

2024-2025

**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 (grades 6-8)
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:

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

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.

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. _____

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 & Principles

Art History

- 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. True False
- 12. True False
- 13. True False
- 14. True False
- 15. True False

- 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
- 21. A B C D
- 22. A B C D
- 23. A B C D
- 24. A B C D
- 25. A B C D
- 26. True False
- 27. True False
- 28. True False
- 29. True False
- 30. True False

Art Practice Test- Grades 7-8
Art Elements and Principles Section

1. What distinguishes abstract art from other art forms?

- a) Its functional role in religious ceremonies, rituals, and places of worship.
- b) Its borrowing of images from popular culture, like that of celebrities and advertisements
- c) The emphasis on colors, shapes, lines, and forms to express emotions and ideas.
- d) Its use of collage, which does not exist in representational art

2. In a black and white photograph, what kind of colors are present?

- a) Neutral colors
- b) Warm colors
- c) cool colors
- d) Primary colors

3. Which of the following elements is most likely to appear in the foreground of a landscape painting?

- a) The sun or moon
- b) Colorful flowers or plants
- c) Distant mountains or trees
- d) A faraway castle or palace atop a hill

4. When talking about an artwork, composition refers to

- a) the range of colors that the artist used.
- b) the way the elements work together to create a unified whole.
- c) emotions and feelings expressed by the artist.
- d) The size and weight of the canvas.

5. When complementary colors are placed next to each other in an artwork,

- a) they look gray from far away.
- