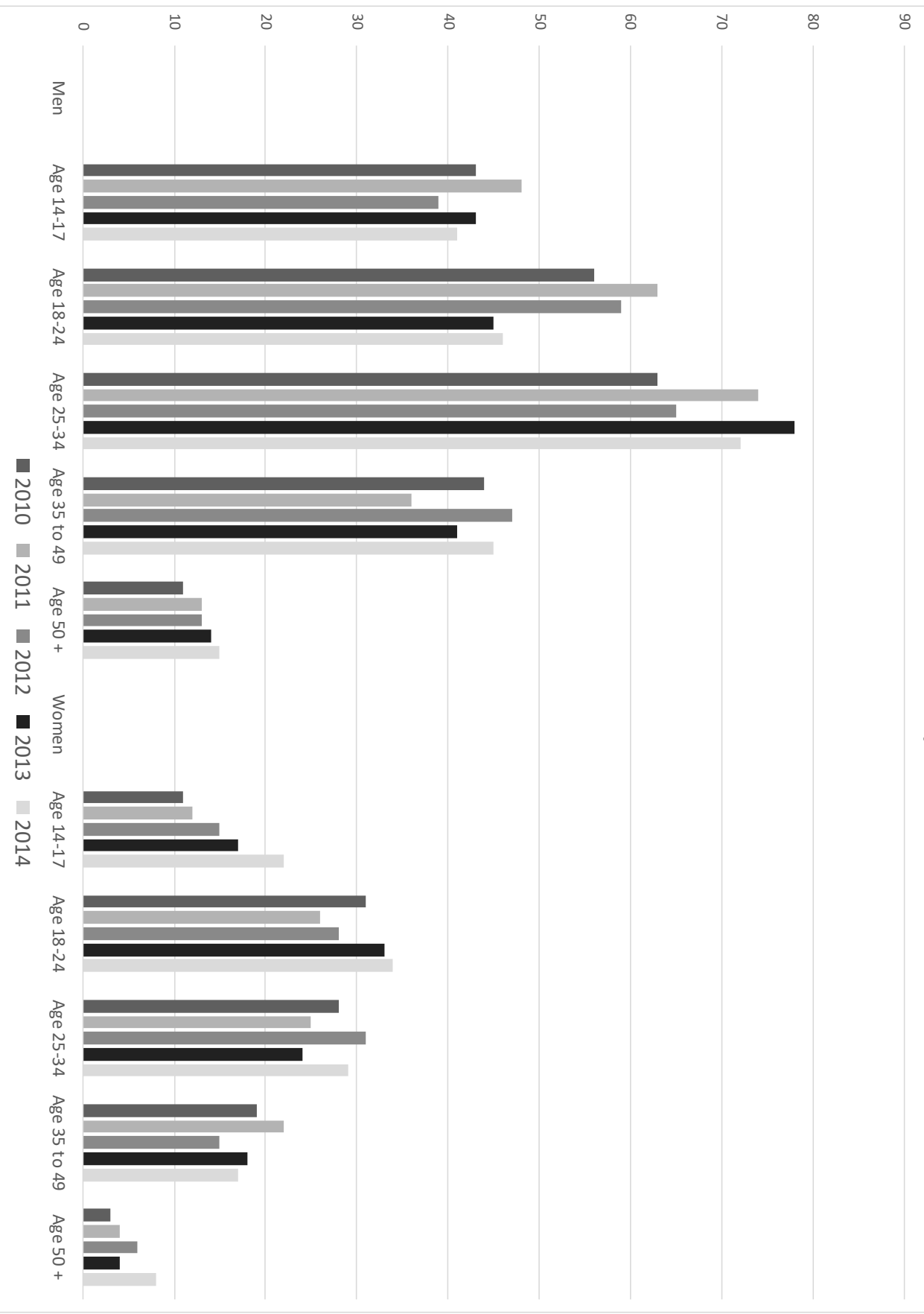
- | | | | |
|--|--------------|--|--------------|
| | Scuba Diving | | Airport |
| | Fishing Pier | | Public Beach |
| | Surfing | | Marina |
| | Restaurant | | Ferry Dock |
| | Horse Riding | | Ferry Route |
| | Hospital | | Resort |
| | Lagoon | | |
- 1 inch = 2 miles

Insert not to scale

Two Sisters Islands

16. What is the scale of the insert?
- One inch equals two miles
 - One inch equals four miles
 - One inch equals eight miles
 - Not indicated
17. How many horse riding recreation areas are shown on the map?
- 0
 - 1
 - 2
 - 3
18. How many private beaches are shown on the map?
- 0
 - 1
 - 8
 - 9
19. The ferry docks in what area of Maria Island?
- Southeast
 - Southwest
 - Northeast
 - Northwest
20. The insert shows detail for what?
- Sunrise Resort
 - Surf Resort
 - Maria Island
 - Island Life Resort
21. Which reef is the furthest north?
- Red Reef
 - Big Wall Reef
 - Bright Reef
 - South Reef
22. What does the line with alternating dashes and dots indicate?
- Ferry Route
 - Island Road
 - Island Boundary
 - Nature Preserve Boundary
23. Using the main island roads shown on the map, which resort has the shortest drive to the airport?
- Island Life Resort
 - Sunrise Resort
 - Surf Resort
 - Big Wall Resort
24. Surf Resort is located on what area of Tanya Island?
- Southeast
 - Southwest
 - Northeast
 - Northwest
25. How many restaurants are shown on Maria Island?
- 0
 - 1
 - 8
 - 9
- TRUE/FALSE**
26. The map insert shows Surf Resort has direct access to a private beach.
27. Black Beach Resort is located on Maria Island.
28. The Sunrise Resort's Spa is just east of the main resort building.
29. Dolphin Beach is the beach located closest to the nature preserve.
30. Tanya Island is six miles west of the mainland.

Surfer Numbers on Maria Island By Year and Gender



Surfer Numbers on Maria Island by Year and Gender

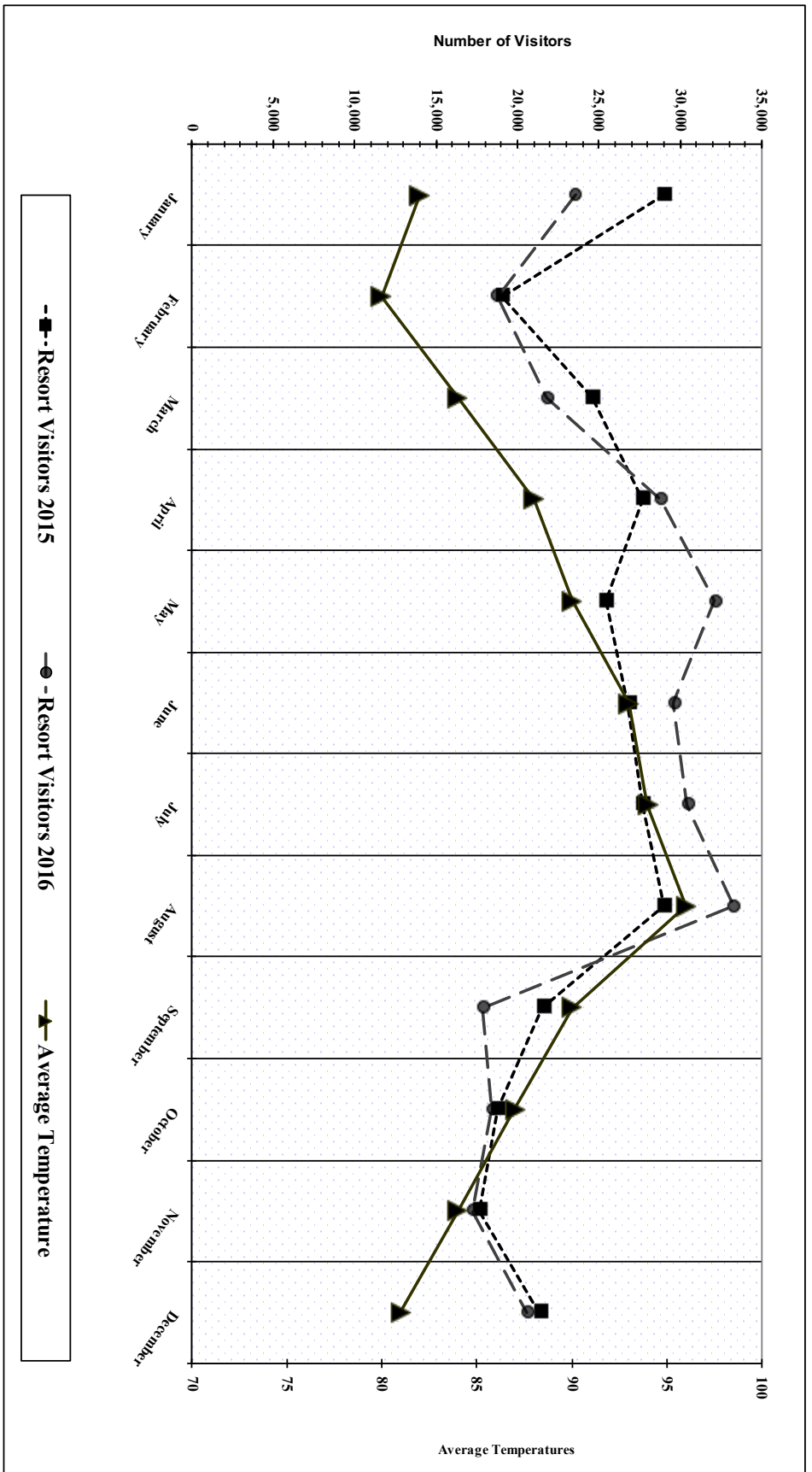
31. How many years are represented on the graph?
- 2
 - 3
 - 4
 - 5
32. What does the darkest column represent?
- 2010
 - 2011
 - 2012
 - 2013
33. What year had the lowest number of female surfers between the age of 18 to 24?
- 2010
 - 2011
 - 2012
 - 2013
34. Males between the age of 25-34 had the highest number of surfers in how many years?
- 0
 - 3
 - 5
 - 7
35. How many categories of surfers are shown on the chart?
- 2
 - 5
 - 10
 - 15
36. Which of the following categories had the lowest number of surfers for all years combined?
- Men age 18-24
 - Men age 50+
 - Women age 14-17
 - Women age 35-49
37. Which of the following categories stayed above 40 surfers in every year?
- Men age 18-24
 - Men age 14-17
 - Men age 50+
 - Women age 18-24.
38. In how many years were there more male surfers between 14 to 17 than male surfers age 35 to 49?
- 0
 - 1
 - 2
 - 3
39. Which year saw the highest increase in female surfers between the ages of 18-24 from the previous year?
- 2010
 - 2011
 - 2012
 - 2013
40. In how many years, in any single category, did the number of surfers surpass 70?
- 0
 - 1
 - 3
 - 5
- TRUE/FALSE**
41. The only category that had increases in the number of surfers every year was women age 14-17.
42. For women, the year with the highest number of surfers for all age categories combined was 2014.
43. The category of men age 50+ never saw a decrease in the number of surfers.
44. 2014 saw the biggest jump in male surfers ages 25 to 34 from the previous year.
45. The category of women age 18-24 had the highest number of female surfers every year.

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Africa

46. What area of Egypt has the highest population density?
- The eastern coast
 - The southern border
 - The western border
 - The central area around the Nile River
47. The Erg Iguidi extends through which of the following countries?
- Mauritania
 - South Africa
 - Somalia
 - None of the above
48. The largest urban center is in what area of the continent?
- Northwest
 - Northeast
 - Southwest
 - Southeast
49. Tropical rainforest can be found in which of the following countries?
- Cameroon
 - Libya
 - Namibia
 - Tunisia
50. Which of the following lakes was formed by the same forces that produced the Great Rift Valley?
- Lake Victoria
 - Lake Volta
 - Lake Nyasa
 - Lake Chad
51. What does a line of red dots on the map indicate?
- Continental Boundary
 - International Boundary
 - Disputed Boundary
 - Longitudinal Line
52. Which of the following is not located on the shores of the Gulf of Guinea?
- Lagos, Nigeria
 - Maroua, Cameroon
 - Accra, Ghana
 - Lome, Togo
53. Which country does not contain part of the Sahara inside of it?
- Angola
 - Algeria
 - Libya
 - Mali
54. Where does Algeria import the most goods from?
- The United States
 - The European Union
 - Russia
 - China
55. Cotonou is one of the capitals of what country?
- Togo
 - Niger
 - Senegal
 - Benin
56. The Mbomou River forms the northern border of what country?
- Democratic Republic of the Congo
 - Central African Republic
 - South Sudan
 - Chad
57. Which of the following countries has the highest amount of rainfall?
- Sierra Leone
 - Somalia
 - Namibia
 - Tunisia
58. The continent is divided physically and culturally by what feature?
- A lake
 - A mountain range
 - A desert
 - A forest
59. The capital of what country is located on the island of Bioko?
- Angola
 - Ghana
 - Swaziland
 - Equatorial Guinea
60. How far is it from the capital of Kenya to the capital of Gabon?
- About 2,000 kilometers
 - About 3,000 kilometers
 - About 4,000 kilometers
 - About, 5,000 kilometers

Royal Mountain State Park
 Visitors 2012 and 2013 and Average Monthly Temperatures



Resort Visitor and Temperature Data

61. What does the line with round connectors represent?
- February
 - Resort visitors for the year 2015
 - Resort visitors for the year 2016
 - The average temperature for the month
62. How many years are represented?
- 2
 - 3
 - 4
 - 5
63. What month had the lowest average temperature?
- January
 - February
 - November
 - December
64. What do the numbers on the right side of the Y axis represent?
- Number of visitors
 - Temperature
 - Month
 - Year
65. Which of the following months had the least amount of difference in visitors between 2015 and 2016?
- January
 - February
 - June
 - July
66. Which month had the largest decrease in visitors compared to the previous year?
- September
 - October
 - November
 - December
67. How many times did visitor numbers increase compared to the prior year?
- 0
 - 3
 - 5
 - 9
68. In 2015, which of the following months had the highest number of visitors?
- June
 - July
 - August
 - September
69. What month had the lowest amount of visitors?
- February, 2015
 - March, 2016
 - September, 2016
 - December, 2015
70. In how many months did the average temperature fall below 90 degrees?
- 9
 - 6
 - 7
 - 11
- TRUE/FALSE**
71. The solid line details the high temperature recorded for each month.
72. The month with the lowest temperature also had the fewest visitors in 2015.
73. In both 2015 and 2016, visitor numbers fall in the month of February compared to the previous month.
74. The biggest drop in visitor numbers happened in September of 2016.
75. Average temperatures rise after February and keep rising through August.



University Interscholastic League
A+ Maps/Graphs/Charts Contest • 2019-2020
7/8 Spring District
Answer Key

1. D	26. F	51. C
2. B	27. F	52. B
3. A	28. T	53. A
4. C	29. T	54. B
5. A	30. T	55. D
6. B	31. D	56. A
7. D	32. D	57. A
8. C	33. B	58. C
9. A	34. C	59. D
10. D	35. C	60. B
11. B	36. B	61. C
12. D	37. A	62. A
13. A	38. C	63. B
14. A	39. D	64. B
15. B	40. C	65. B
16. A	41. T	66. A
17. C	42. T	67. C
18. B	43. T	68. C
19. B	44. F	69. C
20. A	45. F	70. A
21. C	46. D	71. F
22. D	47. A	72. F
23. A	48. B	73. T
24. B	49. A	74. T
25. A	50. C	75. T

CONTESTANT NUMBER:

FOR GRADER USE ONLY

Score Test Below:

_____ out of 250. Initials _____

_____ out of 250. Initials _____

Papers contending to place:

_____ out of 250. Initials _____



**University Interscholastic League
A+ Mathematics Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level: 6 7 8

- | | | | | | | | | | | | |
|-----|---|---|---|---|---|-----|---|---|---|---|---|
| 1. | A | B | C | D | E | 26. | A | B | C | D | E |
| 2. | A | B | C | D | E | 27. | A | B | C | D | E |
| 3. | A | B | C | D | E | 28. | A | B | C | D | E |
| 4. | A | B | C | D | E | 29. | A | B | C | D | E |
| 5. | A | B | C | D | E | 30. | A | B | C | D | E |
| 6. | A | B | C | D | E | 31. | A | B | C | D | E |
| 7. | A | B | C | D | E | 32. | A | B | C | D | E |
| 8. | A | B | C | D | E | 33. | A | B | C | D | E |
| 9. | A | B | C | D | E | 34. | A | B | C | D | E |
| 10. | A | B | C | D | E | 35. | A | B | C | D | E |
| 11. | A | B | C | D | E | 36. | A | B | C | D | E |
| 12. | A | B | C | D | E | 37. | A | B | C | D | E |
| 13. | A | B | C | D | E | 38. | A | B | C | D | E |
| 14. | A | B | C | D | E | 39. | A | B | C | D | E |
| 15. | A | B | C | D | E | 40. | A | B | C | D | E |
| 16. | A | B | C | D | E | 41. | A | B | C | D | E |
| 17. | A | B | C | D | E | 42. | A | B | C | D | E |
| 18. | A | B | C | D | E | 43. | A | B | C | D | E |
| 19. | A | B | C | D | E | 44. | A | B | C | D | E |
| 20. | A | B | C | D | E | 45. | A | B | C | D | E |
| 21. | A | B | C | D | E | 46. | A | B | C | D | E |
| 22. | A | B | C | D | E | 47. | A | B | C | D | E |
| 23. | A | B | C | D | E | 48. | A | B | C | D | E |
| 24. | A | B | C | D | E | 49. | A | B | C | D | E |
| 25. | A | B | C | D | E | 50. | A | B | C | D | E |

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League

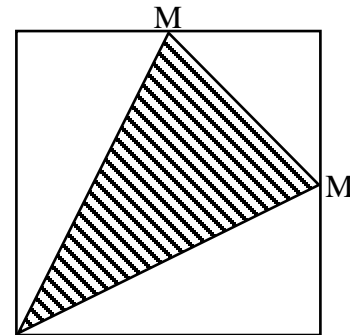


Mathematics

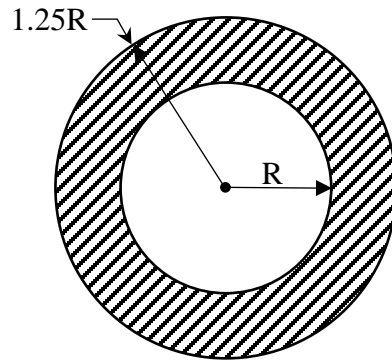
**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

2019 – 2020 University Interscholastic League JH/MS Mathematics Contest A

- (1) Evaluate: $2^4 \div 4^{1/2} \times 2^{-2}$
 A) 8 B) -2 C) 4 D) $\frac{1}{2}$ E) 2
- (2) $3\frac{1}{3} \times 6\frac{1}{3} =$
 A) $18\frac{1}{9}$ B) $18\frac{1}{3}$ C) $19\frac{1}{3}$ D) $21\frac{1}{9}$ E) $20\frac{1}{9}$
- (3) What is the number of hours in four days?
 A) 96 B) 84 C) 72 D) 60 E) 48
- (4) The sides of a rectangle are changed so that the new rectangle has a width that is increased by 20% and the length is increased by 25%. By what percent is the original rectangle's area increased?
 A) 5% B) 45% C) 50% D) 145% E) 150%
- (5) Matt tied a 25-foot long rope to the top of a pole and stretched the rope taut to the level ground. If the rope on the ground is 20 feet away from the base of the pole, how tall is the pole?
 A) $\sqrt{41}$ feet B) $5\sqrt{41}$ feet C) $22\frac{1}{2}$ feet D) 15 feet E) None of these
- (6) One hot summer day Mackenzie finished her lunch at 12:15 PM, took a $1\frac{3}{4}$ hour nap and then went swimming 30 minutes later. At what time did she start swimming?
 A) 1:15 PM B) 2:30 PM C) 2:45 PM D) 3:15 PM E) 3:30 PM
- (7) Andy took 16 identical wooden cubes that measured 2 inches on a side. He placed the cubes on a sheet of paper so that their faces were touching and formed a square that measured 4 cubes by 4 cubes. If Andy then spray-painted the square of cubes, what area of the cubes was not painted?
 A) 512 in^2 B) 384 in^2 C) 256 in^2 D) 128 in^2 E) 64 in^2
- (8) If the point M is at the midpoint of the sides for the square to the right, what percentage of the square area is the shaded region?

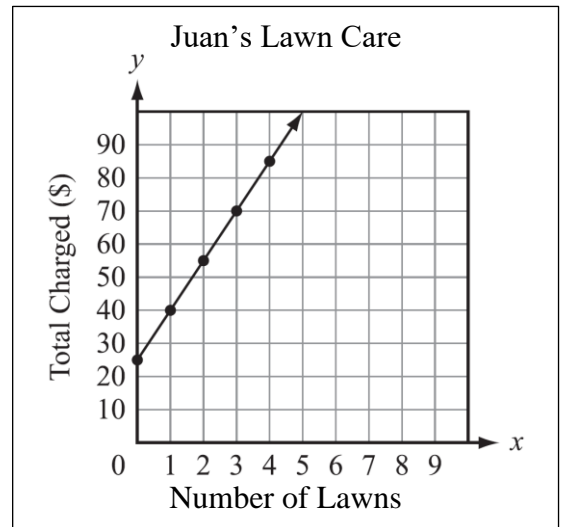


- (9) In the drawing to the right, if R is the radius of the smaller circle, what percentage of the larger circle is the shaded portion?



- A) 25 %
- B) 36 %
- C) 40 %
- D) 44 %
- E) 64 %

- (10) Juan mows lawns. The line graph to the right shows how much money Juan makes mowing lawns. Based on the graph, which statement is true?



- A) Juan charges exactly \$25 for each lawn worked.
- B) Juan charges exactly \$40 for each lawn worked.
- C) Juan charges a \$25 initial fee and \$15 for each mowed lawn.
- D) Juan charges a \$25 initial fee and \$25 for each mowed lawn.
- E) Juan charges a \$25 initial fee and \$40 for each mowed lawn.

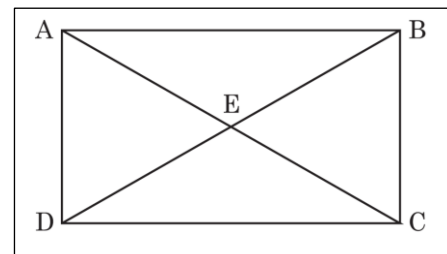
- (11) Which number is equivalent to: $1,824 \div 4 \div 3 \div 2$?

- A) 76
- B) 152
- C) 228
- D) 304
- E) 456

- (12) Liz is surveying her class about sports. Which survey question will generate data that can be **best** recorded in a frequency table?

- A) What is your favorite sports memory?
- B) Why do you like soccer more than basketball?
- C) What racing team is the most liked by NASCAR fans?
- D) If you spent a day at a lake in the summer, what would you do?
- E) Which sport do you like the most: basketball, football, soccer, or tennis?

- (13) A rectangle is divided using its diagonals as shown to the right. Which of the following figures are congruent?



- A) $\triangle ABE$ and $\triangle ADE$
- B) $\triangle AEB$ and $\triangle DCE$
- C) $\triangle ADE$ and $\triangle ABD$
- D) $\triangle ADC$ and $\triangle ADE$
- E) $\triangle DCE$ and $\triangle DAB$

- (24) How many 3-digit positive integers have digits whose product equals 24?
 A) 12 B) 15 C) 18 D) 21 E) 24
- (25) A sign at the store’s fish market states, “50% off, today only: half-pound packages for just \$3 per package”. What is the regular price for a full pound of fish, in dollars?
 A) \$6 B) \$9 C) \$10 D) \$12 E) \$15
- (26) Eight friends ate at a restaurant and agreed to share the bill equally. Because Amanda forgot her money, each of her seven friends paid an extra \$2.50 to cover her portion of the total bill. What was the total bill?
 A) \$120 B) \$128 C) \$140 D) \$144 E) \$160
- (27) A fair coin is tossed 3 times. What is the probability of at least two consecutive heads?
 A) $\frac{1}{4}$ B) $\frac{3}{8}$ C) $\frac{1}{2}$ D) $\frac{1}{8}$ E) $\frac{3}{4}$
- (28) What is the ratio of the greatest common factor of 24 and 54 to the least common multiple of 24 and 54?
 A) $\frac{1}{36}$ B) $\frac{1}{6}$ C) $\frac{1}{3}$ D) $\frac{4}{9}$ E) $\frac{2}{9}$
- (29) Paige is in the 5th grade and weighs 106 pounds. Her quadruplet brothers are tiny babies and weigh 5, 5, 6, and 8 pounds. Which is greater, the average (mean) weight of these five children or the median weight, and by how many pounds?
 A) median by 60 B) average by 5 C) median by 20 D) average by 15 E) average by 20
- (30) In Harris county, statisticians estimate there is a baby born every 8 hours and a death every day. To the nearest hundred, how many people are added to the population of Harris county each year?
 A) 600 B) 700 C) 800 D) 900 E) 1,000
- (31) In a middle school football district, each team plays every other team exactly once. If a total of 21 district games were played during the 2020 season, how many teams were members of this district?
 A) 6 B) 7 C) 8 D) 9 E) 10
- (32) What is the unit’s digit for 13^{2020} ?
 A) 1 B) 2 C) 3 D) 7 E) 9
- (33) $24 \times 0.1666 \dots =$
 A) 4 B) 6 C) 3 D) $\frac{1}{4}$ E) 8
- (34) A black bag contains a number of marbles, each of which is red, white or blue. If there are 12 red, 20 white and 18 blue what are the odds of Noah drawing a blue marble in the first random draw?
 A) $\frac{9}{25}$ B) $\frac{9}{10}$ C) $\frac{2}{3}$ D) $\frac{9}{16}$ E) $\frac{3}{5}$
- (35) What is the volume of a square pyramid with base side of 9 inches and height of 15 inches?
 A) $1,215 \text{ in}^3$ B) $2,025 \text{ in}^3$ C) 567 in^3 D) 550 in^3 E) 405 in^3

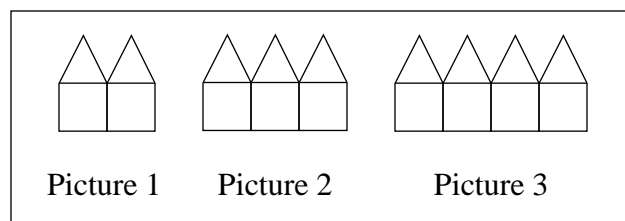
- (36) What is the 7th term in the pattern: 1, 3, 7, 15, 31, . . . ?
 A) 46 B) 47 C) 63 D) 127 E) 128
- (37) Albert wants to shrink the size of an image on a poster. The image has a length of 35 centimeters (cm) and a width of 28 centimeters. The shrunken image will be similar to the original image and has a width of 9 centimeters. What will be the length of the shrunken image?
 A) 2 cm B) $7\frac{1}{5}$ cm C) $11\frac{1}{4}$ cm D) 12 cm E) 16 cm
- (38) What will the interior angles of a 7-sided polygon add up to?
 A) 540° B) 600° C) 720° D) 880° E) 900°
- (39) A movie club charges a \$7.99/month membership fee for unlimited old movies plus a \$3.99/movie fee for new-release videos. Which equation represents the total cost (C) of one month of membership including renting a certain number of new-release movies (m)?
 A) $7.99C = 3.99m$
 B) $C = 3.99m + 7.99$
 C) $C = 7.99m + 3.99$
 D) $C = 3.99m - 7.99$
 E) $C = \frac{3.99}{m} + 7.99$

- (40) A student records data for the maximum number of diagonals that can be drawn inside some polygons in the table to the right. Which algebraic formula generalizes the relationship between the number of sides of a polygon, s , and the number of diagonals, d , in the polygon?

Number of Sides (s)	Number of Diagonals (d)
3	0
4	2
5	5
6	9
7	14

- A) $d = s - 2$
 B) $d = \frac{s}{3} - 1$
 C) $d = \frac{s(s-3)}{2}$
 D) $d = s^2 - 1$
 E) $d = 2s - 6$

- (41) To the right are 3 pictures in a sequence of pictures. Picture 1 uses 11 toothpicks. I wish to continue to build the pictures in the sequence using toothpicks. What is the first picture that will use at least 1000 toothpicks?



- A) Picture 197
 B) Picture 198
 C) Picture 199
 D) Picture 200
 E) Picture 201

2019 – 2020 University Interscholastic League JH/MS Mathematics Contest A – Key

- (1) E
- (2) D
- (3) A
- (4) C
- (5) D
- (6) B
- (7) C
- (8) C
- (9) B
- (10) C
- (11) A
- (12) E
- (13) B
- (14) B
- (15) C
- (16) B
- (17) D
- (18) D
- (19) E
- (20) D
- (21) A
- (22) E
- (23) B
- (24) D
- (25) D

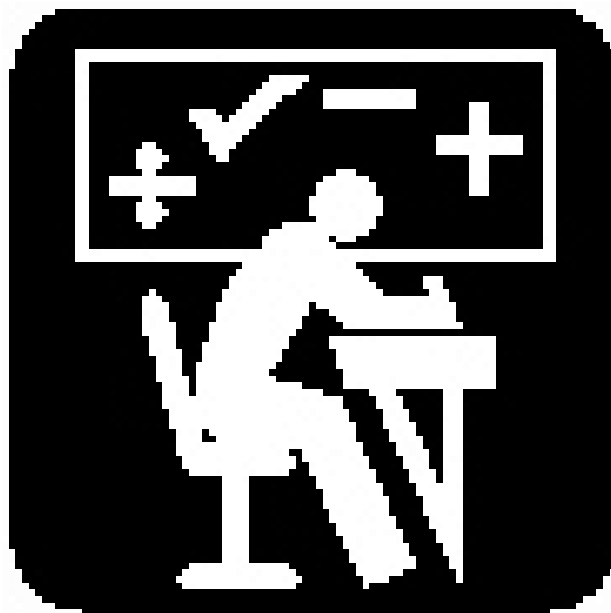
- (26) C
- (27) B
- (28) A
- (29) E
- (30) B
- (31) B
- (32) A
- (33) A
- (34) D
- (35) E
- (36) D
- (37) C
- (38) E
- (39) B
- (40) C
- (41) C
- (42) C
- (43) A
- (44) E
- (45) C
- (46) A
- (47) B
- (48) E (91)
- (49) A
- (50) C

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League

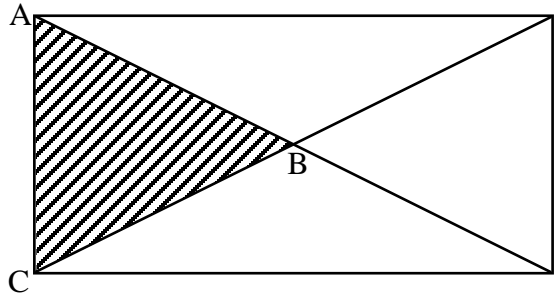


Mathematics

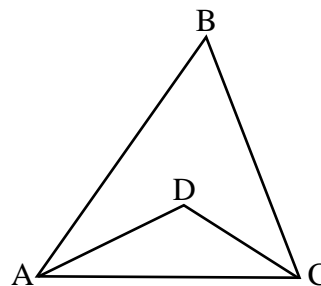
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UNTIL TOLD TO DO SO**

2019 – 2020 University Interscholastic League JH/MS Mathematics Contest B

- (1) Evaluate: $6\frac{2}{3} \times 10^{-1}$
- A) $\frac{2}{3}$ B) $1\frac{1}{3}$ C) $2\frac{1}{3}$ D) $1\frac{1}{2}$ E) $66\frac{2}{3}$
- (2) $9\frac{1}{3} \times 9\frac{2}{3} =$
- A) $90\frac{1}{9}$ B) $81\frac{1}{3}$ C) $81\frac{2}{9}$ D) $90\frac{1}{3}$ E) $90\frac{2}{9}$
- (3) What is the number of hours in two and two-thirds days?
- A) 16 B) 24 C) 40 D) 64 E) 72
- (4) A rectangle with a side of length 12 centimeters (cm) has a diagonal length of 15 cm. What is the perimeter of this rectangle?
- A) 14 cm B) 21 cm C) 42 cm D) 72 cm E) 108 cm
- (5) If a rod is $16\frac{1}{2}$ feet long, how many rods are in one mile?
- A) 640 rods B) 575 rods C) 500 rods D) 320 rods E) 160 rods
- (6) Wes took all the pennies he had in his piggy bank and started to make piles of pennies. In the first pile he placed one penny; in the second pile he placed two pennies, in the third pile he placed three pennies; and so on until he created 15 piles with the same pattern of penny placement. How much money did Wes have in all?
- A) \$120.00 B) \$1.20 C) \$10.50 D) \$11.50 E) \$112.50
- (7) There are 24 marbles in a bag. Albert reaches in the bag and pulls out one-third of the marbles. Elizabeth then reaches in the bag and pulls out one half of what was left. What percentage of the marbles were pulled out of the bag?
- A) 8% B) 16% C) 24% D) 48% E) $66\frac{2}{3}\%$
- (8) The figure to the right is a rectangle. If the area of $\triangle ABC$ is 250 cm^2 and $\overline{AC} = 20 \text{ cm}$, what percent of the rectangle area is the shaded region?
- A) 25 %
- B) $\frac{1}{5}$ %
- C) 20 %
- D) 40 %
- E) $20\frac{1}{5}$ %

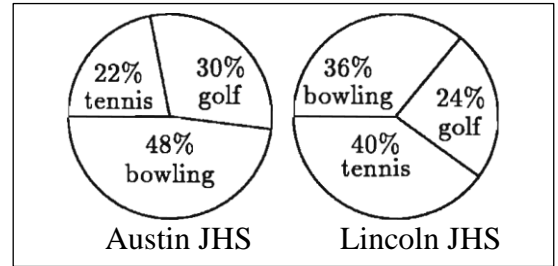


- (9) What is the probability of drawing a red Jack from a standard deck of 52 cards?
 A) $\frac{1}{26}$ B) $\frac{1}{13}$ C) $\frac{1}{3}$ D) $\frac{1}{52}$ E) $\frac{2}{13}$
- (10) Mario decided to read a book in a special way. He decided to read only half the number of pages that were left to read each day. If the book was 256 pages long, how many days did it take Mario to finish reading the book?
 A) 128 days B) 16 days C) 14 days D) 12 days E) 8 days
- (11) What number multiplied by itself four times is equal to 81?
 A) 9 B) 3 C) -3 D) 3 or -3 E) None of these
- (12) The time it took a solar car to travel around a circular track was 24 minutes. If the solar car was then to travel around a circular track with twice the radius at the same average speed, how long would it take the car to travel around the track?
 A) 12 minutes B) 36 minutes C) 48 minutes D) 72 minutes E) None of these
- (13) The 64 whole numbers from 1 through 64 are written, one per square, on a checkerboard (an 8 by 8 array of 64 squares). The first 8 numbers are written in order across the first row, the next 8 across the second row, and so on. After all 64 numbers are written, what will the sum of the numbers in the four corners will be?
 A) 130 B) 131 C) 132 D) 133 E) 134
- (14) How many positive factors of 36 are also multiples of 4?
 A) 2 B) 3 C) 4 D) 5 E) 6
- (15) In the triangle to the right, the measure of $\angle ABC$ is 50° . \overline{AD} bisects $\angle BAC$ and \overline{DC} bisects $\angle BCA$. What is the measure $\angle ADC$?
 A) 90°
 B) 100°
 C) 115°
 D) $122\frac{1}{2}^\circ$
 E) 125°

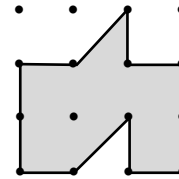


- (18) What is the remainder when $2014 \times 2017 \times 2021 \times 2025$ is divided by 5?
 A) 0 B) 1 C) 2 D) 3 E) 4
- (19) The volume of a square pyramid is 324 cm^3 . If the area of the base is 81 cm^2 , what is the height of this pyramid?
 A) 3 cm B) 4 cm C) 8 cm D) 12 cm E) 16 cm

- (20) The pie charts to the right indicate the percent of students who prefer golf, bowling or tennis at Austin JHS. and Lincoln JHS. The total number of students at Austin is 2,000 and Lincoln is 2,500. What is the number of students who prefer tennis in the combined school populations?
 A) 440
 B) 1,000
 C) 1,440
 D) 1,550
 E) 4,250

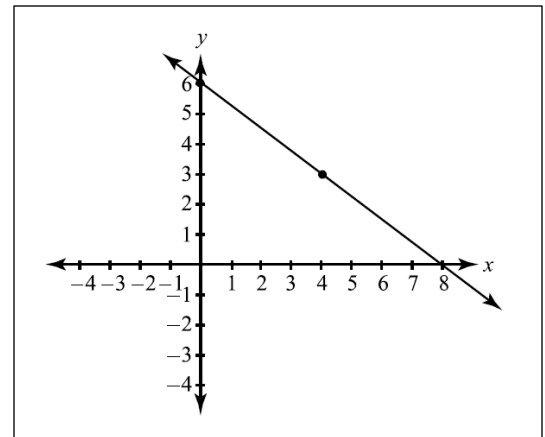


- (21) The diagram to the right shows dots that are spaced one unit apart, horizontally and vertically. How many square units are enclosed by the shaded polygon?
 A) 5 units^2
 B) 6 units^2
 C) 7 units^2
 D) 8 units^2
 E) 9 units^2

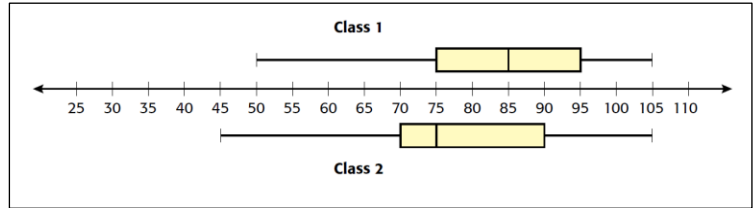


- (22) When four gallons are added to a tank that is one-third full, the tank is then one-half full. What is the capacity of the tank in gallons?
 A) 8 gallons B) 12 gallons C) 20 gallons D) 24 gallons E) 48 gallons
- (23) If two dice are tossed, what is the probability that the product of the numbers showing on the tops of the dice is greater than 10?
 A) $\frac{15}{22}$ B) $\frac{11}{36}$ C) $\frac{17}{36}$ D) $\frac{17}{18}$ E) $\frac{11}{18}$

- (24) What is the equation of the line in the graph to the right?
 A) $y = \frac{3}{4}x + 6$
 B) $y = -3x + 6$
 C) $y = \frac{3}{4}x - 6$
 D) $y = -\frac{3}{4}x + 6$
 E) $y = -\frac{3}{4}x - 6$



- (25) Mr. Zapata gave the same quiz to two mathematics classes he taught. The box-and-whisker plots to the right were created using the quiz scores the students earned in each class. Looking at the plot which of the following statements is true?



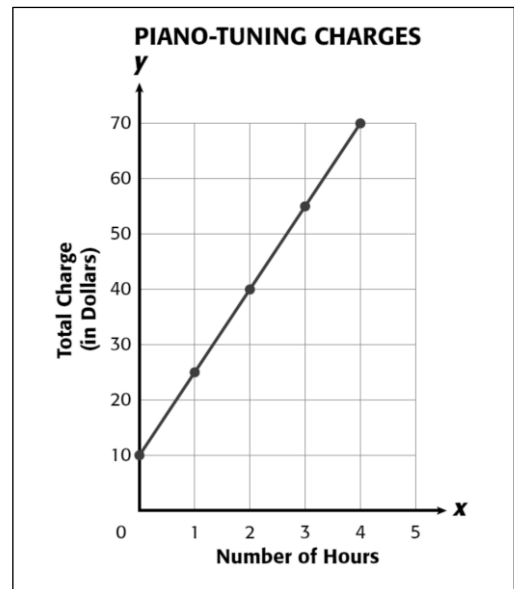
- A) The median scores for both classes are identical.
 B) The lowest scores for both classes are identical.
 C) The median for class 1 is 10 points more than class 2.
 D) The median for class 2 is 70.
 E) The median for class 1 is 95.

- (26) Mike has a box filled with different colored marbles that are the same size and shape. To the right is a list of each color of marble and the number of each in the box. Mike will randomly choose 1 marble, record the color, and not put the marble back. If Mike does this two times, what is the probability that both marbles will be black?

Color	Number
Red	3
Purple	2
Green	2
Black	2
Yellow	2
Orange	3

- A) $\frac{1}{49}$ B) $\frac{1}{72}$ C) $\frac{1}{91}$ D) $\frac{1}{95}$ E) $\frac{1}{98}$
- (27) The scale on Matt’s map is 0.5 inch represents 8 miles. The route from Matt’s house to his friend’s house is 3.25 inches on his map. What is the actual distance of Matt’s route?
 A) 61.25 miles B) 52.00 miles C) 20.31 miles D) 13.00 miles E) 11.75 miles

- (28) Paige is a piano tuner. She charges her clients a fixed amount for a house call plus labor, which is based on an hourly rate. The graph to the right shows how much Paige charges as a function of time required to tune a piano. Which of the following best represents Paige’s hourly rate for labor?



- A) \$10
 B) \$15
 C) \$20
 D) \$25
 E) \$30

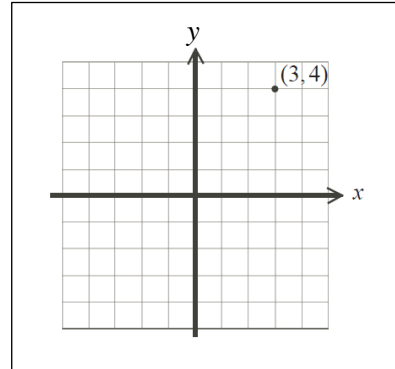
- (29) $(2 + 4 + 6 + \dots + 24) - (1 + 3 + 5 + \dots + 23) =$
 A) 24 B) 20 C) 18 D) 16 E) 12
- (30) I have sold $\frac{2}{3}$ of my pencils for 15¢ each. If I have 8 pencils left, how much money did I collect for the pencils sold?
 A) 60 ¢ B) \$1.20 C) \$1.80 D) \$2.40 E) \$3.00
- (31) If the operation $*$ is defined as $x*y = (x - y)(x + y)x + xy$, then $4*3 =$
 A) -10 B) 12 C) 18 D) 24 E) 40
- (32) What is the greatest common divisor of 48, 72, and 216?
 A) 8 B) 12 C) 16 D) 18 E) 24
- (33) $8\frac{2}{3} \div 0.0666\dots =$
 A) 130 B) $\frac{26}{45}$ C) 30 D) $1\frac{19}{26}$ E) 13
- (34) What is the perimeter of a regular hexagon with a side length of $2\frac{2}{3}$ meters?
 A) 16 meters B) $16\frac{1}{3}$ meters C) $12\frac{1}{3}$ meters D) $15\frac{2}{3}$ meters E) $21\frac{1}{3}$ meters
- (35) The equation $2x^2 - 6x + 12 = 0$ has two answers. What is the sum of those two answers?
 A) $\frac{1}{3}$ B) -6 C) 3 D) 6 E) $-\frac{1}{6}$
- (36) What is the area of a square with a diagonal length of 12 centimeters (cm)?
 A) 6 cm^2 B) 24 cm^2 C) 48 cm^2 D) 72 cm^2 E) 144 cm^2
- (37) If the area of a rhombus is 36 square inches and one diagonal has a length of 4 inches, what is the length of the other diagonal?
 A) 9 inches B) 12 inches C) 18 inches D) 20 inches E) 24 inches
- (38) For a traditional analog clock, what is the ratio of the speed of the hour's hand to the second's hand?
 A) $\frac{1}{360}$ B) $\frac{1}{720}$ C) $\frac{1}{3600}$ D) 3600 E) 72
- (39) How many days are between May 15th and July 12th of the same calendar year?
 A) 61 days B) 60 days C) 59 days D) 58 days E) 57 days
- (40) $46\text{ base }8 + 237\text{ base }8 = \underline{\hspace{1cm}}\text{?}\underline{\hspace{1cm}}\text{ base }8.$
 A) 283 base 8 B) 350 base 8 C) 305 base 8 D) 341 base 8 E) 203 base 8
- (41) Twenty-four percent of thirty-six is the same as seventy-two percent of what number?
 A) 48 B) 44 C) 40 D) 18 E) 12

(42) Joseph and Jackson were riding bicycles toward each other in a straight line. Joseph is peddling at an average speed of 15 miles per hour (mph) and Jackson average speed is 10 mph. If the distance between them is 110 yards, how long does it take them to reach other?

- A) 3 minutes B) 9 seconds C) 45 seconds D) $13\frac{1}{5}$ seconds E) 30 seconds

(43) If the point (3, 4) is reflected in the x -axis, as shown to the right, what are the coordinates of its image?

- A) (-4, 3)
 B) (-3, 4)
 C) (4, 3)
 D) (3, -4)
 E) (-3, -4)



(44) Five children had dinner. Chris ate more than Max. Brandon ate less than Kayla. Kayla ate less than Max but more than Tia. Which child ate the second most?

- A) Brandon B) Max C) Kayla D) Chris E) Tia

(45) A palindrome is a positive integer that is the same when read forwards or backwards. For example, 545 and 1331 are both palindromes. What is the positive difference between the smallest three-digit palindrome and the largest three-digit palindrome?

- A) 878 B) 888 C) 898 D) 909 E) 979

(46) Three pumpkins are weighed two at a time in all possible ways. The weights of the pairs of pumpkins are 12 lbs, 13 lbs and 15 lbs. How much does the lightest pumpkin weigh?

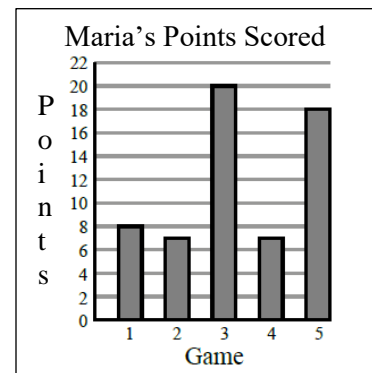
- A) 4 lbs B) 5 lbs C) 6 lbs D) 7 lbs E) 8 lbs

(47) How many positive two-digit whole numbers are divisible by 7?

- A) 9 B) 10 C) 12 D) 14 E) None of these

(48) The graph to the right shows points scored by Maria in her first five basketball games. What is the difference between the mean and the median of the number of points that she scored?

- A) 1
 B) 2
 C) 3
 D) 4
 E) 5



(49) Which of the following is equal to seventeen?

- A) $3 - 4 \times 5 + 6$ B) $3 \div 4 + 5 - 6$ C) $3 \times 4 + 5 \div 6$ D) $3 \times 4 \div 6 + 5$ E) $3 + 4 \times 5 - 6$

(50) Ten circles are all the same size. Each pair of these circles overlap but no circle is exactly on top of another circle. What is the greatest possible total number of intersection points of these ten circles?

- A) 40 B) 80 C) 90 D) 100 E) 110

2019 – 2020 University Interscholastic League JH/MS Mathematics Contest B – Key

- (1) A
- (2) E
- (3) D
- (4) C
- (5) D
- (6) B
- (7) E
- (8) A
- (9) A
- (10) E
- (11) D
- (12) C
- (13) A
- (14) B
- (15) C
- (16) A
- (17) B
- (18) A
- (19) D
- (20) C
- (21) B
- (22) D
- (23) C
- (24) D
- (25) C

- (26) C
- (27) B
- (28) B
- (29) E
- (30) D
- (31) E
- (32) E
- (33) A
- (34) A
- (35) C
- (36) D
- (37) C
- (38) B
- (39) E
- (40) C
- (41) E
- (42) B
- (43) D
- (44) B
- (45) C
- (46) B
- (47) E (13)
- (48) D
- (49) E
- (50) C

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League

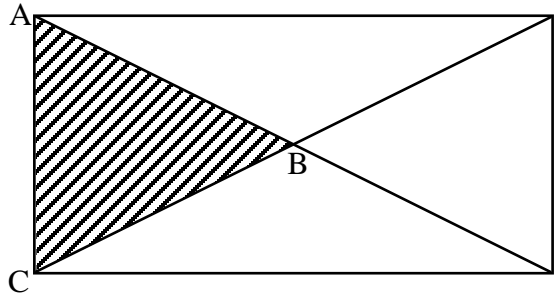


Mathematics

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UNTIL TOLD TO DO SO**

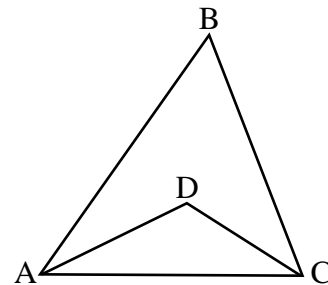
2019 – 2020 University Interscholastic League JH/MS Mathematics Contest C

- (1) Evaluate: $6\frac{2}{3} \div 6^{-1}$
- A) $1\frac{2}{3}$ B) $36\frac{1}{3}$ C) 40 D) 38 E) $36\frac{2}{3}$
- (2) $8\frac{1}{4} \times 8\frac{3}{4} =$
- A) $64\frac{3}{4}$ B) $72\frac{3}{16}$ C) $72\frac{3}{4}$ D) $64\frac{3}{16}$ E) $64\frac{1}{2}$
- (3) What is the number of hours in two and one-fourth days?
- A) 54 B) 30 C) 27 D) 48 E) 135
- (4) A rectangle with a side of length 10 centimeters (cm) has a diagonal length of 26 cm. What is the perimeter of this rectangle?
- A) 13 cm B) 26 cm C) 39 cm D) 52 cm E) 68 cm
- (5) If a rod is $16\frac{1}{2}$ feet long, how many rods are in one-half mile?
- A) 640 rods B) 575 rods C) 500 rods D) 320 rods E) 160 rods
- (6) Wes took all the pennies he had in his piggy bank and started to make piles of pennies. In the first pile he placed one penny; in the second pile he placed two pennies, in the third pile he placed three pennies; and so on until he created 14 piles with the same pattern of penny placement. How much money did Wes have in all?
- A) \$1.40 B) \$1.05 C) \$1.50 D) \$10.50 E) \$105
- (7) There are 24 marbles in a bag. Albert reaches in the bag and pulls out one-fourth of the marbles. Elizabeth then reaches in the bag and pulls out one third of what was left. What percentage of the marbles were pulled out of the bag?
- A) 6% B) 12% C) 25% D) 50% E) $66\frac{2}{3}\%$
- (8) The figure to the right is a rectangle. If the area of $\triangle ABC$ is 250 cm^2 and $\overline{AC} = 20\text{ cm}$, what percent of the rectangle area is the non-shaded region?
- A) 75 %
- B) $\frac{3}{4}$ %
- C) 25 %
- D) 40 %
- E) $75\frac{3}{4}$ %



- (9) What is the probability of drawing a queen from a standard deck of 52 cards?
 A) $\frac{1}{26}$ B) $\frac{1}{13}$ C) $\frac{1}{3}$ D) $\frac{1}{52}$ E) $\frac{2}{13}$
- (10) Mario decided to read a book in a special way. He decided to read only half the number of pages that were left to read each day. If the book was 512 pages long, how many days did it take Mario to finish reading the book?
 A) 128 days B) 16 days C) 14 days D) 9 days E) 8 days
- (11) What number multiplied by itself four times is equal to 16?
 A) 4 B) 2 C) -2 D) 2 or -2 E) None of these
- (12) The time it took a solar car to travel around a circular track was 24 minutes. If the solar car was then to travel around a circular track with one-half the radius at the same average speed, how long would it take the car to travel around the track?
 A) 96 minutes B) 48 minutes C) 37 minutes D) 12 minutes E) None of these
- (13) The 64 whole numbers from 1 through 64 are written, one per square, on a checkerboard (an 8 by 8 array of 64 squares). The first 8 numbers are written in order across the first row, the next 8 across the second row, and so on. After all 64 numbers are written, what will be sum of the largest numbers in each row?
 A) 288 B) 280 C) 272 D) 264 E) 256
- (14) How many positive factors of 36 are also multiples of 2?
 A) 2 B) 3 C) 4 D) 5 E) 6

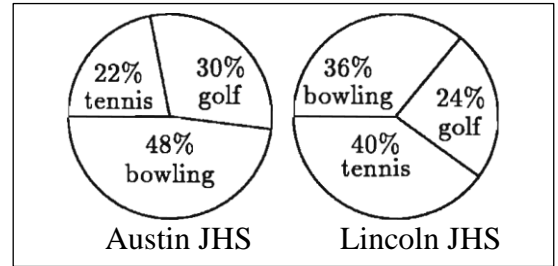
- (15) In the triangle to the right, the measure of $\angle ABC$ is 40° . \overline{AD} bisects $\angle BAC$ and \overline{DC} bisects $\angle BCA$. What is the measure $\angle ADC$?



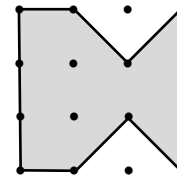
- A) 90°
 B) 110°
 C) 115°
 D) $122\frac{1}{2}^\circ$
 E) 125°
- (16) Genny's monthly salary was \$4000 in November. In December she received a 20% raise. In January she received a 20% pay cut. After the two changes in December and January, what was Genny's monthly salary?
 A) \$960 B) \$3,200 C) \$3,330 D) \$3,840 E) \$5,760
- (17) Noah has goldfish that quadruple every month, and Kenzie has goldfish that double every month. If Noah has 4 goldfish at the same time that Kenzie has 64 goldfish, then in how many months from that time will they have the same number of goldfish?
 A) 4 B) 5 C) 6 D) 7 E) 8

- (18) What is the remainder when $2014 \times 2016 \times 2018 \times 2020$ is divided by 5?
 A) 0 B) 1 C) 2 D) 3 E) 4
- (19) The volume of a square pyramid is 405 cm^3 . If the area of the base is 81 cm^2 , what is the height of this pyramid?
 A) 5 cm B) 9 cm C) 12 cm D) 15 cm E) 18 cm

- (20) The pie charts to the right indicates the percent of students that prefer golf, bowling or tennis at Austin JHS and Lincoln JHS. The total number of students at Austin is 2,000 and Lincoln is 2,500. What is the number of students who prefer bowling in the combined school populations?
 A) 900
 B) 960
 C) 1,200
 D) 1,860
 E) 3,060

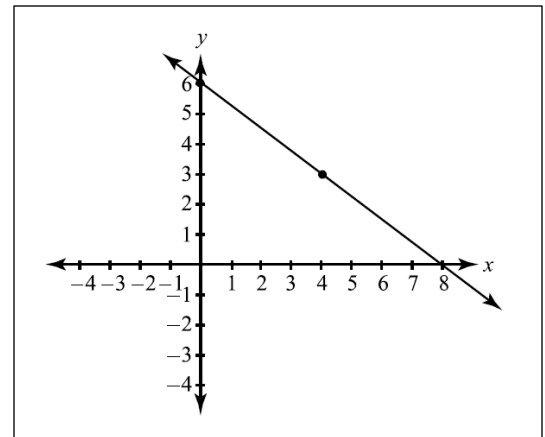


- (21) The diagram to the right shows dots that are spaced one unit apart, horizontally and vertically. How many square units are enclosed by the shaded polygon?
 A) 5 units^2
 B) 6 units^2
 C) 7 units^2
 D) 8 units^2
 E) 9 units^2

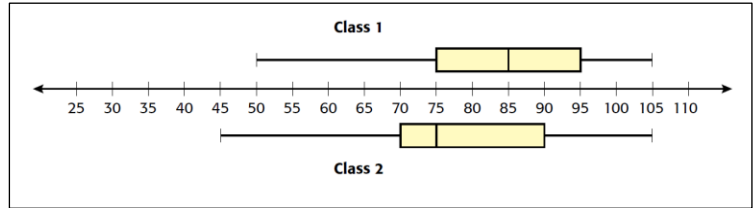


- (22) When five gallons are added to a tank that is one-third full, the tank is then one-half full. What is the capacity of the tank in gallons?
 A) 10 gallons B) 15 gallons C) 20 gallons D) 25 gallons E) 30 gallons
- (23) If two dice are tossed, what is the probability that the product of the numbers showing on the tops of the dice is less than 10?
 A) $\frac{15}{22}$ B) $\frac{11}{36}$ C) $\frac{17}{36}$ D) $\frac{17}{18}$ E) $\frac{11}{18}$

- (24) What is the slope of the line in the graph to the right?
 A) $\frac{3}{4}$
 B) 3
 C) $\frac{4}{3}$
 D) $-\frac{3}{4}$
 E) $-\frac{4}{3}$



- (25) Mr. Zapata gave the same quiz to two mathematics classes he taught. The box-and-whisker plots to the right were created using the quiz scores the students earned in each class. Looking at the plot which of the following statements is true?



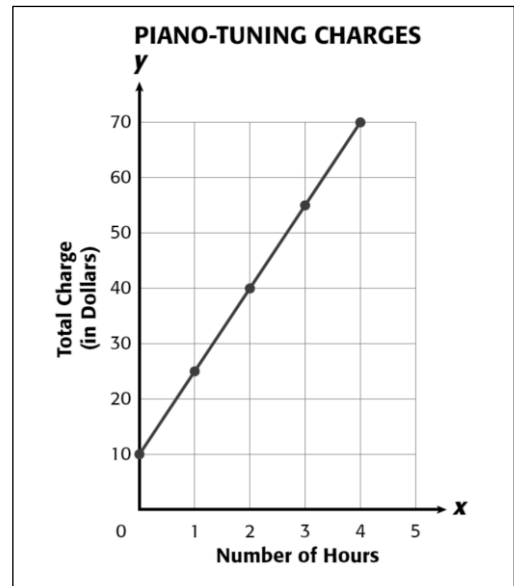
- A) The median scores for both classes are identical.
- B) The lowest score for class 1 is 50.
- C) The median for class 1 is 10 points less than class 2.
- D) The median for class 2 is 70.
- E) The median for class 1 is 95.

- (26) Mike has a box filled with different colored marbles that are the same size and shape. To the right is a list of each color of marble and the number of each in the box. Mike will randomly choose 1 marble, record the color, and not put the marble back. If Mike does this two times, what is the probability that both marbles will be red?

Color	Number
Red	3
Purple	2
Green	2
Black	2
Yellow	2
Orange	3

- A) $\frac{3}{91}$
 - B) $\frac{3}{14}$
 - C) $\frac{1}{91}$
 - D) $\frac{1}{7}$
 - E) $\frac{3}{182}$
- (27) The scale on Matt’s map is 0.5 inch represents 6 miles. The route from Matt’s house to his friend’s house is 3.25 inches on his map. What is the actual distance of Matt’s route?
- A) 6.50 miles
 - B) 9.75 miles
 - C) 13.00 miles
 - D) 19.50 miles
 - E) 39.00 miles

- (28) Paige is a piano tuner. She charges her clients a fixed amount for a house call plus labor, which is based on an hourly rate. The graph to the right shows how much Paige charges as a function of time required to tune a piano. If Paige charged \$115, how many hours did she work?



- A) 5 hours
- B) 6 hours
- C) 7 hours
- D) 8 hours
- E) 9 hours

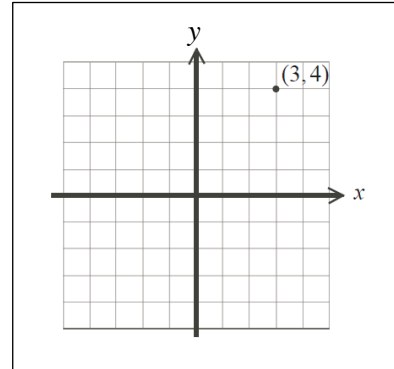
- (29) $(1 + 2 + 3 + \dots + 14) - (2 + 4 + 6 + \dots + 14) =$
 A) 42 B) 49 C) 56 D) 91 E) 105
- (30) I have sold $\frac{2}{3}$ of my pencils for 15¢ each. If I have 12 pencils left, how much money did I collect for the pencils sold?
 A) 60 ¢ B) \$1.20 C) \$1.80 D) \$2.40 E) \$3.60
- (31) If the operation $*$ is defined as $x*y = (x - y)(x + y)x + xy$, then $3*4 =$
 A) -9 B) 12 C) 18 D) 24 E) 40
- (32) What is the greatest common divisor of 48, 36, and 96?
 A) 288 B) 144 C) 72 D) 12 E) 2
- (33) $5\frac{1}{3} \div 0.0666\dots =$
 A) 75 B) 80 C) $75\frac{1}{3}$ D) $1\frac{16}{45}$ E) $\frac{16}{45}$
- (34) What is the perimeter of a regular hexagon with a side length of $1\frac{1}{6}$ meters?
 A) 7 meters B) $6\frac{1}{3}$ meters C) $49\frac{1}{3}$ meters D) $1\frac{7}{36}$ E) $5\frac{1}{7}$
- (35) The equation $2x^2 - 6x + 12 = 0$ has two answers. What is the product of those two answers?
 A) $\frac{1}{3}$ B) -6 C) 3 D) 6 E) $-\frac{1}{6}$
- (36) What is the area of a square with a diagonal length of 16 centimeters (cm)?
 A) 256 cm^2 B) 128 cm^2 C) 72 cm^2 D) 64 cm^2 E) 32 cm^2
- (37) If the area of a rhombus is 24 square inches and one diagonal has a length of 4 inches, what is the length of the other diagonal?
 A) 6 inches B) 12 inches C) 18 inches D) 20 inches E) 48 inches
- (38) For a traditional analog clock, what is the ratio of the speed of the hour's hand to the minute's hand?
 A) $\frac{1}{360}$ B) $\frac{1}{720}$ C) $\frac{1}{6}$ D) $\frac{1}{24}$ E) $\frac{1}{12}$
- (39) How many days are between May 21st and July 12th of the same calendar year?
 A) 48 days B) 49 days C) 50 days D) 51 days E) 52 days
- (40) $36 \text{ base } 8 + 257 \text{ base } 8 = \underline{\hspace{1cm}}? \underline{\hspace{1cm}}$ base 8.
 A) 293 base 8 B) 355 base 8 C) 353 base 8 D) 315 base 8 E) 213 base 8
- (41) Twenty-four percent of forty-eight is the same as seventy-two percent of what number?
 A) 144 B) 115 C) 50 D) 32 E) 16

(42) Joseph and Jackson were riding bicycles toward each other in a straight line. Joseph is peddling at an average speed of 15 miles per hour (mph) and Jackson average speed is 10 mph. If the distance between them is 220 yards, how long does it take them to reach other?

- A) 6 seconds B) 12 seconds C) 18 seconds D) $26\frac{2}{5}$ seconds E) $580\frac{4}{5}$ seconds

(43) If the point (3, 4) is reflected in the y-axis, as shown to the right, what are the coordinates of its image?

- A) (-4, 3)
 B) (-3, 4)
 C) (4, 3)
 D) (3, -4)
 E) (-3, -4)



(44) Five children are celebrating birthdays. Chris is older than Max. Brandon younger than Kayla. Kayla is younger than Max but older than Tia. Which child is the second oldest?

- A) Brandon B) Kayla C) Max D) Chris E) Tia

(45) A palindrome is a positive integer that is the same when read forwards or backwards. For example, 545 and 1331 are both palindromes. What is the sum the smallest three-digit palindrome and the largest three-digit palindrome?

- A) 1,092 B) 1,096 C) 1,100 D) 1,104 E) 1,108

(46) Three pumpkins are weighed two at a time in all possible ways. The weights of the pairs of pumpkins are 12 lbs, 13 lbs and 15 lbs. How much does the largest pumpkin weigh?

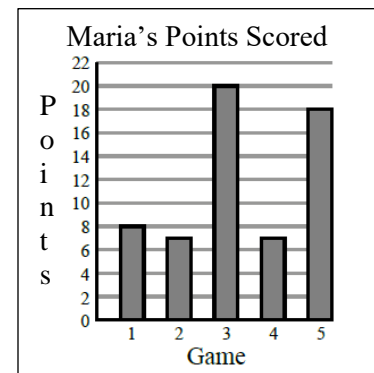
- A) 4 lbs B) 5 lbs C) 6 lbs D) 7 lbs E) 8 lbs

(47) How many positive two-digit whole numbers are divisible by 3?

- A) 29 B) 30 C) 31 D) 32 E) None of these

(48) The graph to the right shows points scored by Maria in her first five basketball games. What is the product of the mean and the median of the number of points that she scored?

- A) 74
 B) 77
 C) 84
 D) 88
 E) 96



(49) Which of the following is equal to negative eleven?

- A) $3 - 4 \times 5 + 6$ B) $3 \div 4 + 5 - 6$ C) $3 \times 4 + 5 \div 6$ D) $3 \times 4 \div 6 + 5$ E) $3 + 4 \times 5 - 6$

(50) Eight circles are all the same size. Each pair of these circles overlap but no circle is exactly on top of another circle. What is the greatest possible total number of intersection points of these eight circles?

- A) 40 B) 42 C) 44 D) 56 E) 72

2019 – 2020 University Interscholastic League JH/MS Mathematics Contest C – Key

- (1) C
- (2) B
- (3) A
- (4) E
- (5) E
- (6) B
- (7) D
- (8) A
- (9) B
- (10) D
- (11) D
- (12) D
- (13) A
- (14) E
- (15) B
- (16) D
- (17) A
- (18) A
- (19) D
- (20) D
- (21) C
- (22) E
- (23) C
- (24) D
- (25) B

- (26) A
- (27) E
- (28) C
- (29) B
- (30) E
- (31) A
- (32) D
- (33) B
- (34) A
- (35) D
- (36) B
- (37) B
- (38) E
- (39) D
- (40) D
- (41) E
- (42) C
- (43) B
- (44) C
- (45) C
- (46) E
- (47) B
- (48) E
- (49) A
- (50) D

**University Interscholastic League
2019 – 2020 Junior High Number Sense Test A**

Contestant's Number _____

Final		
2 nd		
1 st		
	Score	Initials

**Read Directions Carefully
Before Beginning Test**

**Do Not Unfold This Sheet
Until Told to Begin**

Directions: Do not turn this page until the person conducting this test gives the signal to begin. This is a ten-minute test. There are 80 problems. Solve accurately and quickly as many as you can in the order in which they appear. **ALL PROBLEMS ARE TO BE SOLVED MENTALLY.** Make no calculations with paper and pencil. Write only the answer in the space provided at the end of each problem. Problems marked with a (*) require approximate integral answers; any answer to a starred problem that is within five percent of the exact answer will be scored correct; all other problems require exact answers.

The person conducting this contest should explain these directions to the contestants.

Stop – Wait for Signal!

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|---|--|
| <p>(1) $2020 + 2019 =$ _____</p> <p>(2) $202 \times 5 =$ _____</p> <p>(3) $219 + 202 =$ _____</p> <p>(4) $2020 \div 5 =$ _____</p> <p>(5) $202 + 202 \times 3 =$ _____</p> <p>(6) $\frac{5}{16} + \frac{7}{16} =$ _____ (common fraction)</p> <p>(7) $17^2 =$ _____</p> <p>(8) $1.25 + 3.50 + 4.25 =$ _____</p> <p>(9) $22 + 25 + 28 + 31 + 34 =$ _____</p> <p>*(10) $24903 \div 3.33 =$ _____</p> <p>(11) $212 \times 11 =$ _____</p> <p>(12) $\frac{17}{24} - \frac{5}{8} =$ _____ (common fraction)</p> <p>(13) MMXX = _____ (Arabic numeral)</p> <p>(14) $21 \times 15 =$ _____</p> <p>(15) $\frac{4}{9} \div \frac{2}{3} =$ _____</p> <p>(16) If 12 is the mean of 8, 14 and n, n = _____</p> <p>(17) $31 \times 39 =$ _____</p> <p>(18) Which is larger, $\frac{5}{8}$ or $\frac{3}{5}$? _____</p> <p>(19) $18 \times 5 + 6 \times 18 =$ _____</p> <p>*(20) $888 \times 719 - 172 =$ _____</p> | <p>(21) $26 \times 27 =$ _____</p> <p>(22) $40 \div (-2.5) =$ _____</p> <p>(23) 25 weeks = _____ days</p> <p>(24) 12 cups = _____ ounces</p> <p>(25) $-12 + (-11) + (-10) + \dots + (-1) =$ _____</p> <p>(26) 2 square feet = _____ square inches</p> <p>(27) If $n \times 25 = 400$, n = _____</p> <p>(28) The cube root of 729 = _____</p> <p>(29) 11% of 4400 = _____</p> <p>*(30) $24^3 \times 25 =$ _____</p> <p>(31) If 14 ♠ cost \$1.54, then 18 ♠ cost \$ _____</p> <p>(32) The GCF of 24 and 30 is _____</p> <p>(33) The perimeter of an octagon with side $6\frac{1}{2}$ is _____</p> <p>(34) If 12 is to n as 15 is to 10, then n = _____</p> <p>(35) $14 - 4n = 30$. What is n? _____</p> <p>(36) If $q(x) = 6x - 16$, then $q(-4) =$ _____</p> <p>(37) What is the number of integers that divide evenly into 42? _____</p> <p>(38) If the circumference of a circle is doubled, then the area of the old circle is multiplied by _____</p> <p>(39) If $\frac{2}{3} + \frac{1}{x} = \frac{5}{6}$, x = _____</p> |
|---|--|

- *(40) $333\frac{1}{3} \times 657 =$ _____
- (41) $(23 + 17 \times 19) \div 4$ has a remainder of _____
- (42) $97 \times 111 =$ _____
- (43) What is the area of a rhombus with diagonals 27 and 20? _____
- (44) What is the width of rectangle with area 320 and length 20? _____
- (45) $88 \times 28 =$ _____
- (46) 28 base 10 = _____ base 5
- (47) If the surface area of a cube is 150, what is the length of an edge of the cube? _____
- (48) Given the sequence 1, 1, 2, 3, 5, p, q, 21, . . . , what is p - q equal to? _____
- (49) How many unique triangles can be formed from a single vertex of a convex pentagon? _____
- *(50) $24900 \div 6\frac{1}{4}\% =$ _____
- (51) 302 base 6 - 145 base 6 = _____ base 6
- (52) Five-eighths = _____ %
- (53) $4\frac{1}{3} \times 4\frac{2}{3} =$ _____ (mixed number)
- (54) If set A = {T, R, A, V, I, S}, and set B = {U, T}, then the number of elements in $A \cap B$ is _____
- (55) $103 \times 104 =$ _____
- (56) The length of the hypotenuse for a right triangle is 17 and one leg is 15. The other leg is _____
- (57) For $3 - 5x \leq 18$, $x \geq$ _____
- (58) $1.25 \text{ meters}^2 =$ _____ cm^2
- (59) A parallelogram with sides 14 and 16 has a perimeter of _____

- *(60) $\sqrt{144400} =$ _____
- (61) A black bag contains 9 blue, 5 green and 21 red marbles. What is the probability of randomly picking a green marble? _____
- (62) $(8! \times 3!) \div 7! =$ _____
- (63) $0.4666 \dots =$ _____ (common fraction)
- (64) $\sqrt{1.44} =$ _____ decimal
- (65) The volume of a right cone with diameter 12 and height .11 is $k\pi$, and $k =$ _____
- (66) What is the shortest distance between (4, 2) and (7, -2)? _____
- (67) $3^0 + 3^1 \times 3^2 =$ _____
- (68) $\sqrt{576} \div 3! =$ _____
- (69) $(1 + 3 + 5 + \dots + 9)^2 =$ _____
- *(70) $31^4 =$ _____
- (71) $4^3 \div 2^4 =$ _____
- (72) If the probability of an event successfully happening is 2 to 5, then the odds of that event not happening are _____
- (73) $0.41666 \dots + 0.333 \dots =$ _____ (common fraction)
- (74) $4.5^2 + 1.5^2 =$ _____ (decimal)
- (75) 25% of 44 is the same as $12\frac{1}{2}\%$ of _____
- (76) The number of prime numbers between 20 and 40 is _____
- (77) $(2)^2 \times (12.5)^2 =$ _____
- (78) $\frac{3}{4} + \frac{4}{3} =$ _____
- (79) $23^2 - 27^2 =$ _____
- *(80) $429 \times 287 + 77 =$ _____

2019 – 2020 University Interscholastic League Junior High Number Sense Test A – Key

(1) 4039	(21) 702	*(40) 208050 – 229950	*(60) 361 – 399
(2) 1010	(22) -16	(41) 2	(61) $\frac{1}{7}$
(3) 421	(23) 175	(42) 10767	(62) 48
(4) 404	(24) 96	(43) 270	(63) $\frac{7}{15}$
(5) 808	(25) -78	(44) 16	(64) 1.2
(6) $\frac{3}{4}$	(26) 288	(45) 2464	(65) 1.32
(7) 289	(27) 16	(46) 103	(66) 5
(8) 9	(28) 9	(47) 5	(67) 28
(9) 140	(29) 484	(48) -5	(68) 4
*(10) 7105 – 7852	*(30) 328320 – 362880	(49) 3	(69) 625
(11) 2332	(31) 1.98	*(50) 378480 – 418320	*(70) 877345 – 969697
(12) $\frac{1}{12}$	(32) 6	(51) 113	(71) 4
(13) 2020	(33) 52	(52) $62\frac{1}{2}; \frac{125}{2}; 62.5$	(72) $\frac{3}{2}; 1.5; 1\frac{1}{2}$
(14) 315	(34) 8	(53) $20\frac{2}{9}$	(73) $\frac{3}{4}$
(15) $\frac{2}{3}$	(35) -4	(54) 1	(74) 22.5
(16) 14	(36) -40	(55) 10712	(75) 88
(17) 1209	(37) 16	(56) 8	(76) 4
(18) $\frac{5}{8}; .625$	(38) 4	(57) -3	(77) 625
(19) 198	(39) 6	(58) 12500	(78) $2\frac{1}{12}; \frac{25}{12}$
*(20) 606385 – 670215		(59) 60	(79) -200
			*(80) 117040 – 129360

Note: *(Number) x – y means an integer between x and y inclusive.
 If an answer is of the type like $\frac{2}{3}$ it cannot be written as .666... or $\overline{.6}$.

**University Interscholastic League
2019 – 2020 Junior High Number Sense Test B**

Contestant's Number _____

Final		
2 nd		
1 st		
	Score	Initials

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- | | |
|---|--|
| <p>(1) $22 + 219 =$ _____</p> <p>(2) $2020 \div 4 =$ _____</p> <p>(3) $202 \times 25 =$ _____</p> <p>(4) $\frac{23}{24} - \frac{17}{24} =$ _____ (common Fraction)</p> <p>(5) $219 \times 4 - 219 =$ _____</p> <p>(6) $78 \times 11 =$ _____</p> <p>(7) $17 + 19 + 21 + 23 =$ _____</p> <p>(8) $4.75 - 1.25 - 2.50 =$ _____</p> <p>(9) $1.2 \div 0.04 =$ _____</p> <p>*(10) $29090 \div 8.33 =$ _____</p> <p>(11) $75 \times 24 =$ _____</p> <p>(12) MMXIX = _____ (Arabic numeral)</p> <p>(13) If 15 is the mean of 12, 6 and n, n = _____</p> <p>(14) $8 + 12 \times 15 =$ _____</p> <p>(15) $\frac{8}{9} \div \frac{2}{3} =$ _____</p> <p>(16) $1500 \times 1.5 =$ _____</p> <p>(17) $43 \times 63 =$ _____</p> <p>(18) Which is smaller, $\frac{9}{8}$ or $\frac{10}{9}$? _____</p> <p>(19) $24 \times 12 + 12 \times 24 =$ _____</p> <p>*(20) $629 \times 556 + 76 =$ _____</p> | <p>(21) $22 \times 41 =$ _____</p> <p>(22) 60 pints = _____ quarts</p> <p>(23) $(-2.75) \div 0.25 =$ _____</p> <p>(24) 3600 minutes = _____ hours</p> <p>(25) $-1 + (-3) + (-5) + \dots + (-11) =$ _____</p> <p>(26) 27 cubic feet = _____ cubic yard</p> <p>(27) If $18 \times n = 72$, n = _____</p> <p>(28) The cube root of -216 = _____</p> <p>(29) 12% of 6000 = _____</p> <p>*(30) $6^3 \times 7^3 + 12 =$ _____</p> <p>(31) If 12 ♠ cost \$1.44, then 30 ♠ cost \$ _____</p> <p>(32) The GCF of 28 and 42 is _____</p> <p>(33) The perimeter of a hexagon with side $6\frac{2}{3}$ is _____</p> <p>(34) If 24 is to n as 12 is to 8, then n = _____</p> <p>(35) $44 + 4n = 32$. What is n? _____</p> <p>(36) If $q(x) = 16 - 8x$, then $q(-3) =$ _____</p> <p>(37) What is the number of integers that divide evenly into 18? _____</p> <p>(38) If the circumference of a circle is halved, then the area of the old circle is multiplied by _____</p> <p>(39) If $\frac{3}{4} + \frac{1}{x} = \frac{1}{2}$, x = _____</p> |
|---|--|

- *(40) $666\frac{2}{3} \times 239 =$ _____
- (41) $(22^3 + 19^3) \div 5$ has a remainder of _____
- (42) $978 \times 11 =$ _____
- (43) A rhombus with area 100 has diagonals of 20 and n .
What is n ? _____
- (44) What is the width of rectangle with perimeter 20 and
length 7? _____
- (45) $63 \times 67 =$ _____
- (46) 132 base 4 = _____ base 10
- (47) If the volume of a cube is 125, what is the length
of an edge of the cube? _____
- (48) Given the sequence 1, 3, 5, p , 9, 11, q , 15, . . . , what
is $2q - p$ equal to? _____
- (49) How many unique triangles can be formed from a
single vertex of a convex hexagon? _____
- *(50) $36090 \div 8\frac{1}{3}\% =$ _____
- (51) 302 base 4 - 223 base 4 = _____ base 4
- (52) Five-sixteenths = _____ %
- (53) $8\frac{2}{3} \times 4\frac{2}{3} =$ _____ (mixed number)
- (54) If set $A = \{F, O, R, T\}$, and set $B = \{W, O, R, T, H\}$,
then the number of elements in $A \cup B$ is _____
- (55) $92 \times 95 =$ _____
- (56) The length of the hypotenuse for a right triangle is 15
and one leg is 12. The other leg is _____
- (57) For $24 + 6x \leq 18$, $x \leq$ _____
- (58) $3200 \text{ cm}^2 =$ _____ m^2
- (59) A parallelogram with perimeter 30 has sides 8 and
 n . What is n ? _____

- *(60) $\sqrt{280900} =$ _____
- (61) A black bag contains 12 blue, 6 green and 18 red
marbles. What is the probability of randomly picking
a blue marble? _____
- (62) $(7! \times 4!) \div 8! =$ _____
- (63) $0.0333 \dots =$ _____ (common fraction)
- (64) $\sqrt{2.25} =$ _____ decimal
- (65) The volume of a right cone with diameter 6 and
height 12 is $k\pi$, and $k =$ _____
- (66) What is the shortest distance between (9, 6) and
(4, -6)? _____
- (67) $2^4 + 2^0 \times 2^3 =$ _____
- (68) $\sqrt{361} + 4! =$ _____
- (69) $(1 + 2 + 3 + \dots + 6)^2 =$ _____
- *(70) $489 \times \pi^3 =$ _____
- (71) $4^3 - 2^4 =$ _____
- (72) If the odds of an event successfully happening are
6 to 4, then the probability of that event happening
is _____
- (73) $(0.888 \dots) \div 0.666 \dots =$ _____
- (74) $2.4^2 + 0.8^2 =$ _____
- (75) $18\frac{3}{4}\%$ of 24 is the same as $6\frac{1}{4}\%$ of _____
- (76) The number of prime numbers between 0 and 20 is

- (77) $(4)^2 \times (12.5)^2 =$ _____
- (78) $\frac{8}{5} + \frac{5}{8} =$ _____
- (79) If $13^2 - n^2 = 144$, and $n > 0$, then $n =$ _____
- *(80) $67 \times 70 \times 73 =$ _____

2019 – 2020 University Interscholastic League Junior High Number Sense Test B – Key

(1) 241	(21) 902	*(40) 151367 – 167300	*(60) 504 – 556
(2) 505	(22) 30	(41) 2	(61) $\frac{1}{3}$
(3) 5050	(23) -11	(42) 10758	(62) 3
(4) $\frac{1}{4}$	(24) 60	(43) 10	(63) $\frac{1}{30}$
(5) 657	(25) -36	(44) 3	(64) 1.5
(6) 858	(26) 1	(45) 4221	(65) 36
(7) 80	(27) 4	(46) 30	(66) 13
(8) 1	(28) -6	(47) 5	(67) 24
(9) 30	(29) 720	(48) 19	(68) 43
*(10) 3318 – 3666	*(30) 70395 – 77805	(49) 4	(69) 441
(11) 1800	(31) 3.60	*(50) 411426 – 454734	*(70) 14404 – 15920
(12) 2019	(32) 14	(51) 13	(71) 48
(13) 27	(33) 40	(52) $31\frac{1}{4}; \frac{125}{4}; 31.25$	(72) $\frac{3}{5}; .6$
(14) 188	(34) 16	(53) $40\frac{4}{9}$	(73) $\frac{4}{3}; 1\frac{1}{3}$
(15) $\frac{4}{3}; 1\frac{1}{3}$	(35) -3	(54) 6	(74) $6.4; 6\frac{2}{5}; \frac{32}{5}$
(16) 2250	(36) 40	(55) 8740	(75) 72
(17) 2709	(37) 12	(56) 9	(76) 8
(18) $\frac{10}{9}; 1\frac{1}{9}$	(38) $\frac{1}{4}; .25$	(57) -1	(77) 2500
(19) 576	(39) -4	(58) $.32; \frac{8}{25}$	(78) $2\frac{9}{40}; \frac{89}{40}; 2.225$
*(20) 332310 – 367290		(59) 7	(79) 5
			*(80) 325252 – 359488

Note: *(Number) x – y means an integer between x and y inclusive.
 If an answer is of the type like $\frac{2}{3}$ it cannot be written as .666... or $\overline{.6}$.

**University Interscholastic League
2019 – 2020 Junior High Number Sense Test C**

Contestant's Number _____

Final		
2 nd		
1 st		
	Score	Initials

**Read Directions Carefully
Before Beginning Test**

**Do Not Unfold This Sheet
Until Told to Begin**

Directions: Do not turn this page until the person conducting this test gives the signal to begin. This is a ten-minute test. There are 80 problems. Solve accurately and quickly as many as you can in the order in which they appear. **ALL PROBLEMS ARE TO BE SOLVED MENTALLY.** Make no calculations with paper and pencil. Write only the answer in the space provided at the end of each problem. Problems marked with a (*) require approximate integral answers; any answer to a starred problem that is within five percent of the exact answer will be scored correct; all other problems require exact answers.

The person conducting this contest should explain these directions to the contestants.

Stop – Wait for Signal!

- | | |
|---|---|
| <p>(1) $219 + 220 =$ _____</p> <p>(2) $2019 \div 3 =$ _____</p> <p>(3) $219 \times 25 =$ _____</p> <p>(4) $\frac{18}{24} - \frac{9}{24} =$ _____ (common fraction)</p> <p>(5) $219 \times 3 + 219 =$ _____</p> <p>(6) $19 \times 11 =$ _____</p> <p>(7) $16 + 19 + 22 + 25 =$ _____</p> <p>(8) $8.75 - 2.25 - 3.50 =$ _____</p> <p>(9) $3.2 \div 0.04 =$ _____</p> <p>*(10) $19901 \div 8.33 =$ _____</p> <p>(11) $75 \times 18 =$ _____</p> <p>(12) MMXXI = _____ (Arabic numeral)</p> <p>(13) If 15 is the mean of 16, 20 and n, n = _____</p> <p>(14) $8 + 12 \times 16 =$ _____</p> <p>(15) $\frac{8}{9} \div \frac{4}{3} =$ _____</p> <p>(16) $1600 \times 1.5 =$ _____</p> <p>(17) $23 \times 83 =$ _____</p> <p>(18) Which is larger, $\frac{9}{8}$ or $\frac{10}{9}$? _____</p> <p>(19) $22 \times 12 + 12 \times 38 =$ _____</p> <p>*(20) $189 \times 556 + 16 =$ _____</p> | <p>(21) $22 \times 32 =$ _____</p> <p>(22) 48 pints = _____ quarts</p> <p>(23) $(-4.75) \div 0.25 =$ _____</p> <p>(24) 4200 minutes = _____ hours</p> <p>(25) $-1 + (-3) + (-5) + \dots + (-13) =$ _____</p> <p>(26) 18 cubic feet = _____ cubic yard</p> <p>(27) If $18 \times n = 54$, n = _____</p> <p>(28) The cube root of -64 = _____</p> <p>(29) 12% of 4000 = _____</p> <p>*(30) $6^3 \times 5^3 + 100 =$ _____</p> <p>(31) If 9 ♠ cost \$1.44, then 30 ♠ cost \$ _____</p> <p>(32) The GCF of 24 and 42 is _____</p> <p>(33) The perimeter of a hexagon with side $4\frac{2}{3}$ is _____</p> <p>(34) If 9 is to n as 12 is to 8, then n = _____</p> <p>(35) $44 - 4n = 32$. What is n? _____</p> <p>(36) If $q(x) = 16 - 6x$, then $q(-3) =$ _____</p> <p>(37) What is the number of integers that divide evenly into 30? _____</p> <p>(38) If the circumference of a circle is tripled, then the area of the old circle is multiplied by _____</p> <p>(39) If $\frac{8}{9} + \frac{1}{x} = \frac{2}{3}$, x = _____</p> |
|---|---|

- *(40) $666\frac{2}{3} \times 419 =$ _____
- (41) $(23^3 + 28^3) \div 5$ has a remainder of _____
- (42) $878 \times 11 =$ _____
- (43) A rhombus with area 80 has diagonals of 16 and n.
What is n? _____
- (44) What is the width of rectangle with perimeter 30 and length 9? _____
- (45) $31 \times 39 =$ _____
- (46) 222 base 4 = _____ base 10
- (47) If the volume of a cube is 64, what is the length of an edge of the cube? _____
- (48) Given the sequence 1, 3, p, 7, 9, q, 13, 15, . . . , what is $2q - p$ equal to? _____
- (49) How many unique triangles can be formed from a single vertex of a convex octagon? _____
- *(50) $48080 \div 8\frac{1}{3}\% =$ _____
- (51) 302 base 5 - 223 base 5 = _____ base 5
- (52) Seven-sixteenths = _____ %
- (53) $6\frac{2}{3} \times 6\frac{2}{3} =$ _____ (mixed number)
- (54) If set A = {F, O, R, T}, and set B = {W, O, R, T, H}, then the number of elements in $A \cap B$ is _____
- (55) $93 \times 95 =$ _____
- (56) The length of the hypotenuse for a right triangle is 13 and one leg is 12. The other leg is _____
- (57) For $32 + 7x \leq 18$, $x \leq$ _____
- (58) $1600 \text{ cm}^2 =$ _____ m^2
- (59) A parallelogram with perimeter 40 has sides 8 and n. What is n? _____

- *(60) $\sqrt{396900} =$ _____
- (61) A black bag contains 12 blue, 6 green and 18 red marbles. What is the probability of randomly picking a red marble? _____
- (62) $(6! \times 3!) \div 5! =$ _____
- (63) $0.0222 \dots =$ _____ (common fraction)
- (64) $\sqrt{3.61} =$ _____ decimal
- (65) The volume of a right cone with diameter 6 and height 11 is $k\pi$, and $k =$ _____
- (66) What is the shortest distance between (9, 6) and (1, -9)? _____
- (67) $2^3 + 2^0 \times 2^4 =$ _____
- (68) $\sqrt{576} + 4! =$ _____
- (69) $(2 + 4 + 6 + \dots + 10)^2 =$ _____
- *(70) $667 \times \pi^3 =$ _____
- (71) $3^3 - 2^4 =$ _____
- (72) If the odds of an event successfully happening are 6 to 4, then the probability of that event not happening is _____
- (73) $(0.888 \dots) \div 0.333 \dots =$ _____
- (74) $1.5^2 + 0.5^2 =$ _____
- (75) $6\frac{3}{4}\%$ of 24 is the same as $13\frac{1}{2}\%$ of _____
- (76) The number of prime numbers between 0 and 15 is _____
- (77) $(6)^2 \times (12.5)^2 =$ _____
- (78) $\frac{4}{7} + \frac{7}{4} =$ _____
- (79) If $13^2 - n^2 = 25$, and $n > 0$, then $n =$ _____
- *(80) $37 \times 40 \times 43 =$ _____

2019 – 2020 University Interscholastic League Junior High Number Sense Test C – Key

(1) 439	(21) 704	*(40) 265367 – 293300	*(60) 599 – 661
(2) 673	(22) 24	(41) 4	(61) $\frac{1}{2}$; .5
(3) 5475	(23) -19	(42) 9658	(62) 36
(4) $\frac{3}{8}$	(24) 70	(43) 10	(63) $\frac{1}{45}$
(5) 876	(25) -49	(44) 6	(64) 1.9
(6) 209	(26) $\frac{2}{3}$	(45) 1209	(65) 33
(7) 82	(27) 3	(46) 42	(66) 17
(8) 3	(28) -4	(47) 4	(67) 24
(9) 80	(29) 480	(48) 17	(68) 48
*(10) 2270 – 2508	*(30) 25745 – 28455	(49) 6	(69) 900
(11) 1350	(31) 4.80	*(50) 548112 – 605808	*(70) 19648 – 21715
(12) 2021	(32) 6	(51) 24	(71) 11
(13) 9	(33) 28	(52) $43\frac{3}{4}$; $\frac{175}{4}$; 43.75	(72) $\frac{2}{5}$; .4
(14) 200	(34) 6	(53) $44\frac{4}{9}$	(73) $\frac{8}{3}$; $2\frac{2}{3}$
(15) $\frac{2}{3}$	(35) 3	(54) 3	(74) 2.5 ; $2\frac{1}{2}$; $\frac{5}{2}$
(16) 2400	(36) 34	(55) 8835	(75) 12
(17) 1909	(37) 16	(56) 5	(76) 6
(18) $\frac{9}{8}$; $1\frac{1}{8}$; 1.125	(38) 9	(57) -2	(77) 5625
(19) 720	(39) $-4\frac{1}{2}$; $-\frac{9}{2}$; -4.5	(58) .16; $\frac{4}{25}$	(78) $2\frac{9}{28}$; $\frac{65}{28}$
*(20) 99845 – 110355		(59) 12	(79) 12
			*(80) 60458 – 66822

Note: *(Number) x – y means an integer between x and y inclusive.
 If an answer is of the type like $\frac{2}{3}$ it cannot be written as .666... or $\overline{.6}$.

Contestant Number _____

Contestant Name _____
 (to be filled in after judging)

UIL A+ Ready Writing Evaluation Sheet: Elementary, Middle School, and Junior High

Evaluation criteria are listed in the order of importance. Write the number that indicates the quality in each of the sub-areas and tally the points.

(50%) _____/100

INTEREST: Writing exhibits originality of thought, analytical acuteness and overall coherence of exposition.

	<u>POOR</u>	<u>FAIR</u>	<u>GOOD</u>	<u>EXCELLENT</u>
Perceptive ideas	_____/7	_____/13	_____/19	_____/25
Originality	_____/7	_____/13	_____/19	_____/25
Examples	_____/7	_____/13	_____/19	_____/25
Title	_____/7	_____/13	_____/19	_____/25

(35%) _____/70

ORGANIZATION: Each paragraph develops one idea and contributes to an understanding of main idea or thesis.

	<u>POOR</u>	<u>FAIR</u>	<u>GOOD</u>	<u>EXCELLENT</u>
Clear thesis	_____/3	_____/7	_____/11	_____/14
Well-developed paragraphs, focused on one idea	_____/3	_____/7	_____/11	_____/14
Transition	_____/3	_____/7	_____/11	_____/14
Thesis support	_____/3	_____/7	_____/11	_____/14
Composition clarity (as a whole)	_____/3	_____/7	_____/11	_____/14

(15%) _____/30

CORRECTNESS OF STYLE: Writing avoids errors in sentence structure, punctuation, grammar, word usage and spelling that hinder clear communication.

	<u>POOR</u>	<u>FAIR</u>	<u>GOOD</u>	<u>EXCELLENT</u>
Punctuation	_____/1	_____/3	_____/5	_____/6
Sentence structure	_____/1	_____/3	_____/5	_____/6
Grammar	_____/1	_____/3	_____/5	_____/6
Word Usage	_____/1	_____/3	_____/5	_____/6
Spelling	_____/1	_____/3	_____/5	_____/6

TOTAL SCORE: _____/200

CONSTRUCTIVE COMMENTS FOR THE CONTESTANT:

Please read "Instructions for the Judges" for Ready Writing Writing before evaluating contestants' papers. While judges are to consider all three elements in selecting the most effective compositions, they should weigh interest more than organization, and organization more than correctness of style.

AREAS NEEDING IMPROVEMENT:

Judge's signature _____



A+ Ready Writing **for Elementary, Middle School, and Junior High**

Instructions for the Judges

Instructions

At some convenient time before the contest begins, the director shall discuss with the judges the criteria for evaluating the stories, making sure that they all have the same conception of those criteria and understand the relative importance to be accorded each. Each judge shall be given a copy of the evaluation sheet provided by the UIL. Judges should also read the Ready Writing topic sheets the contestants were given.

Criteria

The essays are to be evaluated as to relative excellence in interest (50%), organization (35%), and correctness of style (15%). Please make comments constructive and supportive. While judges are to consider all three elements in selecting the most effective stories, more weight should be given to interest than to organization, and to organization more than to correctness of style.

- (A) Interest depends primarily on perceptive ideas. It depends next upon originality and including specific examples, which individualize the story as an outgrowth of the writer's voice. The effectiveness of the title is also considered.
- (B) A well-organized story will present a clear thesis with well-developed paragraphs focused on the thesis. The use of transitions will also be examined as well as the effectiveness of support for the thesis. As a whole, the composition should be considered for clarity.
- (C) Grammatical correctness of style includes an examination of punctuation, sentence structure, grammar, word usage, and spelling.

Completing Evaluation Sheets

Before the results are announced, the judges shall prepare a written evaluation of each essay stating its good points and areas that could be improved. Comments need not be long, but they should be specific rather than general.

Rating the compositions

Judges should read the essays submitted and without marking on the essays, rank the essays in order of excellence: 1, 2, 3, 4, etc. Comments should be made on the evaluation sheets provided. The judges shall discuss the essays contending for a place, being permitted to alter their rankings as a result of the discussion. Judges are to reach a consensus on the rankings. There can be no ties in this contest.



2019-20 A+ Ready Writing

INVITATIONAL

INSTRUCTIONS

Choose **one** of the following topics. Write the topic you have chosen at the top of your paper. **You should also include an original, creative title for your paper.** Remember you should not use your real name or that of your school.

SEVENTH AND EIGHTH GRADES

Topic: *Listening to Thoughts*

Imagine a world where you could hear others' thoughts. Would this be a blessing or a curse? Write a story where a character possesses this power. Make sure to develop the character and use detail throughout.

Topic: *Greater Difficulty*

Think about a time when you faced a challenge that was more difficult than expected. Write an essay describing this experience and what you learned from it.



2019-20 A+ Ready Writing

FALL/WINTER DISTRICT

INSTRUCTIONS

Choose **one** of the following topics. Write the topic you have chosen at the top of your paper. **You should also include an original, creative title for your paper.** Remember you should not use your real name or that of your school.

SEVENTH AND EIGHTH GRADE

Topic: *Following the Crowd*

"Follow the crowd and you will never be followed by a crowd." What does this quote mean? Write an essay on how you interpret this quote using examples from your own life.

Topic: *Everyday Hero*

There are everyday heroes all around us. Write a letter to a past or present personal hero that describes why you look up to him or her and how you chose to emulate that person's behavior in your own life. Remember not to include your actual name or the name of your school.



2019-20 A+ Ready Writing

SPRING DISTRICT

INSTRUCTIONS

Choose **one** of the following topics. Write the topic you have chosen at the top of your paper. **You should also include an original, creative title for your paper.** Remember you should not use your real name or that of your school.

SEVENTH AND EIGHTH GRADES

Topic: *Robotic Technology*

As technology advances, concerns are raised about the possible ramifications. Suppose the government plans on investing in new robotic technology. Write a letter that details your position on the government plan including specific arguments to why you believe the proposal is positive or negative. Remember you should not use your real name or that of your school.

Topic: *Art Influence*

People make art to express themselves, tell a story, or evoke an emotion. Write about a time when a work of art, whether it be a book, a movie, a painting, a poem, etc., influenced you and describe the impact that it had.

CONTESTANT NUMBER:

FOR GRADER USE ONLY

Score Test Below:

_____ Initials _____

_____ Initials _____

Papers contending to place:

_____ Initials _____



**University Interscholastic League
A+ Science Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your level below.

Circle Level:

Science I

Science II

1. _____

19. _____

2. _____

20. _____

3. _____

21. _____

4. _____

22. _____

5. _____

23. _____

6. _____

24. _____

7. _____

25. _____

8. _____

26. _____

9. _____

27. _____

10. _____

28. _____

11. _____

29. _____

12. _____

30. _____

13. _____

31. _____

14. _____

32. _____

15. _____

33. _____

16. _____

34. _____

17. _____

35. _____

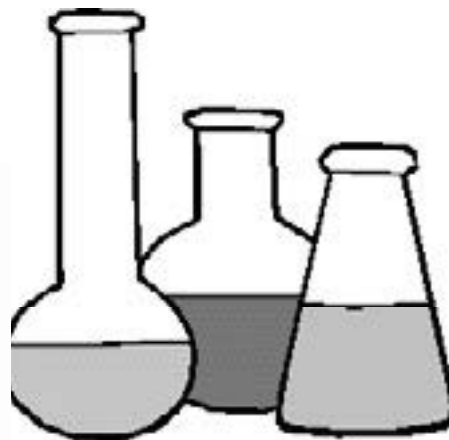
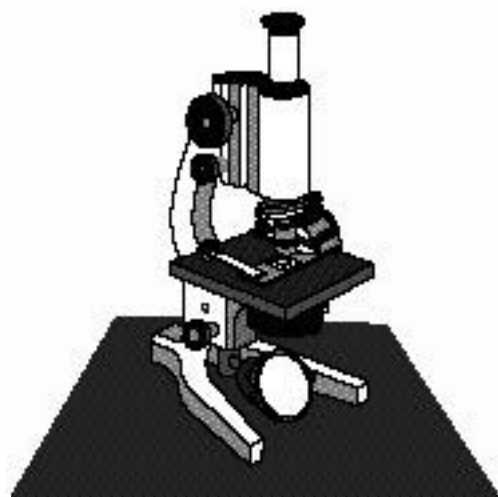
18. _____

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



Science I

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE I
INVITATIONAL TEST**

1. In the lab, a student needs to precisely measure the volume of hydrogen peroxide for a decomposition reaction with an apple. What lab equipment is most appropriate?
 - A. Beaker
 - B. Graduated Cylinder
 - C. Dropper
 - D. Flask

2. A scientist determines the percentage of ethanol and other materials contained in gasoline used to refuel vehicles. The best way to show the results of this data is to use which of the following?
 - A. Circle Graph
 - B. Histogram
 - C. Line Graph
 - D. Bar Graph

3. The products of photosynthesis are a sugar, $C_6H_{12}O_6$, and oxygen, O_2 , which of the following correctly identifies the reactants in this equation?
 - A. Carbon monoxide and water
 - B. Nitrogen monoxide and water
 - C. Carbon dioxide and water
 - D. Nitrogen dioxide and water

4. About what percent of the energy at a trophic level is used to keep the organisms alive and is also converted into thermal energy?
 - A. 10%
 - B. 25%
 - C. 70%
 - D. 90%

5. A student removes a loaf of bread hot from the oven. The student cuts a slice off the loaf and spreads butter on it. Which of the following best describes this scenario in terms of physical or chemical changes?
 - A. Chemical because there is no change in substance or there is no unexpected color change, temperature change or gas given off.
 - B. Physical because there is no change in substance or there is no unexpected color change, temperature change or gas given off.
 - C. Physical because there is a change in the substance or there is color change, temperature change or gas given off.
 - D. Chemical because there is a change in the substance or there is color change, temperature change or gas given off.

6. A car driving down the highway is transforming the chemical energy in the gas tank to which of the following other energies?
 - A. Mechanical and chemical energy
 - B. Nuclear and mechanical energy
 - C. Mechanical and thermal energy
 - D. Thermal and electromagnetic energy

7. Which of the following will happen when a root bends in the direction of the force of gravity?
- The top side grows more than the bottom side
 - The bottom side grows more than the top side
 - The top and bottom side grow at the same rate
8. Which of the following is not an environmental impact that can be associated with flooding?
- Important in maintaining ecosystem habitats and soil fertility
 - Replenish groundwater
 - Constructions of channels, levees, and reservoirs
 - Decrease of contaminants in water
9. Mechanical or physical weathering is the process by which rock is broken down into smaller pieces by physical changes. Some ways that rock can be broken down physically include all of the following except:
- Temperature change
 - Oxidation
 - Abrasion
 - Plant root growth
10. Which of the following would be something that could negatively affect the watershed?
- Pick up pet waste and properly dispose of it
 - Recycle liquids from vehicles instead of dumping them on the ground
 - Apply fertilizer before a heavy rain
 - Prevent runoff from driveways from directly going into surface water
11. Animals in this environment survive by living underground or resting in burrows during the middle of the day. Which biome does this best describe?
- Tundra
 - Savanna
 - Desert
 - Taiga
12. The earth's atmosphere is comprised of a mixture of various gases. Permanent gases don't fluctuate from day to day and would include all of the following except:
- N
 - CH₄
 - O₂
 - Ar
13. Which of the following doesn't cause a decrease in biodiversity?
- Climate stabilization
 - Habitat loss
 - Overexploitation
 - Invasive species
14. Which of the following is not a condition that is found in outer space?
- Vacuum
 - Microgravity
 - Extreme temperatures
 - Sparse atmosphere

15. Using the following information identify the insect.



1. Does the insect have wings? Remember most adult insects have 2 pairs of wings, but they're not always visible.	a. Yes	go to step 2
	b. No	Order Hemiptera
2. Does the insect have parallel wings?	a. Yes	go to step 3
	b. No	go to step 4
3. Does the insect have a parallel line down the back that divides the wings?	a. Yes	Order Coleoptera
	b. No	Order Orthoptera
4. Does the insect have 4 total wings?	a. Yes	go to step 5
	b. No	Order Diptera
5. Does the insect have long antennae?	a. Yes	go to step 6
	b. No	Order Odonata
6. Does the insect have a small body with large fan –shaped wings?	a. Yes	Order Lepidoptera
	b. No	Order Hymenoptera

- A. Order Hemiptera
- B. Order Coleoptera

- C. Order Diptera
- D. Order Lepidoptera

16. Which of the following is not an example of primary succession?

- A. Lava cooling and hardening to form new rocks
- B. Formation of sand dunes
- C. Glaciers exposing bare rocks after melting or receding
- D. Devastation of a forest after a fire

17. Which organ system contains the heart along with peripheral blood vessels?

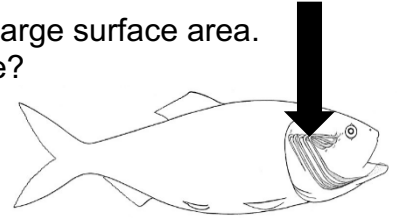
- A. Integumentary
- B. Circulatory
- C. Nervous
- D. Muscular

18. Which of the following is a behavioral adaptation to help organisms survive?

- A. Seasonal migration
- B. Colored males for mating
- C. Camouflage
- D. Body structures to cope with environments

19. Gills are organs that remove O_2 from H_2O . Gills have a relatively large surface area. The larger the surface area is, which of the following would be true?

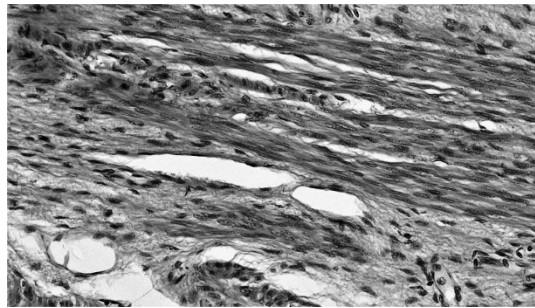
- A. There is no correlation based on surface area
- B. Constant amount of gas passing in and out of the blood
- C. Increased gas passing in and out of the blood
- D. Decreased gas passing in and out of the blood



20. Which of the following is only considered with selective breeding, not natural selection?

- A. Increased species chance of survival
- B. Traits are inherited from parents
- C. Changes occur over generations
- D. Doesn't always enhance the survival of the species

21. What level of biological organization is represented?



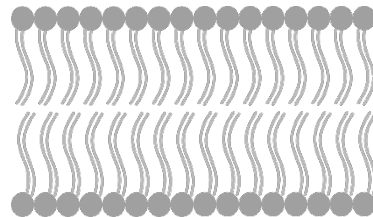
- A. Organ
- B. Organ system
- C. Cell
- D. Tissue

22. Which of the following is not an example of an external stimuli?

- A. An animal is cold so it moves into the sunlight
- B. A snake lunges at a mouse, so the mouse scurries away
- C. An animal goes to drink water after feeling thirsty
- D. A plant moves in the general direction of the radiant energy from the sun

23. This blocks uncontrolled movements of water soluble materials in and out of a cell.

- A. Cell wall
- B. Cytoplasm
- C. Nucleus
- D. Cell membrane



24. Which of the following doesn't show homeostasis?

- A. Warm blooded organisms
- B. Sleeping
- C. High blood sugar levels
- D. Normal functioning kidneys

25. In a Punnett square, if you have a 75% chance of expressing the dominant trait and a twenty five percent chance of expressing the recessive trait, which allele pair would most likely produce this:

- A. Aa x Aa
- B. AA x AA
- C. Aa x AA
- D. aa x aa

26. Which of the following organelles is most similar to the human digestive system?

- A. Mitochondria & Lysosomes
- B. Lysosomes & Vacuole
- C. Cell wall & Cell membrane
- D. Microtubules

27. Which of the following is not a way a hypothesis arises?

- A. Prior knowledge
- B. Logical inference
- C. Informed thoughts
- D. Well tested explanation

28. According to the cell theory, this is the basic unit of structure and function in a living organism.

- A. Organ
- B. Cell
- C. Tissue
- D. Organ system

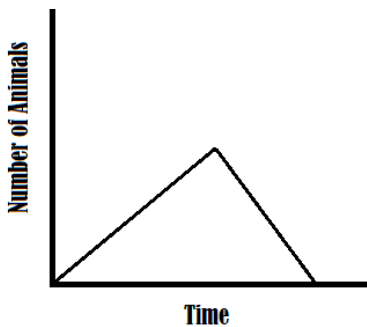
29. Which of the following shows vegetative propagation, a form of asexual reproduction?

- A. Mushroom spores
- B. Hydra budding
- C. Aphids laying eggs
- D. Sprouting buds on a potato

30. A device that produces an image by focusing light is a:

- A. Compound light microscope
- B. Scanning electron microscope
- C. Transmission electron microscope
- D. Spectroscope

31. What is an explanation that could describe what is occurring in the graph?

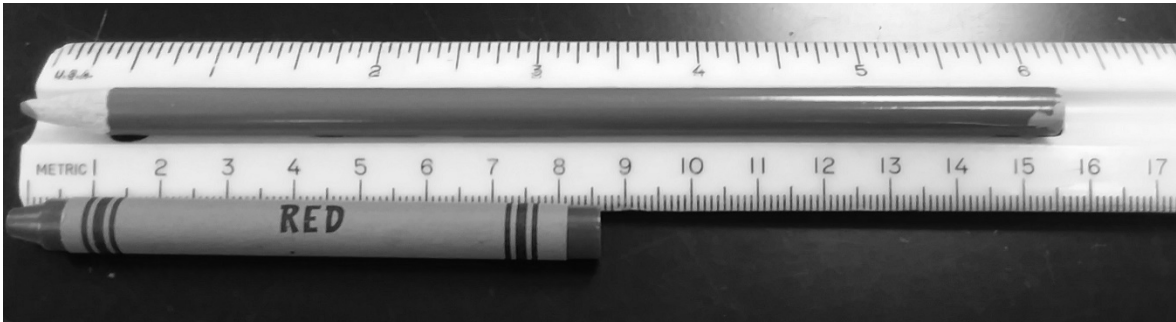


- A. As time changed, the number of animals increased
- B. Increases in the number of animals, then a decrease in the number of animals
- C. Several spikes in the population followed by a decline in the population
- D. The number of animals remains fairly constant

32. This person is credited with discovering that deoxyribose nucleic acid stores and transmits genetic information from one generation to the next.

- A. Griffith
- B. Franklin
- C. Avery
- D. Watson & Crick

33. How much longer is the map color than the crayon?



- A. 7 cm
- B. 8.6 cm
- C. 15.6 cm
- D. 24.2 cm

34. A student conducts an experiment to see how the increase of temperature affects the reaction rates of enzymes. The best way to display this data visually would be a:

- A. Data graph
- B. Bar graph
- C. Circle graph
- D. Line graph

35. You should see this safety symbol when a material could catch on fire easily.



**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE I
INVITATIONAL TEST**

Answer Key

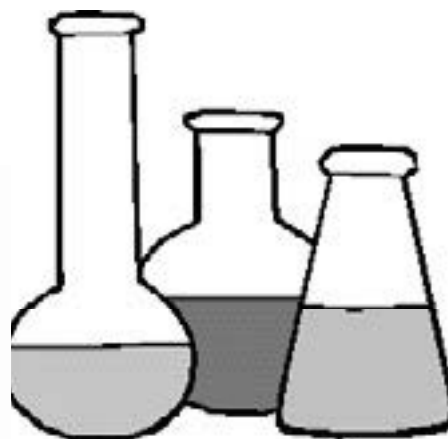
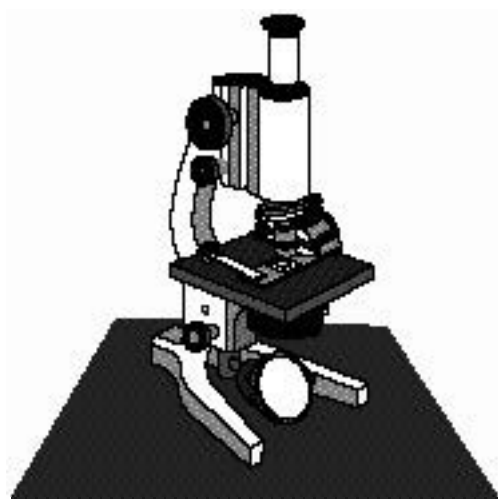
- | | |
|-------|-------|
| 1. B | 19. C |
| 2. A | 20. D |
| 3. C | 21. D |
| 4. D | 22. C |
| 5. B | 23. D |
| 6. C | 24. C |
| 7. A | 25. A |
| 8. D | 26. A |
| 9. B | 27. D |
| 10. C | 28. B |
| 11. C | 29. D |
| 12. B | 30. A |
| 13. A | 31. B |
| 14. D | 32. C |
| 15. B | 33. A |
| 16. D | 34. D |
| 17. B | 35. C |
| 18. A | |

INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League

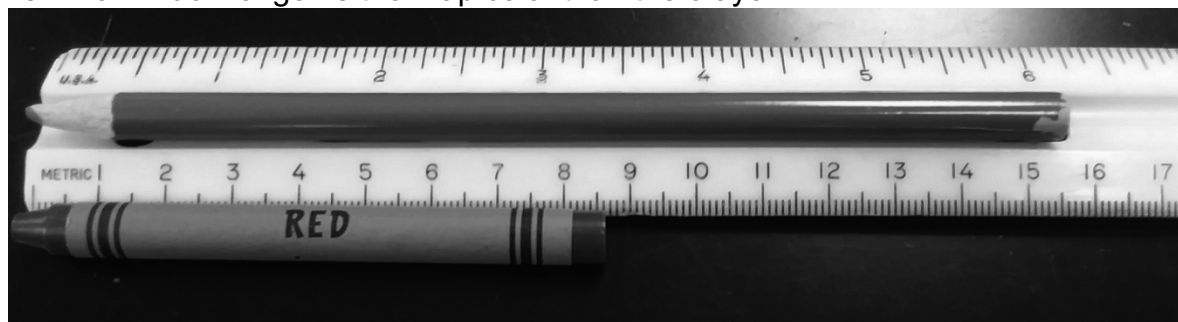


Science II

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE II
INVITATIONAL TEST**

1. In the lab, a student needs to precisely measure the volume of hydrogen peroxide for a decomposition reaction with an apple. What lab equipment is most appropriate?
A. Beaker
B. Graduated Cylinder
C. Dropper
D. Flask
2. A scientist determines the percentage of ethanol and other materials contained in gasoline used to refuel vehicles. The best way to show the results of this data is to use which of the following?
A. Circle Graph
B. Histogram
C. Line Graph
D. Bar Graph
3. How much longer is the map color than the crayon?



- A. 7 cm
B. 8.6 cm
C. 15.6 cm
D. 24.2 cm
4. You should see this safety symbol when a material could catch on fire easily.



5. Which of the following constitute a nucleon?

I	proton
II	electron
III	neutron

- A. I only
- B. I & II

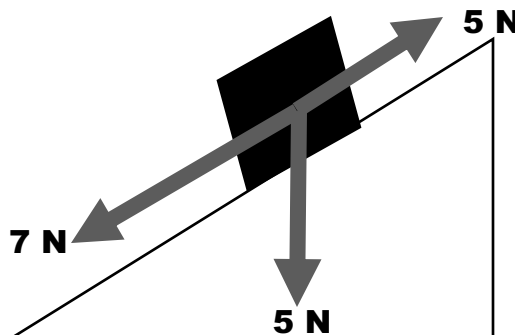
- C. I & III
- D. I, II, & III

6. For metals, the reactivity is as follows:

- A. Increases down the group
- B. Decreases down the group
- C. Remains unchanged
- D. Increases from left to right

7. Based on the diagram, will the object illustrated move?

- A. No
- B. Yes
- C. Cannot be determined



8. Correctly balance the equation by using your knowledge of the law of conservation of mass.



- A. 2,1,2
- B. 3,2,3

- C. 2,3,2
- D. 2,3,1

9. Given both water and hydrogen peroxide are clear liquids, how are the chemical formulas different?

- A. Both have H & O
- B. Both have the same formula
- C. Same number of O atoms but different number of H atoms
- D. Same number of H atoms but different number of O atoms

10. Which of the following is true based on the statement that follows?

A box moves on a conveyor belt at a constant speed.

- A. There is an increase in speed
- B. There is a decrease in speed
- C. There is changing acceleration
- D. There is no acceleration

11. These elements are found on the tops and right side of the periodic table. Generally these elements are poor at losing electrons but are good at gaining electrons. This description best fits which of the following?

- A. Metal
- B. Nonmetal
- C. Noble gases
- D. Inert gases

12. In winter, a person is skating on ice on a frozen pond. If the person pushes off a tree near the edge of the pond, they begin to slide forward. Based on Newton's first law of motion, which of the following is true?

- A. The person will lose their balance and fall over
- B. Gravity will make their velocity the same until an outside force stops the motion
- C. The person will continue to slide across the ice until a force is applied
- D. The size of the skate determines how quickly the person can move



13. The moon appears to be less than half illuminated from Earth after a new moon has occurred. What part of the lunar cycle is illustrated?

- A. Waning crescent
- B. Waxing crescent
- C. Waning gibbous
- D. Waxing gibbous

14. Which of the following is not a contact force?

- A. Gravitational force
- B. Applied force
- C. Frictional force
- D. Tension

15. A nebula is a cloud of dust and gas located in space. There are four types of main nebulae. Based on the description, what type of nebula is represented:

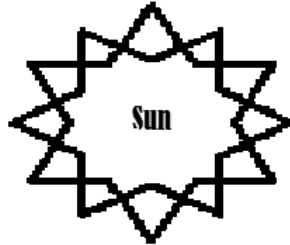
*This nebula does not create its own light,
but instead shines by bouncing of light from
nearby stars.*

- A. Planetary
- B. Absorption
- C. Refraction
- D. Reflection

16. Which of the following is not a layer of our sun?

- A. Radiation zone
- B. Bathypelagic zone
- C. Convection zone
- D. Core

17. What season would the southern hemisphere be in based on the graphic?



- A. Summer
- B. Fall
- C. Winter
- D. Spring

18. The moon's gravity is more noticeable on the ocean's tides. The moon's pull is strongest on which of the following?

- A. The side that is opposite of the side facing the moon
- B. Each side is the same
- C. The side that is directly facing the moon

19. The spacing of contour lines on a topographic map depends on the slope characteristics of the surface. Which statement is true?

- A. Wide spaces lines mean there is a steep slope
- B. Closely spaced lines mean there is a steep slope
- C. Closely spaced lines mean there is a gentle slope
- D. Wide spaces lines mean there is a varied or changing slope

20. Astronomers captured the first image of a black hole in the spring of 2019 using which of the following telescopes?

- A. Radio
- B. Refracting
- C. Reflecting
- D. Infrared

21. This front occurs when a warm air mass & a cold air mass meet, but neither one of the air masses has enough force to move the other mass. This statement best describes a:

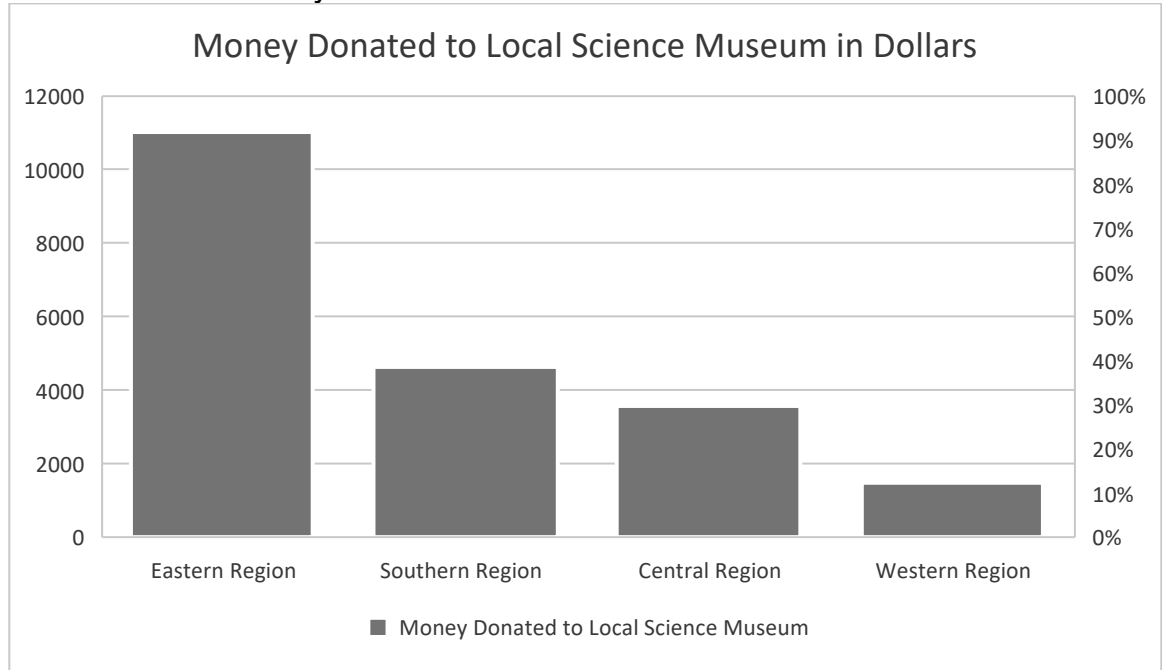
- A. Standing front
- B. Static front
- C. Immobile front
- D. Stationary front

22. His hypothesis was originally referred to as the primeval atom or the cosmic egg.

- A. Lemaitre
- B. Friedmann
- C. Planck
- D. Hubble

23. This describes one of the earliest ways geologists thought continents moved over time. Today it has been replaced by new scientific discoveries.
- A. Plate tectonics
 - B. Floating plates
 - C. Continental drift
 - D. Pangea
24. Wind is created by differences in which of the following?
- A. Air pressure caused by unequal heating
 - B. Reflection
 - C. Air pressure caused by equal heating
 - D. Refraction
25. Safety goggles and aprons must be worn when handling chemicals that are corrosive because the chemicals:
- A. May stain clothing
 - B. React with skin
 - C. Are difficult to transfer
 - D. Are highly flammable
26. Which of the following is not an abiotic factor?
- A. Sand
 - B. Oxygen
 - C. Fungi
 - D. Clouds
27. For hurricanes to form over the oceans near the equators, they need low pressure, wind shears, and water temperatures
- A. Below 20°C
 - B. Over 25°C
 - C. Over 80°C
 - D. Near 100°C
28. What environmental conditions favored dark colored moths during the industrial revolution after 1845 in England?
- A. The smoke and soot deposits on the environment
 - B. Light colored environment
 - C. Dark colored paints on buildings
 - D. Dark cloudy skies
29. A fossil of an ancient feathered organism is discovered. Which of the following is the most useful in judging if the organism was capable of flight?
- A. The type of rock the fossil was discovered in
 - B. The geographic location of the fossil
 - C. The shape and size of the fossil
 - D. The age of the fossil based on carbon dating
30. Many marine ecologists think this is the biggest single threat to the marine ecosystems on Earth.
- A. Oil spills
 - B. Overfishing
 - C. Coastal cleanups
 - D. Sewage

31. The following shows the values of money donated to a science museum. About what percent was donated by the south?



- A. 7%
- B. 22%
- C. 12%
- D. 54%

32. What is the SI unit for electric current?

- A. Ampere
- B. Watt
- C. Hertz
- D. Volts

33. Which of the following is considered a SI derived unit for acceleration?

- A. Miles per hour
- B. Meters per second squared
- C. Miles per second squared
- D. Meters

34. In an experiment there are two marbles, one glass and one metal. The marbles are the same size. The metal marble is gently placed into a graduated cylinder and it sinks to the bottom and the water level rises to the 7th mark above the initial volume of the water. If the glass marble is put into a graduated cylinder with the same initial volume as that of the metal marble, the water for the glass marble will:

- A. Be the same level as it was in cylinder 1
- B. Be at a higher level than cylinder 1
- C. Be at a lower level than cylinder 1

35. How many kilograms are there in 4.5 pounds? (2.2 lbs = 1 kg)

- A. 9.26 kg
- B. 2.05 kg
- C. 9.9 kg
- D. .48 kg

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE II
INVITATIONAL TEST**

Answer Key

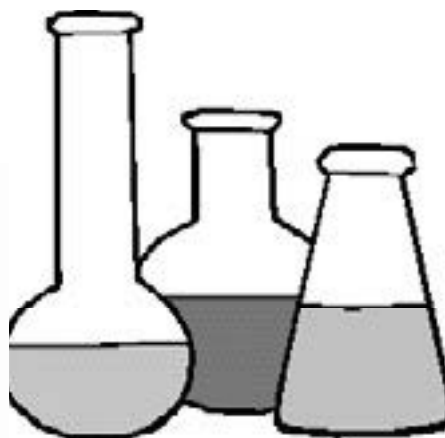
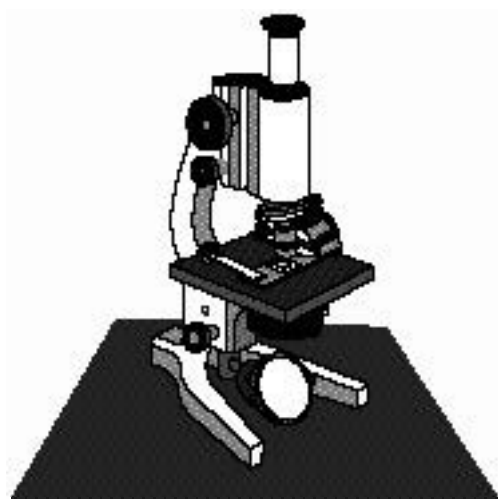
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| 1. B | 19.B |
| 2. A | 20.A |
| 3. A | 21.D |
| 4. C | 22.A |
| 5. C | 23.C |
| 6. A | 24.A |
| 7. B | 25.B |
| 8. C | 26.C |
| 9. D | 27.B |
| 10.D | 28.A |
| 11.B | 29.C |
| 12.C | 30.B |
| 13.B | 31.B |
| 14.A | 32.A |
| 15.D | 33.B |
| 16.B | 34.C |
| 17.A | 35.B |
| 18.C | |

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League

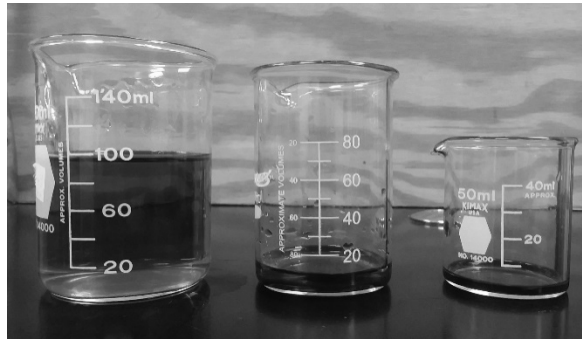


Science I

**DO NOT OPEN TEST
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**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE I
FALL/WINTER TEST**

1. What is the energy source that heterotrophs use to produce ATP via respiration which originated in autotrophs via photosynthesis?
 - A. Carbohydrate
 - B. Oxygen
 - C. Lipids
 - D. Carbon
2. Cracking an egg would be considered which of the following?
 - A. Chemical change
 - B. Chemical property
 - C. Physical property
 - D. Physical change
3. All matter is made up of atoms and molecules. When particles move faster which will increase?
 - A. Radiant energy
 - B. Thermal energy
 - C. Chemical energy
 - D. Mechanical energy
4. This picture can represent which of the following in an ecosystem?



- A. Water cycle
 - B. Life cycle
 - C. Flow of energy
 - D. Homeostasis
5. What must a seedling do to emerge from the soil?
 - A. Seed's turgor pressure must be more than the gravitational force
 - B. Seed's turgor pressure must be less than the gravitational force
 - C. Decrease force causes it to collapse
 - D. Force due to the water pushing inward on the cell causes it to grow
 6. Which of the following is not an effect of a tornado on an ecosystem?
 - A. Loss of plants can allow for a new species
 - B. Surviving plants become more abundant
 - C. Loss of vegetation can lead to soil erosion
 - D. The soil becomes more fertile

7. Which of the following conditions is a reason accommodations are needed for manned space exploration?
- A. Constant temperatures
B. Space is a vacuum
C. Constant 1G force
D. Macrogravity
8. The water table may be shallow or deep, and may fluctuate depending on numerous factors. Where is the general location of the water table?
- A. Unsaturated zone
B. Saturated zone
C. Between the saturated & unsaturated zones
9. In this ecosystem in Texas, clear cutting causes the soil to be easily eroded by wind and water. Plowing also increases soil erosion. This would best describe which of the following ecosystems?
- A. Gulf coast marshes
B. Blackland prairies
C. Piney woods
D. Trans-Pecos
10. Which of following will have the lowest biodiversity?
- A. Warm and wet climate
B. Coral reef
C. Rain forest
D. Small island in an ocean
11. Scientists believe that life can occur outside the habitable zone. Which of the following is not believed to have water that could possibly support life?
- A. Mars
B. Mercury
C. Europa
D. Enceladus



12. A forest ecosystem is disrupted by fire. Which of the following statements is true?
- A. Bare rocks form initial landscapes
B. The ecosystem transitions to a climax community
C. The soil remains for the pioneer species
D. The forest is not changed by the fire
13. This biome is characterized by an extremely cold climate; low biotic diversity, and short season of growth and reproduction. This best represents which of the following?
- A. Desert
B. Tundra
C. Forest
D. Grassland
14. Which of the following mammals has not adapted for dormancy or hibernation?
- A. Raccoon
B. Turtle
C. Opossum
D. Bea

15. Which of the following structures in a bird is adapted to aide in flight?
- A. Cloaca
 - B. Gizzard
 - C. Beak
 - D. Chest muscles
16. Which would an animal breeder use to produce animals that would produce more milk?
- A. Natural selection
 - B. Genetic drift
 - C. Artificial selection
 - D. Overproduction
17. This type of tissue covers the human body and lines various internal structures, this would be considered:
- A. Muscle tissue
 - B. Connective tissue
 - C. Epithelial tissue
 - D. Nervous tissue
18. Using the following information, identify the insect.

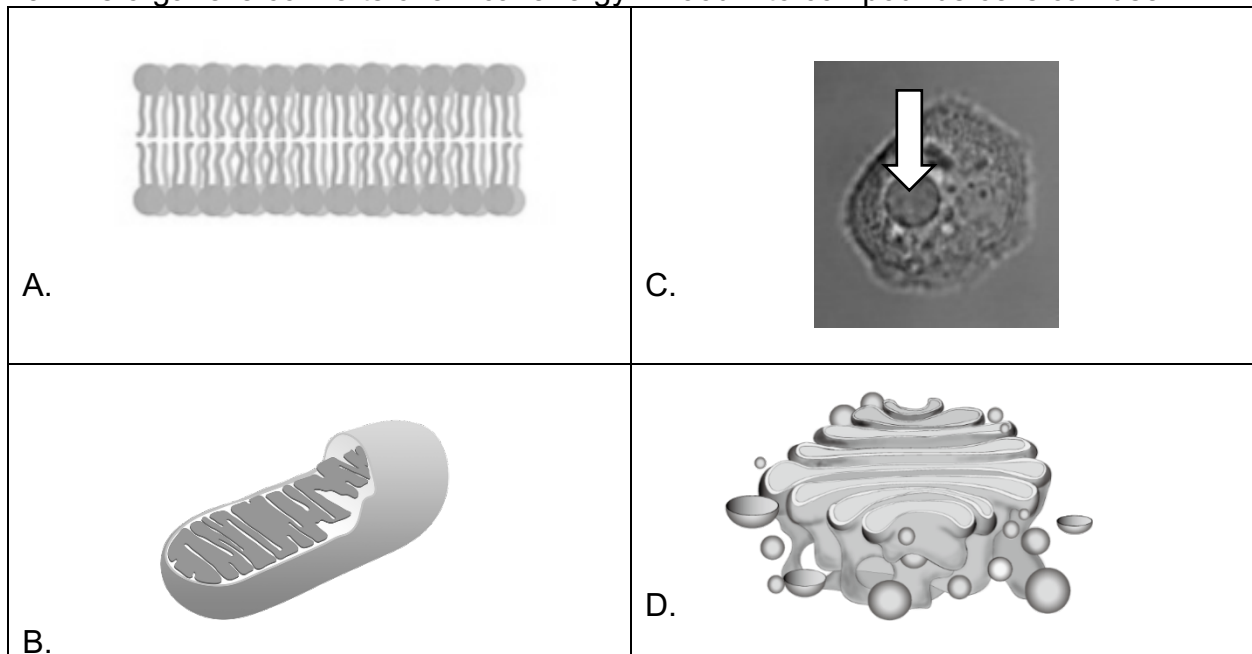


1. Does the insect have wings? Remember most adult insects have 2 pairs of wings, but they're not always visible.	a. Yes	go to step 2
	b. No	Order Hemiptera
2. Does the insect have parallel wings?	a. Yes	go to step 3
	b. No	go to step 4
3. Does the insect have a parallel line down the back that divides the wings?	a. Yes	Order Coleoptera
	b. No	Order Orthoptera
4. Does the insect have 4 total wings?	a. Yes	go to step 5
	b. No	Order Diptera
5. Does the insect have long antennae?	a. Yes	go to step 6
	b. No	Order Odonata
6. Does the insect have a small body with large fan-shaped wings?	a. Yes	Order Lepidoptera
	b. No	Order Hymenoptera

- A. Order Hemiptera
- B. Order Coleoptera

- C. Order Diptera
- D. Order Lepidoptera

19. The function of this system is to control growth, developments, and metabolize. Which of the following systems does this best describe?
- A. Endocrine system
 - B. Digestive system
 - C. Circulatory system
 - D. Reproductive system
20. The circulatory system transports materials around the entire body, this is most similar to which of the following organelles?
- A. Golgi apparatus
 - B. Lysosome
 - C. Endoplasmic reticulum
 - D. Cell wall
21. This individual concluded that all plants are made of cells, furthering the development of the cell theory.
- A. Hooke
 - B. Plowe
 - C. Virchow
 - D. Schleiden
22. The response to the length of light and the absence of light is referred to as:
- A. Geotropism
 - B. Thigmotropism
 - C. Photoperiodism
 - D. Chemotropism
23. This organelle converts chemical energy in food into compounds cells can use?



24. If two black and white mice are bred and it results in all of the offspring being gray, what inheritance pattern is this?

- A. Codominance
- B. Dominance
- C. Incomplete dominance
- D. Multiple alleles

25. Which of the following is not a cause of a fever?

- A. Lethargy
- B. Infection
- C. Dehydration
- D. Certain medications

26. To keep the number of chromosomes the same in an organism, the gametes must:

- A. Be diploid
- B. Be formed by meiosis
- C. Be recessive
- D. Be formed by mitosis

27. While studying meiosis, it is observed that gametes receive only one copy of sex chromosomes. This observation is a physical explanation of which of the following?

- A. Law of Dominance
- B. Law of Random Distribution
- C. Law of Independent Assortment
- D. Law of Segregation

28. A hydrogen atom is about ten nanometers in diameter. What is this diameter in millimeters?

- A. 1×10^{-8} mm
- B. 1×10^{-5} mm
- C. 1×10^{-2} mm
- D. 1×10^{-9} mm

29. Which of the following materials should have the proper disposal symbol associated with it in lab?

- A. Paper
- B. Water
- C. Lemon juice
- D. Battery



30. A student is calculating the density of an aluminum cube. The mass of the cube is taken three times. The masses were recorded as 32.7g, 32.1g, 33.2g. The label on outside of the box the cube came in states that the mass of the cube is 33.3 grams. Since the mass measurement obtained is different from the actual value, how will this affect the density calculation?

- A. There will be no change in the value for density
- B. There will be no change in the value for density since volume could be miscalculated
- C. The density value will be lower than the actual value
- D. The density value will be higher than the actual value



31. A person arrives home and turns on a lamp upon entering a room. The lights do not come on. The person's hypothesis is that the light is burned out, is this valid?
- A. Yes; that is always the problem when lights do not work
 - B. Yes; it can be tested by replacing the bulb
 - C. No; because this is not a scientific problem
 - D. No; the lamp is probably unplugged
32. During a lab, rubbing alcohol is splashed in another student's eyes. What should be done?
- A. Walk to the nurse's office
 - B. Put on safety goggles
 - C. Flush eyes immediately with water
 - D. Wipe eyes with a damp paper towel
33. Newton made discoveries that enabled people to understand which of the following?
- A. Atomic structures
 - B. Planetary motion
 - C. Properties of elements
 - D. States of matter
34. Which of the following units would be best to use when describing the height of a room?
- A. Nanometer
 - B. Centimeter
 - C. Meter
 - D. Kilometer
35. Which of the following historical accomplishments provided the first convincing evidence that the Earth was not the center of the universe?
- A. Copernicus's explanation for the motion of Mars
 - B. Aristotle's careful observations of planetary motions
 - C. Brache's observations that most stars were outside of this solar system
 - D. Galileo's observations that Venus went through phases like the moon

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE I
FALL/WINTER TEST**

Answer Key

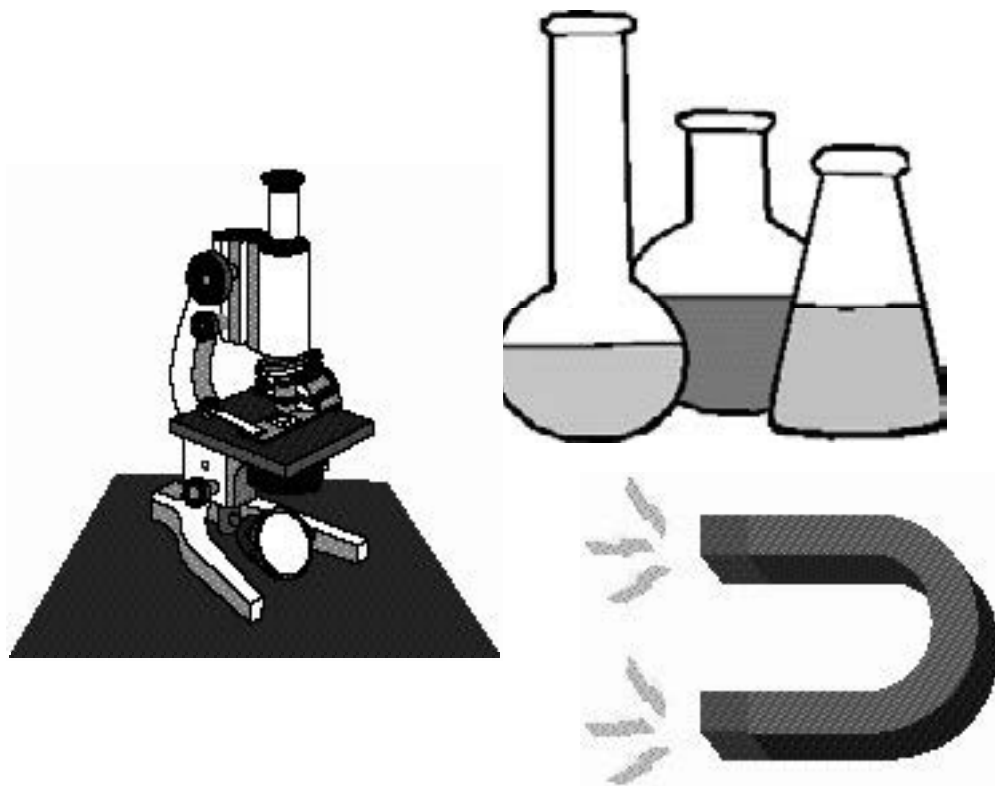
- | | |
|-------|------|
| 1. A | 19.A |
| 2. D | 20.C |
| 3. B | 21.D |
| 4. C | 22.C |
| 5. A | 23.B |
| 6. D | 24.C |
| 7. B | 25.A |
| 8. C | 26.B |
| 9. B | 27.D |
| 10. D | 28.B |
| 11. B | 29.D |
| 12. C | 30.C |
| 13. B | 31.B |
| 14. C | 32.C |
| 15. D | 33.B |
| 16. C | 34.C |
| 17. C | 35.D |
| 18. D | |

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Science II

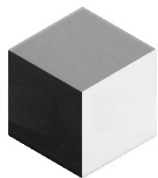
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**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE II
FALL/WINTER TEST**

1. A hydrogen atom is about ten nanometers in diameter. What is this diameter in millimeters?
- A. 1×10^{-8} mm
 - B. 1×10^{-5} mm
 - C. 1×10^{-2} mm
 - D. 1×10^{-9} mm

2. Which of the following materials should have this proper disposal symbol associated with it in lab?

- A. Paper
- B. Water
- C. Lemon juice
- D. Battery



3. A student is calculating the density of an aluminum cube. The mass of the cube is taken three times. The masses were recorded as 32.7 g, 32.1 g, 33.4 g. The label on outside of the box the cube came from states that the mass of the cube is 33.3 grams. Since the mass measurement obtained is different from the actual value, how will this affect the density calculation?

- A. There will be no change in the value for density
 - B. There will be no change in the value for density since volume could be miscalculated
 - C. The density value will be lower than the actual value
 - D. The density value will be higher than the actual value
4. A person arrives home and turns on a lamp upon entering a room. The lights do not come on. The person's hypothesis is that the light is burned out, is this valid?
- A. Yes; that is always the problem when lights do not work
 - B. Yes; it can be tested by replacing the bulb
 - C. No; because this is not a scientific problem
 - D. No; the lamp is probably unplugged
5. During a lab, rubbing alcohol is splashed in another student's eyes. What should be done?
- A. Walk to the nurse's office
 - B. Put on safety goggles
 - C. Flush eyes immediately with water
 - D. Wipe eyes with a damp paper towel
6. Newton made discoveries that enabled people to understand which of the following?
- A. Atomic structures
 - B. Planetary motion
 - C. Properties of elements
 - D. States of matter

7. Which of the following units would be best to use when describing the height of a room?

- A. Nanometer
- B. Centimeter
- C. Meter
- D. Kilometer

8. Which of the following historical accomplishments provided the first convincing evidence that the Earth was not the center of the universe?

- A. Copernicus's explanation for the motion of Mars
- B. Aristotle's careful observations of planetary motions
- C. Brache's observations that most stars were outside of this solar system
- D. Galileo's observations that Venus went through phases like the moon

9. Most of the elements to the left of the stair step line in the periodic table exist as ___ at room temperature.

- A. Gases
- B. Liquids
- C. Plasma
- D. Solids

10. Which element is most similar to Xenon?

- A. Al
- B. Ar
- C. Ag
- D. As

11. How many outermost electrons do Potassium and Cesium have?

- A. 1
- B. 2
- C. 3
- D. 4

12. Two students are pushing on a refrigerator from the same side. Which of the following would be a true statement?

- A. The forces would add together since they are in the same direction
- B. The forces would be subtracted from each other since they are in the opposite direction
- C. The forces would be added together since they are in the opposite direction
- D. The forces would be subtracted from each other since they are in the same direction

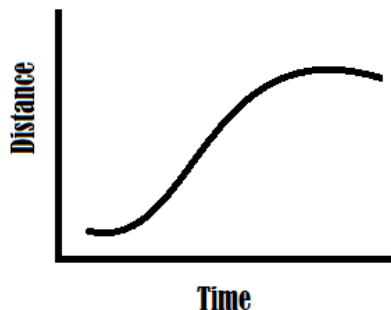
13. Which of the following subatomic particles is not found in the nucleus of an atom?

- A. Quark
- B. Proton
- C. Electron
- D. Neutron

I. A.																VIII. A.															
1	H															2	He														
hydrogen																helium															
3	4	II. A.										5	6	7	8	9	10	11	12	13	14	15	16	17	18						
Li	Be											B	C	N	O	F	Ne														
lithium	beryllium											bor	szén	nitrogén	oxigén	fluor	neon														
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36						
Na	Mg	Al	Si	P	S	Cl	Ar	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr						
nátrium	magnézium	alumínium	szilícium	foszfor	kén	klor	argon	potassium	calcium	skandium	titan	vanádium	krom	mangán	vas	kobalt	nikkel	réz	cink	gallium	germánium	arsén	szelén	brom	kripton						
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63					
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe														
rubídium	stroncium	ittrium	cirkónium	nióbium	molibdén	technécium	ruténium	ródiium	palládium	ezüst	kadmium	indium	órn	antimon	tellúr	jód	xenon														
55	56	57-71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95					
Cs	Ba											Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn					
caesium	bárium											hafnium	tantal	wolfram	rénium	osmium	irídium	platina	arany	higany	talium	ólm	bismut	polónium	asztecium	radon					
87	88	89-103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127					
Fr	Ra											Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og					
francium	rádiium											ráfórbium	duóbium	szilbórium	borium	hasszium	meténium	darmstadtium	röntgenium	kopernícium	nihórium	fleróvium	moszkóvium	livermórium	tennessz	oganeszson					
*H: (1.00784, 1.00811) Li: (6.938, 6.997) B: (10.806, 10.821) C: (12.0096, 12.0116) N: (14.00643, 14.00728) O: (15.99903, 15.99977) Mg: (24.304, 24.307) Si: (28.086, 28.086) S: (32.059, 32.076) Cl: (35.446, 35.457) Br: (79.901, 79.907) Ti: (47.88, 47.88) Zn: (65.38, 65.38) Se: (78.96, 78.96) Mo: (95.94, 95.94)																57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72
																La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
																lantán	cérium	prazéodímium	neodímium	prométiúm	szamárium	europium	gadólínium	terbium	diszpróciúm	holmium	erbitium	tulium	ytterbium	lutécium	
																89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	
																Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	
																aktínium	tórium	protaktínium	urán	neptúnium	plútónium	amerícium	kúrrium	berkelium	kalifornia	astatínium	fermium	menckérium	nobélium	lawrencium	

14. This states that matter is neither created nor destroyed in a chemical reaction?
- A. Law of conservation of mass
 - B. Law of conservation of matter
 - C. Law of conservation of energy
 - D. Law of conservation of momentum
15. Which of the following takes about one month to complete?
- A. Day & night
 - B. Seasons
 - C. Eclipse
 - D. Phases of the moon
16. A person determines the weight of a bunch of bananas using a spring scale. Which law best applies to this scenario?
- A. Newton's first law of motion
 - B. Newton's second law of motion
 - C. Newton's third law of motion
 - D. Newton's fourth law of motion
17. How many seasons can occur at the same time on Earth?
- A. 1
 - B. 2
 - C. 3
 - D. 4
18. A Hertzsprung Russell diagram shows the relationship between a star's surface temperature and brightness. Which of the following is not used to indicate brightness?
- A. Candela
 - B. Absolute magnitude
 - C. Luminosity
19. The moon has a greater effect on ocean tides compared to the sun because the moon is...
- A. Smaller than the earth
 - B. Heavier than the sun
 - C. Farther from earth
 - D. Closer to earth

20. Based on the graph, what quantity is represented by the slope of the line?
- A. Speed
 - B. Acceleration
 - C. Force
 - D. Displacement



21. Heat is transferred to object in three ways but the least visible form for humans observe using the naked eye comes from:
- A. Convection
 - B. Conduction
 - C. Radiation
22. Who discovered that our sun was not at the center of the Milky Way?
- A. Herschel
 - B. Shapley
 - C. Hubble
 - D. Einstein
23. Humidity is the amount of water vapor in the air. Which of the following factors does humidity depend on?
- A. Light
 - B. Wind
 - C. Temperature
 - D. Time of the day
24. This visible light telescope is surveying a part of the Milky Way galaxy to discover planetary systems.
- A. Swift
 - B. GALEX
 - C. NuSTAR
 - D. Kepler
25. Traditionally hurricane season in the United States is from:
- A. June to November
 - B. July to January
 - C. January to March
26. In order to demonstrate the expanding universe, which would be used?
- A. Building blocks
 - B. Expanding balloon with dots
 - C. Planetary system model
 - D. Water flowing in a hose
27. Why is nitrogen in runoff bad for an aquatic environment like the ocean?
- A. It causes hypoxic areas in the water
 - B. It can change the balance of plant growth and has consequences for wildlife
 - C. It increases the biodiversity in that part of the ocean
28. Tectonic plates are pieces of the ____ that move around on top of the ____.
- A. Mesosphere; lithosphere
 - B. Asthenosphere; mesosphere
 - C. Lithosphere; mesosphere
 - D. Lithosphere; asthenosphere

29. What resources are the organisms in the picture competing for?

- A. Space
- B. Food
- C. Shelter
- D. Sunlight



30. There are three kinds of plate tectonic boundaries. Which of the following boundaries makes oceanic crust made of basalt?

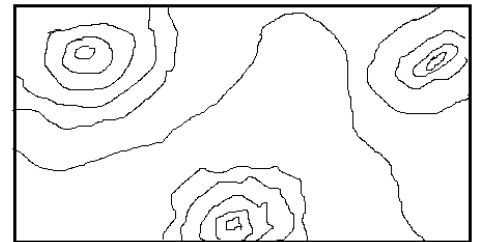
- A. Convergent
- B. Divergent
- C. Transformative
- D. Triple point

31. This type of environmental change doesn't give populations time to adapt to the change and forces them to move or to become extinct. Which of the following scenarios does cause this type of change?

- A. Drought
- B. Flood
- C. Fire
- D. Natural temperature fluctuations

32. How many hilltops are shown on the map?

- A. 1
- B. 2
- C. 3
- D. 4



33. A student wearing goggles, apron, and gloves would be best protected from:

- A. Cuts from a knife
- B. Burns from handling a hot flame
- C. Electrostatic discharge
- D. Burns from mixing chemicals in a beaker

34. John Dalton depicted his model of the atom as a solid sphere. The model of the atom has undergone many changes since then. What is the best scientific reason for these changes in the model?

- A. Computer generated graphics
- B. People are more open to changes
- C. Modifying ideas based on discoveries
- D. People want the truth

35. The following temperatures were measured as a liquid was boiling. If the real boiling point of this substance is 29.5 °C, which is the most precise?

Trial	Temperature in °C
1	28.5
2	32.5
3	27.5
4	30

- A. 1 & 2
- B. 2 & 3
- C. 3 & 4
- D. 1 & 4

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019 – 2020 SCIENCE II
FALL/WINTER TEST**

Answer Key

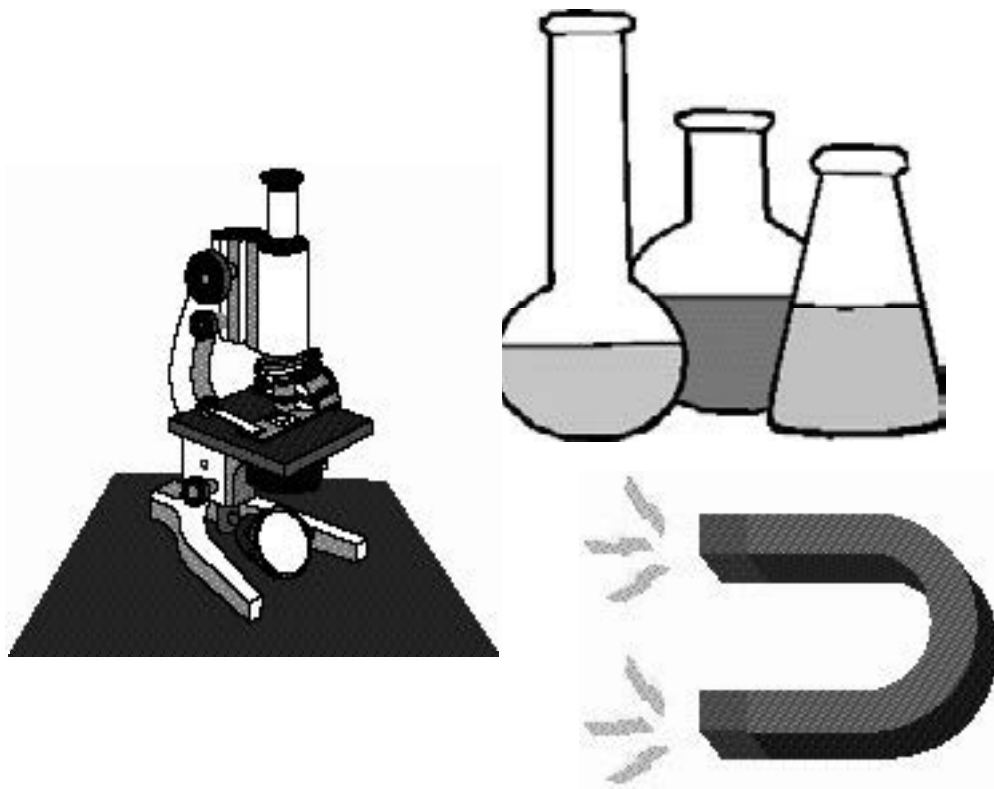
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|------|------|
| 1. B | 19.D |
| 2. D | 20.A |
| 3. C | 21.C |
| 4. B | 22.B |
| 5. C | 23.C |
| 6. B | 24.D |
| 7. C | 25.A |
| 8. D | 26.B |
| 9. D | 27.B |
| 10.B | 28.D |
| 11.A | 29.B |
| 12.A | 30.B |
| 13.C | 31.D |
| 14.B | 32.C |
| 15.D | 33.D |
| 16.B | 34.C |
| 17.B | 35.D |
| 18.A | |

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Science I

**DO NOT OPEN TEST
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**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE I
SPRING TEST**

1. Suppose the SDS for a chemical states that it is a highly volatile substance and is a nose and throat irritant. Which safety procedure should be followed based on the SDS information?
- A. Use substance in minute amounts
 - B. Add water to the substance
 - C. Use in a ventilated area, such as a fume hood
 - D. Store substance in a dark colored container

2. The lab equipment shown are being used, what task would require these specific tools?



- A. Measuring the area of the classroom
 - B. Determine the speed of a rolling ball
 - C. Making an atomic model
 - D. Measuring the density of a solid
3. A student breaks a flask during a lab procedure. After telling the teacher, what should be done based on proper lab safety protocols?
- A. Find a new flask
 - B. Tell an addition teacher
 - C. Find a mop and dust pan
 - D. Dispose of broken glass into proper container
4. In what part of the picture is radiant energy from the sun being converted into chemical energy?

- A. Grass
- B. Bird
- C. Worm
- D. Rock



5. What does this symbol indicate about a substance?

- A. Can cause injury to skin
- B. Can catch on fire easily
- C. Hazardous to the environment
- D. Harmful to inhale



6. What do arrows represent in a food chain?

- A. The size of the organism
- B. Dominance of the organism
- C. The flow of energy
- D. What an organism eats

7. Which of the following is an unsafe practice during a lab?

- A. Detecting an odor by inhaling repeatedly
- B. Watering a flower without using gloves
- C. Wearing goggles while mixing chemicals
- D. Using a stirring rod to circulate liquids

8. An experiment was done to test the effect of water poured on to a hot metal. Which tool would be used to measure the transfer of energy between the hot metal and the water?

- A. Spring scale
- B. Balance
- C. Thermometer
- D. Spectrometer

9. A teacher fills a sealable bag with jelly, colored beads, and various hard candies to model a cell. Which of the following cannot be shown through this model?

- A. The organelles of the cell
- B. The flexibility of the cell
- C. The nucleus of the cell
- D. The absorption of nutrients

10. Energy stored in food is ____; as it is digested the food releases ____ energy for motion. Correctly complete this statement.

- A. Chemical; thermal
- B. Chemical; mechanical
- C. Radiant; mechanical
- D. Thermal; radiant

11. Which of these processes does not describe a physical change in digestion?

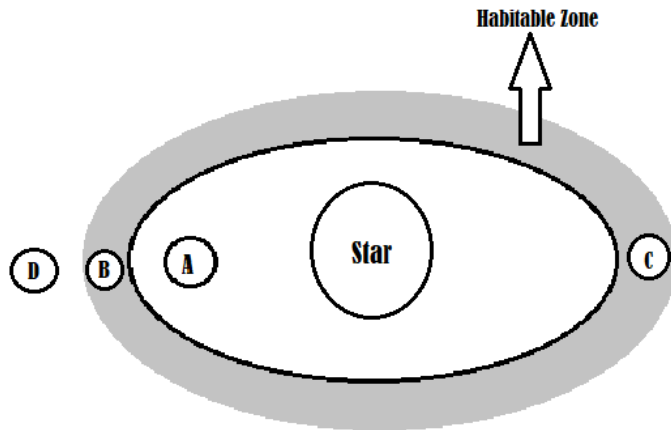
- A. Teeth tearing food into smaller pieces
- B. Tongue shaping food as it pushes it into the esophagus
- C. Saliva in mouth breaking down starch
- D. Food being broken down by stomach muscles

12. Some animals migrate across Africa in search of resources, such as grass for food. A drought would likely cause a migrating animal to:

- A. Migrate shorter distances
- B. Migrate farther distances
- C. Produce a larger herd
- D. Start eating meat as their primary food source

13. Which shows an organ applying a force?
- A. Gallbladder squeezing bile into the small intestine
 - B. Eye sending signals to the brain
 - C. Kidneys filtering
 - D. Salvia in the mouth breaking down food
14. Longhorn Cavern in Texas was created when limestone was carved out by running water, making its walls mostly smooth. This process best describes which of the following?
- A. Weathering
 - B. Deposition
 - C. Erosion
15. The Texas Water Development Board states groundwater is used about 80% of the time for which of the following activities?
- A. Irrigating crops
 - B. Supplying residence
 - C. Water supply for swimming areas
16. Where would the greatest amount of diversity of organisms occur?
- A. In the center of a pond
 - B. Next to concrete
 - C. Freshly plowed field
 - D. Near a stream with rocks, flowing water, & vegetation
17. In recent years, there have been numerous agencies planning manned trips to Mars. Why is traveling to Mars so difficult?
- A. Temperatures in space
 - B. Distance between planets
 - C. No landing runway on Mars
 - D. Erratic motion of planets
18. A non-native organism is introduced to a diverse climax community. If the non-native organism has no predators, what short term effect will non-native organism have on a community?
- A. The number of native organisms remain constant
 - B. The number of native organisms will decrease
 - C. The non-native organisms will become extinct
 - D. The non-native organisms will develop new predators
19. Which of the following is true about ecological succession?
- A. Succession leads to equilibrium in an ecosystem
 - B. Succession prevents ecosystems from reaching equilibrium
 - C. There is no relationship
 - D. Succession & equilibrium are the same thing

20. Based on the information below, which planet is the most likely to contain life?



Planet	Oxygen	Water
A	Yes	Yes
B	Yes	No
C	Yes	Yes
D	No	Yes

A. A

B. B

C. C

D. D

21. What type of dispersal is mostly likely used by this organism?

- A. Animal
- B. Wind
- C. Water
- D. Gravity



22. Blubber in arctic animals is an internal structural adaptation that allows animals to be successful in the environment. What function does blubber perform?

- A. It makes the animal look larger to intimidate predators
- B. Allows for better balance
- C. Provides more friction
- D. It protects the animal from freezing temperature





23. Which organism has small vacuoles?

- A. Plants
- B. Animals
- C. Virus

24. The cell wall is most similar to which body system?

- A. Nervous
- B. Digestive
- C. Respiratory
- D. Integumentary

25. Humans have selectively bred canines for specific jobs. Which dog is most likely to carry heavy weights in a cold environment?

A. 	B. 
C. 	D. 

26. Which of the following do rattlesnakes do when they feel threatened?

- A. Rattle their tail and hiss
- B. Make their hair stand up
- C. Close their eyes
- D. Slow their breathing

27. Which is not an example of heredity in humans?

- A. Height
- B. Eye color
- C. Spoken language
- D. Freckles

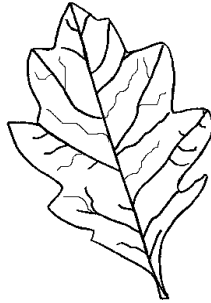
28. Which of the following is least likely to make an animal vomit?

- A. An infection in the stomach
- B. Consuming large amounts of water
- C. A toxin in the body
- D. Feeling cold after swimming in cold water

29. In sexual reproduction, how many genes does an offspring get for each trait?

- A. 0
- B. 1
- C. 2
- D. 4

30. Use the Dichotomous key to identify the leaf shown below:



1a	Leaf edge has no teeth, waves, or lobes	Go to 2
1b	Leaf edge has teeth, waves, or lobes	Go to 3
2a	Leaf has bristle at the tip	Shingle Oak
2b	Leaf has no bristles at the tip	Go to 4
3a	Leaf edge is toothed	Lombardy Poplar
3b	Leaf edge has waves or lobes	Go to 5
4a	Leaf is heart shaped	Red Bud
4b	Leaf is not heart shaped	Live Oak
5a	Leaf edge has lobes	English Oak
5b	Leaf edge has waves	Chestnut Oak

- A. Shingle oak
- B. Lombardy polar
- C. Red bud
- D. Live oak
- E. English oak

31. Which of the following is least likely to affect the phenotypes of an organism?

- A. Nucleus
- B. Vacuole
- C. Genes
- D. Chromosomes

32. Ovaries produce eggs and hormones. What body system does this best relate to?

- A. Integumentary
- B. Excretory and muscular
- C. Endocrine and reproductive
- D. Nervous and respiratory

33. Blood consists of red blood cells and white blood cells. Blood is mostly likely a

- A. Tissue
- B. Organ
- C. Organ system
- D. Cell

34. Based on the cell theory, what do the following organisms have in common?



- A. Reproduce spontaneously
- B. Cells are the basic unit of structure
- C. Organisms can photosynthesize
- D. Made of all the same atoms

35. Which activity would require the safety symbol for a sharp object?

- A. Determining the mass of a density cube
- B. Transferring a metal
- C. Making a model rocket
- D. Determining the volume of a liquid

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE I
SPRING TEST**

Answer Key

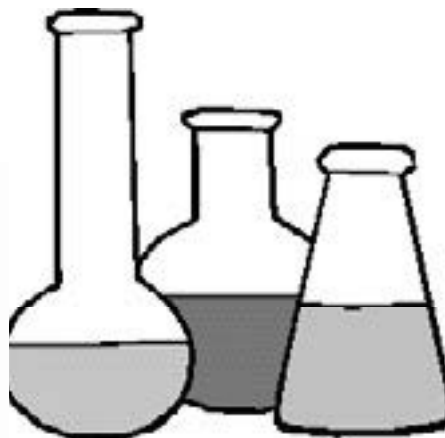
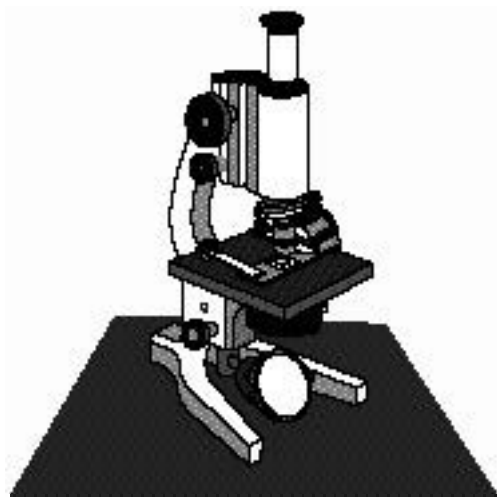
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| 11.C | 29.C |
| 12.B | 30.D |
| 13.A | 31.B |
| 14.C | 32.C |
| 15.A | 33.A |
| 16.D | 34.B |
| 17.B | 35.C |
| 18.B | |

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Science II

**DO NOT OPEN TEST
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**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE II
SPRING TEST**

1. Which activity would require the safety symbol for a sharp object?
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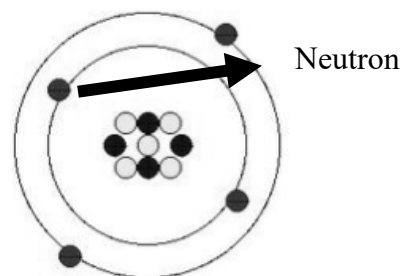


2. A scientist is comparing the average snow fall in a year for New York City and Albany. Which graph is the best to use to represent this data?
- A. Single line graph
 - B. Double line graph
 - C. Single bar graph
 - D. Double bar graph

3. Which best describes a proton?
- A. No charge & the same mass as an electron
 - B. Positive charge & more mass than an electron
 - C. Positive charge & more mass than an neutron
 - D. Negative charge & same mass than an neutron

4. A boat is currently traveling forward, against the current of the river, at 8 m/s. Then the current slows from 2.5 m/s to 1.25 m/s; how does this affect the boat?
- A. The boat will move more slowly
 - B. The boat will experience no change in motion
 - C. The boat will move faster
 - D. The boat comes to a complete stop

5. What element is represented in the illustration?
- A. Li
 - B. Ne
 - C. Be
 - D. He



6. Which group is made from reactive metals?
- A. 1
 - B. 7
 - C. 17
 - D. 18

7. What is the major difference between speed and velocity?
- A. Velocity is calculated as distance over time; speed is calculated as velocity over time
 - B. Velocity has a direction associated with it; speed has no direction associated with it
 - C. Speed has a direction associated with it; velocity has no direction associated with it
 - D. Speed is calculated as distance over time; velocity is calculated as speed over time

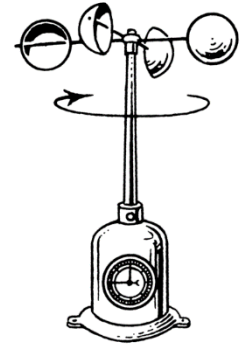
8. How many atoms of hydrogen are in glycine?



- A. 2 B. 5 C. 9 D. 10
9. A child collects rocks from the backyard. Which would be a chemical property of the rocks collected?
- A. Color of the rock
 - B. Texture
 - C. Bubbling when lemon juice is spilled on rock
 - D. The rock is easily scratched with sandpaper
10. Which of the following has the greatest mass?
- A. Solar system
 - B. Nebula
 - C. Galaxy
 - D. Planet
11. To calculate tidal force, which of the following statements is true?
- A. The moon's gravity pull in a specific location plus the moon's gravity pull in a specific location
 - B. The moon's gravity pull in a specific location minus the moon's gravity pull in a specific location
 - C. The moon's gravity pull in a specific location plus the moon's average gravitational pull over the entire earth
 - D. The moon's gravity pull in a specific location minus the moon's average gravitational pull over the entire earth
12. A rocket is launched to the moon. If no outside force is applied once the rocket reaches outer space, what happens to the speed as it travels in outer space?
- A. It will speed up
 - B. It will slow down
 - C. It will remain constant
 - D. It will fluctuate

13. If the earth's axis was not tilted in relation to its plane of orbit, which of the following would most likely occur?
- A. The equator would have two seasons
 - B. There would be no distinct seasons
 - C. Night in the northern hemisphere would be longer than the southern hemisphere
 - D. Summer in the northern hemisphere would be longer than the southern hemisphere
14. The Sun is to ___ as Mars is to Venus.
- A. Tau Ceti
 - B. Betelgeuse
 - C. Rigel
 - D. Sirius
15. How much of the lunar surface receives sunlight at one specific instant?
- A. One half
 - B. One third
 - C. One fourth
 - D. All of it
16. Using the electromagnetic spectrum, astronomers can determine all of the following characteristics of a distant star except which of the following?
- A. Its chemical composition
 - B. The organisms present
 - C. Its temperature
 - D. Its density
17. The plate tectonic theory can best explain which of the following?
- A. Earthquakes
 - B. Mountain construction
 - C. Volcanic activity
 - D. Fossil record
18. Which of the following best supports the Big Bang Theory?
- A. Various shapes of galaxies
 - B. Speed of light
 - C. Red & blue shifts of light from stars
 - D. The motion of planets in orbit
19. Scientists observe that when continental plates & oceanic plates collide, the oceanic plate is forced below the continental plate. This might be because –
- A. The different densities of the plates
 - B. The different masses of the plates
 - C. Convection current
 - D. The width of the plates
20. A student reads a topographic map and determines the highest elevation to be 1800 meters and the lowest elevation to be 1120 meters. Based on this information, what is the difference between these elevations?
- A. 2920 m
 - B. 680 m
 - C. 340 m
 - D. 1800 m

21. How would the motion of an anemometer be changed if the amount of radiant energy that reached the Earth's atmosphere was to increase?



- A. It would spin in the opposite direction
- B. It would spin faster
- C. It would spin slower
- D. It would remain constant

22. Which of the following is an adaptation for plants in a rainforest that need to obtain sunlight in order to photosynthesize?

- A. Vines wrapping around tree trunks
- B. Vibrant colored flowers
- C. Shallow root system
- D. Small leaves

23. This type of weather front usually brings a decrease in temperature, clearing skies, & a sharp change in the wind direction. Which of the following best describes this scenario?

- A. Directional front
- B. Stationary front
- C. Warm front
- D. Cold front

24. La Niña represents periods of below average sea surface temperatures across the equatorial Pacific Ocean. What is most likely to occur due to these specific conditions?

- A. Wetter than average conditions in the U.S. gulf coast
- B. Increase in severe storms originating in the Pacific Ocean
- C. Decrease in hurricanes originating in the Pacific Ocean
- D. Colder temperatures in the winter for the southeast

25. A force acts on a soccer ball for four seconds causing it to accelerate. If the ball is replaced with a similar ball with twice the mass and the same force is applied for the same amount of time, the acceleration of the similar ball will now be –



- A. One half the value
- B. The same value
- C. Twice the value
- D. Four times the value

26. Which tool would be used to determine elements that are present in stars in a distant galaxy?

- A. Telescope
- B. Spectroscope
- C. Microscope
- D. Psychrometer

27. It has been suggested that student misbehaviors are more common during a full moon compared to other times of the month. What could be done to test this hypothesis?



- A. Observe student behavior during a full moon and create categories for behaviors
- B. Create a survey
- C. Ask students when they misbehave the most
- D. Look at discipline records from previous years & compare with time of full moon

28. If a lab requires that students have goggles, a graduated cylinder, and a thermometer; what task might they be performing?

- A. Calculating density
- B. Measuring volume & temperature of a liquid
- C. Measuring mass & temperature of a solid
- D. Determining the meniscus

29. In a mountain range there is a point called a tree line, in which trees do not normally grow near the top of the mountain. What environmental condition would most likely prevent trees from growing in this area?

- A. No oxygen is present
- B. The air pressure is too high
- C. The temperature is too low
- D. There is no sunlight



30. Which of the following would you not do to minimize the impact of human activities on the world?

- A. Reusing items
- B. Renovate all housing on a university campus
- C. Recycle
- D. Reduce consumption

31. Which of the following is an alkaline earth metal?

- A. Potassium
- B. Barium
- C. Aluminum
- D. Silver



32. When did Newton first propose his Laws of Motion?
- A. During World War I
 - B. After the Civil War
 - C. Approximately 300 years ago
 - D. After humans orbited the Earth
33. A student uses a warped meter stick to take measurements in an experiment. Which of the following occurred when the student introduced the warped meter stick into the experiment?
- A. Method error
 - B. Instrumental error
 - C. Human error
 - D. Estimation error
34. Light from moving objects will appear to have different wavelengths depending on the relative motion of the source and the observer. An astronomer discovers two stars, Star A and Star B. Both stars appear to be red, but Star A appears to be a darker red. Which of the following can be concluded?
- A. Star A is moving towards the Earth
 - B. Star A is moving away from Earth faster than Star B
 - C. Star B is moving away from Earth and Star A is moving towards it
 - D. Both Star A and B are moving towards Earth at similar velocities
35. Each of these is an example of how research has changed scientific understanding except:
- A. Classification of living things now includes six kingdoms instead of five
 - B. Protons and electrons are now known to be made of smaller particles of matter
 - C. The metric system is now used around the world instead of other less precise systems
 - D. Heat, which was once thought to be fluid, now is known as a form of energy.

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-2020 SCIENCE II
SPRING TEST**

Answer Key

- | | |
|------|------|
| 1. C | 19.A |
| 2. B | 20.B |
| 3. B | 21.B |
| 4. C | 22.A |
| 5. C | 23.D |
| 6. A | 24.C |
| 7. B | 25.A |
| 8. B | 26.B |
| 9. C | 27.D |
| 10.C | 28.B |
| 11.D | 29.C |
| 12.C | 30.B |
| 13.B | 31.B |
| 14.A | 32.C |
| 15.A | 33.B |
| 16.B | 34.B |
| 17.D | 35.C |
| 18.C | |

CONTESTANT NUMBER:

FOR GRADER USE ONLY

Score Test Below:

_____ Initials _____

_____ Initials _____

Papers contending to place:

_____ Initials _____



**University Interscholastic League
A+ Social Studies Contest • Answer Sheet**

Write your contestant number in the upper right corner, and circle your grade below.

Circle Grade Level: 5 6 7 8

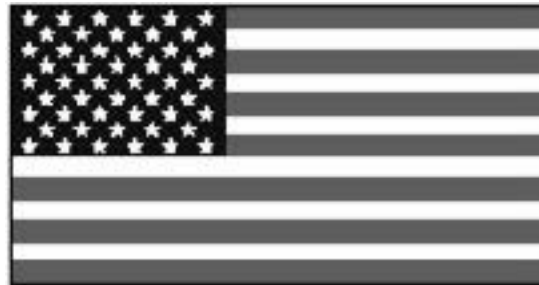
- | | | | | | | | | | |
|-----|---|---|---|---|-----|---|---|---|---|
| 1. | A | B | C | D | 21. | A | B | C | D |
| 2. | A | B | C | D | 22. | A | B | C | D |
| 3. | A | B | C | D | 23. | A | B | C | D |
| 4. | A | B | C | D | 24. | A | B | C | D |
| 5. | A | B | C | D | 25. | A | B | C | D |
| 6. | A | B | C | D | 26. | A | B | C | D |
| 7. | A | B | C | D | 27. | A | B | C | D |
| 8. | A | B | C | D | 28. | A | B | C | D |
| 9. | A | B | C | D | 29. | A | B | C | D |
| 10. | A | B | C | D | 30. | A | B | C | D |
| 11. | A | B | C | D | 31. | A | B | C | D |
| 12. | A | B | C | D | 32. | A | B | C | D |
| 13. | A | B | C | D | 33. | A | B | C | D |
| 14. | A | B | C | D | 34. | A | B | C | D |
| 15. | A | B | C | D | 35. | A | B | C | D |
| 16. | A | B | C | D | 36. | A | B | C | D |
| 17. | A | B | C | D | 37. | A | B | C | D |
| 18. | A | B | C | D | 38. | A | B | C | D |
| 19. | A | B | C | D | 39. | A | B | C | D |
| 20. | A | B | C | D | 40. | A | B | C | D |

INVITATIONAL DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Social Studies

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-20 A+ SOCIAL STUDIES
INVITATIONAL TEST — GRADES 7 & 8**

1. Which culture of Native Texans includes the Coahuiltecan and the Karankawas?
 - a. Plains
 - b. Puebloan
 - c. Gulf
 - d. Southeastern

2. What material did Jumanos use to build their square, flat-roofed houses?
 - a. Timber
 - b. Adobe
 - c. Hides
 - d. Rushes

3. Who had as his mission to map the coastline of the Gulf of Mexico and establish a Spanish mission?
 - a. Christopher Columbus
 - b. Jose Francisco Lopez
 - c. Santos Benavides
 - d. Alonzo Alvarez de Pineda

Spanish Explorers

1519-21	1528-36	1540-42	1542-43
Cortez	Cabeza de Vaca	Coronado	?

4. Which explorer, who took command of De Soto's expedition and led them through East Texas on their way to Mexico City, completes the timeline?
 - a. Luis de Moscoso Alvarado
 - b. Juan Perex de Bustill
 - c. Diego de Penalosa
 - d. Henri Castro

5. Which early missionary in New Spain founded missions in East Texas and in San Antonio, when in 1719 he founded San Jose y San Miguel de Aguayo?
 - a. Alonso de Leon
 - b. Antonio Margil de Jesus
 - c. Juan Agustin Morfi
 - d. Pedro Menedez de Aviles

6. What do the towns of San Antonio, La Bahia, Nacogdoches and Loredo have in common?
 - a. French established towns
 - b. Dutch settlements in early Texas
 - c. Largest United States settlements
 - d. Civil settlements in colonial Texas

7. Which physical region of Texas is located east and south of the Balcones Escarpment?
- a. North Central Plains
 - b. Mountains and Basins
 - c. Coastal Plains
 - d. Great Plains
8. What Texas city's name comes from a Native American group?
- a. Waco
 - b. Fort Worth
 - c. Galveston
 - d. Kosciusko
9. _____ is the largest underground water source in the state of Texas.
- a. Ogallala Aquifer
 - b. Caddo Lake
 - c. Llano Basin
 - d. Comal River
10. What is the longest Texas' Boundary Line?
- a. Rio Grande
 - b. Sabine River
 - c. Red River
 - d. Gulf of Mexico coastline
11. Which nationality of immigrants established the towns of Fredericksburg and New Braunfels?
- a. Polish
 - b. English
 - c. Irish
 - d. German
12. What requires the Texas legislature to maintain "an efficient system of public free schools"?
- a. Article 1 of the U.S. Constitution
 - b. Declaration of Independence
 - c. Article VII of the Texas Constitution
 - d. Article X of the Texas Constitution
13. Who sets and reviews standards for Texas teachers and public schools?
- a. Office of Budget and Planning
 - b. Legislative Budget Board
 - c. U.S. Department of Education
 - d. Texas Education Agency



14. _____ is a current political leader in Texas.
- a. Sid Miller
 - b. Greg Abbott
 - c. George P. Bush
 - d. Paul Green

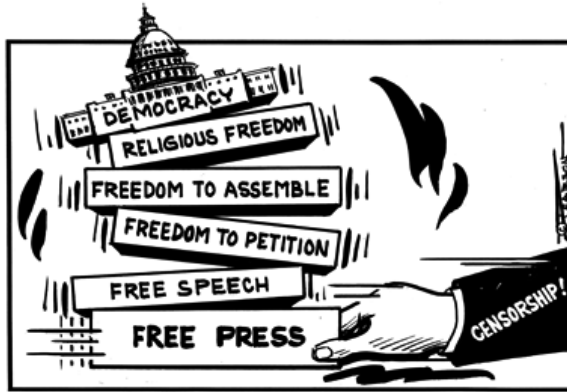
15. Wayne Christian, Christi Craddick and Ryan Sitton serve on what commission?
- Texas Railroad Commission
 - Texas Historical Commission
 - Texas Highway Commission
 - Texas Water Commission
16. Which nation restored La Bahia Presidio, built first roads in Texas, and is the origin of many names of Texas cities and natural features
- England
 - Germany
 - Spain
 - Sweden
17. When did Coronado report back to the King of Spain about his discovery of the province of Tiguex?
- 1542
 - 1492
 - 1541
 - 1685
18. Who was the first European to discover the area that the King of Spain ordered Coronado to explore?
- Friar Marcos de Niza
 - Father Francisco Hidalgo
 - Estevanico
 - Father Jose Lopez
19. Which animal carried the tents and belongings of the Querenchos?
- Horses
 - Cows
 - Mules
 - Dogs
20. Where did Coronado receive a small piece of copper from the chief?
- San Felipe de Austin
 - Quivira
 - San Antonio
 - San Saba
21. Why did Narvaez undertake a voyage in June 1527?
- He was given the authority to claim all of the land drained by the Mississippi River and all of the river's branches
 - He had authority and orders to conquer and govern the provinces that extend from the river of the Palms to the Cape of the Florida
 - To explore the continent and report back about the rich and powerful civilizations rumored to be there
 - To find a quicker route around the Americas

-
- If a child should die, the whole tribe shall lament for a full year
 - Bury the dead
 - After marriage, a woman must bring to her father a portion of anything her husband hunts or fishes
 - When a son or brother dies no food is gathered by those of his household for three months, preferring rather to starve, but the relatives and neighbors provide food for them
22. Where did the explorers find Native Texans who had these customs?
- a. Apalachen
 - b. Santiago
 - c. Island of Ill-Fate
 - d. Vera Cruz
23. How did the explorers protect themselves from the great many mosquitoes that bothered them?
- a. Built big fires of damp and rotten wood
 - b. Used fishing nets to cover beds
 - c. Placed cow dung in the four corners of the camp
 - d. Smearred deer grease on their bodies
24. When did De Vaca and the remaining members of his expedition arrive in Mexico?
- a. Christmas Day
 - b. New Years Day
 - c. One week before Thanksgiving
 - d. Sunday, the day before the vespers of Saint James
25. How did colonies help European Nations trying to increase their wealth and power?
- a. Provided a skilled labor source
 - b. Increased infrastructure needed to trade goods
 - c. Provided mines, produced goods, served as markets
 - d. Provided capital, skilled labor, served as markets
26. Who was an early explorer for France who came to the Americas in search of the Northwest Passage?
- a. Pedro Menendez de Aviles
 - b. Tadeusz Kosciuszko
 - c. Marquis de Lafayette
 - d. Giovanni da Verrazzano
27. Which colony was founded as a refuge for debtors?
- a. Georgia
 - b. Pennsylvania
 - c. Maryland
 - d. New York
28. What is often called the first written constitution in America?
- a. Declaration of Independence
 - b. Fundamental Orders of Connecticut
 - c. Monroe Doctrine
 - d. Northwest Ordinance

29. Which colonial region had long winters, rocky soil and the English made up the largest group of settlers?
- a. Backcountry
 - b. New England
 - c. Southern Colonies
 - d. Middle Colonies
30. _____ are called the “breadbasket colonies”.
- a. Middle Colonies
 - b. Southern Colonies
 - c. New England
 - d. Backcountry
31. What event allowed the free enterprise system to develop in the United States?
- a. Writing of the Fundamental Orders of Connecticut
 - b. Creation of the European Union
 - c. The end of Britain’s mercantilist control
 - d. The French and Indian War
32. Scottish economist _____ outlined his ideas of free enterprise in his book *The Wealth of Nations*, first published in 1776.
- a. Charles Dickens
 - b. John Deere
 - c. James Garfield
 - d. Adam Smith
-

“No freeman shall be seized, imprisoned, dispossessed, outlawed, or exiled, ... nor will we proceed against or persecute him except by the lawful judgment of his peers, or by the law of the land”

33. Which document, with this quote, gave basic political rights to citizens in England?
- a. Doctrine of Nullification
 - b. Magna Carta
 - c. Mayflower Compact
 - d. Articles of Confederation
34. Why are James Madison, Alexander Hamilton and John Jay famous?
- a. Authors of the Federalist Papers
 - b. Presidents of the United States
 - c. Chief Justices of the Supreme Court
 - d. Explorers from England



35. Which Amendment to the U.S. Constitution is being depicted in the political cartoon?
- | | |
|------|-------|
| a. 3 | c. 1 |
| b. 5 | d. 10 |
36. What is the name of the warnings that protect the rights of suspects during questioning?
- | | |
|------------|------------|
| a. Jay | c. Bacon |
| b. Roberts | d. Miranda |
37. How does a direct democracy differ from a representative democracy?
- People govern themselves by voting individually on issues instead of electing representatives to make and enforce the laws
 - The President makes the laws instead of elected officials
 - Direct democracy only works in large cities
 - The President's election is the only election a direct democracy is allowed
38. What are benefits and protections guaranteed to you by law?
- | | |
|------------|---------------------|
| a. Customs | c. Responsibilities |
| b. Rights | d. Traditions |
39. _____ are duties that you owe to your fellow citizens to make sure that the government continues.
- | | |
|----------------|---------------------|
| a. Rights | c. Responsibilities |
| b. Indulgences | d. Pardons |
40. Which ancient trading civilization developed an alphabet that gave rise to the Hebrew, Greek and Latin alphabets still in use today?
- | | |
|--------------|----------------|
| a. Sumerians | c. Babylonians |
| b. Japanese | d. Phoenicians |

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-20 A+ SOCIAL STUDIES
INVITATIONAL TEST — GRADES 7 & 8**

Answer Key

- | | |
|-------|-------|
| 1. C | 21. B |
| 2. B | 22. C |
| 3. D | 23. A |
| 4. A | 24. D |
| 5. B | 25. C |
| 6. D | 26. D |
| 7. C | 27. A |
| 8. A | 28. B |
| 9. A | 29. B |
| 10. A | 30. A |
| 11. D | 31. C |
| 12. C | 32. D |
| 13. D | 33. B |
| 14. B | 34. A |
| 15. A | 35. C |
| 16. C | 36. D |
| 17. C | 37. A |
| 18. A | 38. B |
| 19. D | 39. C |
| 20. B | 40. D |

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Social Studies

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-20 A+ SOCIAL STUDIES
FALL/WINTER TEST — GRADES 7 & 8

- Caddoes
- Atakapans
- Alabama and Coushatta

1. Which Native Texan culture includes these groups?
 - a. Puebloan
 - b. Southeastern
 - c. Gulf
 - d. Plains

2. What led to the establishment of permanent villages for Native Texans?
 - a. Limited food supplies
 - b. Plentiful buffalo
 - c. Agriculture
 - d. Ability to gather mollusks, clams and oysters

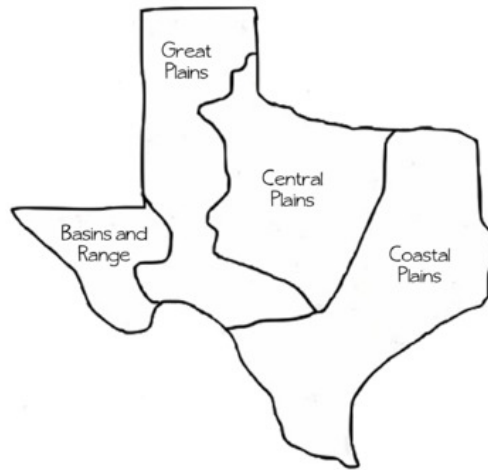
3. Who is the oldest group of Native Texans still living in Texas today?
 - a. Kickapoos
 - b. Apaches
 - c. Jumanos
 - d. Tiguas

4. Why was Cibola important to explorers?
 - a. It was, according to Spanish legend, seven wealthy cities built by bishops that had fled Portugal
 - b. First Spanish mission in the New World
 - c. Capital of New Spain
 - d. Largest settlement outside of Mexico City

5. In 1682 the Spanish founded the first mission in Texas, _____.
 - a. San Antonio de Valero
 - b. Nuestra Senora del Refugio
 - c. Corpus Christi de la Isleta
 - d. Santa Cruz de San Saba

6. Which agreement gave a group of Franciscan priests the task of running the Texas missions?
 - a. Mexican Cession
 - b. El Patronato Real
 - c. Adams-Onis Treaty
 - d. Texas and New Mexico Act

7. In Texas frontier towns, who acted as the mayor, sheriff and judge in issues dealing with local laws?
 - a. Alcalde
 - b. Wildcatter
 - c. Acequia
 - d. Vaquero



8. Which natural region in Texas contains the subregions: Piney Woods, Post Oak Belt, Blackland Prairie, Gulf Coastal Plain and South Texas Plain?
 - a. Mountains and Basins
 - b. Great Plains
 - c. Central Plains
 - d. Coastal Plains

9. What Texas town was named for a Polish general who fought in the American Revolutionary War?
 - a. Kosciusko
 - b. Odessa
 - c. New Braunfels
 - d. Aransas Pass

10. Why do so many people live in Central and East Texas and so few in West Texas?
 - a. Heavy agricultural area
 - b. Less pollution
 - c. People tend to live where the jobs are
 - d. More tourist places

11. Where did most early settlers from the United States make their homes due to similar climate and soil?
 - a. South Texas
 - b. Central Texas
 - c. East Texas
 - d. Panhandle

12. How do local school districts contribute to their school's funding?
 - a. Lottery funds
 - b. Endowment funds
 - c. Gifts
 - d. Property taxes

?

Arranges for school construction

Selects textbooks

13. What title replaces the question mark?
 - a. Mayor's Office
 - b. City Councils
 - c. County Commissioners
 - d. Local school boards

-
- **Sharon Keller**
 - **Bert Richardson**
 - **Scott Walker**
 - **David Newell**

14. Which Texas Court do these members belong?
- a. Supreme Court of Texas
 - b. Texas Court of Criminal Appeals
 - c. Commissioners Court
 - d. District Court



15. Who is this current Texas political leader?
- a. Ken Paxton
 - b. Dan Patrick
 - c. Glenn Hegar
 - d. Sid Miller
16. Which nation heavily influenced culture in early Texas?
- a. Switzerland
 - b. China
 - c. Spain
 - d. India
17. What did the Native Americans use in order to cook their food?
- a. Wood
 - b. Cow dung
 - c. Coal
 - d. Electricity
18. Where did the Native Americans take the Coronado force with stories of multi-storied stone houses and people who wear cotton cloaks?
- a. El Paso
 - b. Los Adaes
 - c. San Francisco de los Tejas
 - d. Quivira
19. Who did Coronado put in command of the rest of the force so as to prevent the loss of men due to the lack of corn and water?
- a. Bernardo de Galvez
 - b. Juan de Onate
 - c. Don Tristan de Arellano
 - d. Francisco Pizarro

- **Do not plant**
- **Eat raw flesh of cows**
- **Little field tents of cows**
- **Dress with cow hides**

20. Which group of Native Americans fits this description?
- | | |
|---------------|-------------|
| a. Querechos | c. Caddo |
| b. Karankawas | d. Comanche |
21. When did Governor Panfilo de Narvaez depart from the port of San Lucar de Barrameda with his fleet of five vessels?
- | | |
|------------------|-----------------|
| a. June 27, 1527 | c. July 3, 1776 |
| b. May 14, 1620 | d. June 6, 1624 |
22. Who was sent by De Vaca to climb to the top of some nearby trees and examine the surroundings?
- | | |
|--------------------|---------------------|
| a. Alonso Enriquez | c. Fray Juan Suarez |
| b. Juan Seguin | d. Lope de Oviedo |
23. Where did the explorers find Native Americans who had the under lip perforated and a piece of cane in it as thin as the half of a finger?
- | | |
|--------------|-----------------------|
| a. Apalachen | c. Island of Ill-Fate |
| b. Santiago | d. Vera Cruz |
24. Why did De Vaca stay so long in this country while suffering from hunger, storms and frost?
- | |
|--|
| a. He was too weak to leave |
| b. He wanted to take with him another member of the expedition called Lope de Oviedo |
| c. He was trying to Christianize the Native Americans |
| d. He was making too much money |
25. What is an economic system in which nations increase their wealth and power by obtaining gold and silver and by establishing a favorable balance of trade?
- | | |
|-----------------|-----------------|
| a. Imperialism | c. Assimilation |
| b. Mercantilism | d. Nationalism |
26. Where is the oldest permanent European settlement in the United States?
- | | |
|----------------|------------------|
| a. New Orleans | c. New York |
| b. Savannah | d. San Augustine |

- **Lack of economic opportunity**
- **Stories of gold mines**
- **Escape religious persecution**

27. These were some of the reasons that early _____ colonists had for coming to the Americas.
- | | |
|------------|-----------|
| a. English | c. France |
| b. Germany | d. Russia |

The Fundamental Orders of Connecticut contains a preamble and a set of laws.

28. What is a preamble?
- | | |
|---------------------|-----------------|
| a. Amending process | c. Introduction |
| b. Articles | d. Conclusion |
29. Where did the House of Burgesses meet in 1619?
- | | |
|-------------|-----------------|
| a. New York | c. Pennsylvania |
| b. Texas | d. Virginia |
30. Which colonial region had a warm climate, good soil and plantations?
- | | |
|----------------------|--------------------|
| a. New England | c. Middle Colonies |
| b. Southern Colonies | d. Backcountry |
31. Because rough roads and rivers made it almost impossible to move goods, what colonial region learned very quickly to depend on themselves?
- | | |
|--------------------|----------------------|
| a. Backcountry | c. New England |
| b. Middle Colonies | d. Southern Colonies |

- **Competition encourages businesses to improve goods and services and to keep prices down**
- **Property is owned by individuals and businesses**
- **The desire to make a profit motivates businesspeople**
- **Individuals, not the government, decide what to buy and what to manufacture and sell**
- **The government protects private property and makes sure businesses operate fairly**

32. Which system do these factors best describe?
- | | |
|--------------------|---------------------------|
| a. American system | c. Free enterprise system |
| b. Factory system | d. Convoy system |
33. _____ were a series of essays defending and explaining the Constitution.
- | | |
|----------------------|------------------------------|
| a. Homestead Act | c. Articles of Confederation |
| b. Federalist Papers | d. Anaconda Plan |

34. Because the Pilgrims landed outside the limits of the Virginia Company, their charter did not apply. What document was signed for the sake of order?
- a. Roosevelt Corollary
 - b. Proclamation of 1763
 - c. Social Gospel
 - d. Mayflower Compact
35. Which Amendment to the Constitution protects the right of the people to keep and bear arms?
- a. 1
 - b. 3
 - c. 2
 - d. 4
-

No person shall be deprived of life, liberty or property without due process of law- United States Constitution

36. What is due process of law?
- a. Fair treatment under the law
 - b. Money paid as security by arrested persons to guarantee they will return for trial
 - c. A system of law developed in England, based on customs and previous court decisions
 - d. A written statement issued by a grand jury charging a person with a crime
37. _____ is the oldest of the major monotheistic religions.
- a. Buddhism
 - b. Baptist
 - c. Hinduism
 - d. Judaism
38. What is a major responsibility of democratic citizenship?
- a. Speak freely
 - b. Voting
 - c. Assemble peacefully
 - d. Freedom of press
39. Where is the home of the world's first democratic constitution?
- a. Sparta
 - b. London
 - c. Athens
 - d. Madrid
40. Which organization has helped nations like Ireland to market its products throughout Europe?
- a. European Union
 - b. North American Free Trade Agreement
 - c. Organization of Petroleum Exporting Countries
 - d. North Atlantic Treaty Organization

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-20 A+ SOCIAL STUDIES
FALL/WINTER TEST — GRADES 7 & 8**

Answer Key

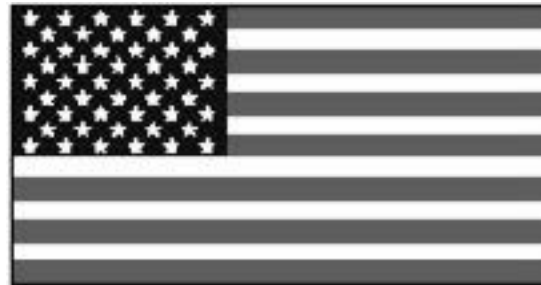
- | | |
|-------|-------|
| 1. B | 21. A |
| 2. C | 22. D |
| 3. D | 23. C |
| 4. A | 24. B |
| 5. C | 25. B |
| 6. B | 26. D |
| 7. A | 27. A |
| 8. D | 28. C |
| 9. A | 29. D |
| 10. C | 30. B |
| 11. B | 31. A |
| 12. D | 32. C |
| 13. D | 33. B |
| 14. B | 34. D |
| 15. A | 35. C |
| 16. C | 36. A |
| 17. B | 37. D |
| 18. D | 38. B |
| 19. C | 39. C |
| 20. A | 40. A |

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Social Studies

grades 7 & 8

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-20 A+ SOCIAL STUDIES
SPRING TEST — GRADES 7 & 8**

- | |
|--|
| <ul style="list-style-type: none">• Apaches• Comanches• Kiowas |
|--|

1. What Native Texan culture included these groups?
 - a. Puebloan
 - b. Plains
 - c. Gulf
 - d. Southeastern

2. Which group of Native Texans coated their bodies with alligator or shark grease to cope with swarms of mosquitoes?
 - a. Caddoes
 - b. Tiguas
 - c. Tonkawas
 - d. Karankawas

3. What animal did Native Texans domesticate to drag their belongings from one place to another?
 - a. Goats
 - b. Sheep
 - c. Dogs
 - d. Cows

4. Who became the first African to explore Texas?
 - a. Estevanico
 - b. Daniel Wallace
 - c. Bose Ikard
 - d. Lawrence Nixon

5. What explorer claimed all the land drained by the Mississippi River and all its branches for France?
 - a. Diego de Penalosa
 - b. Alonso De Leon
 - c. Jean Lafitte
 - d. Rene-Robert Cavelier, Sieur de La Salle

6. _____ was the first mission in East Texas.
 - a. San Xavier
 - b. San Francisco de los Tejas
 - c. San Jose y San Miguel de Aguayo
 - d. Concepcion

7. Who tried to change the Spanish policy of ignoring most of Texas by repeatedly asking Spanish authorities to re-establish the East Texas missions?
 - a. Father Francisco Hldalgo
 - b. Domingo Ramon
 - c. Martin de Alarcon
 - d. Antonio de San Buenaventura y Olivares

8. What are pobladores?
 - a. African American fighter on the frontier
 - b. The owner of property that is leased or rented to another
 - c. Colonists who lived in the towns, or pueblos
 - d. One who moves from place to place with no permanent home

9. Where is the “cradle of Texas ranching” located?
 - a. Area between the San Antonio and Guadalupe Rivers
 - b. Along the Rio Grande
 - c. In the Panhandle of Texas
 - d. On the Gulf Coast



10. Which natural region in Texas contains the subregions: Llano Basin, Edwards Plateau and High Plains?

a. North Central Plains	c. Mountains and Basins
b. Coastal Plains	d. Great Plains

11. _____, with a scenic River Walk and its many theme parks, is an important tourist center.

a. Fort Worth	c. El Paso
b. San Antonio	d. Dallas

12. What area, a park of some 100,000 acres in West Texas, is one of the most popular tourist areas in Texas?
 - a. Big Thicket National Preserve
 - b. Palmetto State Park
 - c. Big Bend National Park
 - d. Sam Houston National Forest

13. Where in Texas do we see German and Czech influences in the place-names, foods and cultural activities?

a. South Texas	c. Central Texas
b. Panhandle	d. East Texas

14. What fund, which receives money from state taxes and investments, provides money to schools?
 - a. Public Works Fund
 - b. Congressional Oversight Fund
 - c. Texas Land Fund
 - d. Permanent School Fund



15. Who is this Texas political leader?
- a. Greg Abbott
 - b. Dan Patrick
 - c. George P. Bush
 - d. Paul Green

- Jeff Brown
- Eva Guzman
- Phil Johnson
- Debra Lehrmann

16. What Texas court do these individuals serve on?
- a. Supreme Court of Texas
 - b. Texas Court of Criminal Appeals
 - c. Commissioners Court
 - d. District Court

17. Where did Governor Narvaez depart from on his voyage to conquer and govern the provinces from the River of the Palms to the Cape of Florida?
- a. Corpus Christi de la Ysleta
 - b. Madrid
 - c. Lisbon
 - d. San Lucar de Barrameda

18. What did members of the Narvaez expedition use to make pouches for carrying water?
- a. Horses legs
 - b. Palmettos
 - c. Cows stomachs
 - d. Deer hides

?			
Guevenes	Deaguanes	Cultalchulches	Iguaces

19. What title finishes the chart?
- a. Rivers crossed by de Vaca
 - b. Islands explored by de Vaca
 - c. Native American tribes encountered by de Vaca
 - d. Chiefs of Native American tribes

20. How much did Mariames men have to pay to buy a wife?
- a. Dozen fish
 - b. Bow with two arrows
 - c. A freshly killed deer
 - d. Ten gold coins
21. What animal's hide provided blankets, shoes and targets for the Native Americans?
- a. Cows
 - b. Horses
 - c. Ducks
 - d. Dogs
22. How were the Native Americans able to drink the juice of the tunas, since vessels were in short supply?
- a. From clay pitchers
 - b. Poured into a pit dug in the soil
 - c. Out of golden chalices
 - d. In pouches made from sheep stomachs
23. What did the explorers use to make the stitches that completed surgery to remove the head of an arrow that was stuck close to a man's heart?
- a. Horse hooves
 - b. Bird legs
 - c. Marsh reeds
 - d. Deer bone
24. Why did Coronado think it would not be advisable to establish a settlement in the area of Texas he explored?
- a. Shallow channel
 - b. Heavily wooded area
 - c. Country was cold and had no wood
 - d. Too hot to grow crops
25. Who, while searching for Asia, landed in Newfoundland, Canada and claimed the land for England?
- a. John Cabot
 - b. Jacques Cartier
 - c. Henry Hudson
 - d. Sir Francis Drake
26. Which colony established by Lord Baltimore in 1632 was for Roman Catholics fleeing persecution in England?
- a. Virginia
 - b. Maryland
 - c. Carolinas
 - d. Maine

European Exploration of the Americas

Causes:

National competition

Desire for wealth

Spread Christianity

Effects:

Destruction of Aztec and Incan Empires

?

European colonies in the Americas

27. What effect finishes the chart?

- a. Temperance Movement
- b. Transcontinental Railroad
- c. Federalism
- d. The Columbian Exchange

28. The _____, created in 1619, became the first representative assembly in the American colonies.

- a. Parliament
- b. Duma
- c. House of Burgesses
- d. General Assembly

29. Which colonial region had shorter winters, fertile soil and attracted European immigrants?

- a. Southern Colonies
- b. Backcountry
- c. New England
- d. Middle Colonies

30. Because of their nearly year-round growing season, which colonial region produced cash crops of tobacco and rice?

- a. Southern Colonies
- b. New England
- c. Backcountry
- d. Middle Colonies

31. What is the free enterprise system?

- a. Economic, social and political system based on the teachings of Karl Marx, which advocated the elimination of private property
- b. Economic system in which many businesses are owned and run by the government
- c. Economic system that operates on free competition, in which people start and own businesses with limited government intervention
- d. Form of government in which citizens choose the nation's leaders by voting for them

32. Which document, that guaranteed basic political rights in England, was approved by King John in 1215?

- a. Mayflower Compact
- b. Magna Carta
- c. Doctrine of Nullification
- d. Articles of Confederation

33. Why did the Antifederalists oppose the new U. S. Constitution?

- a. Thought it took too much power away from the states and did not guarantee rights for the people
- b. Power is shared between the central government and the states
- c. Series of laws that reduced the political power of recent immigrants to the United States
- d. Created a court system and gave the Supreme Court six members

No soldier shall, in time of peace be quartered, in any house, without the consent of the owner, nor in time of war, but in a manner to be prescribed by law. U.S. Constitution

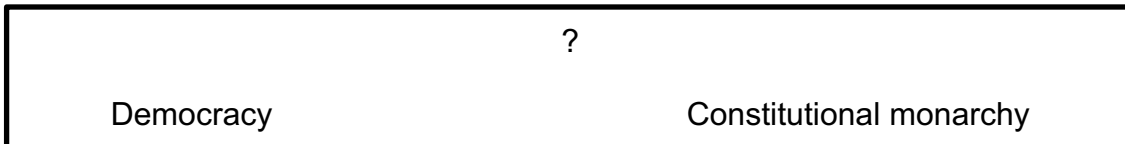
34. What does quartered mean?
- a. Required men to serve in the military
 - b. Given a place to stay
 - c. To call together
 - d. No longer in force

“You have the right to remain silent.

Anything that you say can and will be used against you in a court of law.

You have the right to an attorney.”

35. Which Amendment to the U.S. Constitution protects these rights?
- a. 1
 - b. 7
 - c. 9
 - d. 5



36. Which title finishes the chart?
- a. Unlimited government
 - b. Free enterprise
 - c. Limited government
 - d. Languages

37. What is NOT a right guaranteed to you by law?
- a. Peaceful assembly
 - b. Serving in the military
 - c. Speak freely
 - d. Freedom of press

38. Many Indian products are manufactured in cottage industries. What are cottage industries?
- a. Industry that produces goods such as machinery, mining equipment and steel
 - b. Industry that produces computers and other kinds of electronic equipment
 - c. Industry that produces goods such as clothing, shoes, furniture and house-hold products
 - d. A home- or village-based industry in which family members, including children, supply their own equipment to make goods

39. Which continent, through its traditions and institutions, gave rise to the United States government, economic system and social system?
- a. Asia
 - b. Africa
 - c. Europe
 - d. Antarctica

40. What has helped the United States become a world leader in satellites, computers, health care and many other fields?
- a. Quality schools
 - b. Extreme weather
 - c. Increased pollution
 - d. Lack of infrastructure

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2019-20 A+ SOCIAL STUDIES
SPRING TEST — GRADES 7 & 8**

Answer Key

- | | |
|-------|-------|
| 1. B | 21. A |
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| 4. A | 24. C |
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| 12. C | 32. B |
| 13. C | 33. A |
| 14. D | 34. B |
| 15. B | 35. D |
| 16. A | 36. C |
| 17. D | 37. B |
| 18. A | 38. D |
| 19. C | 39. C |
| 20. B | 40. A |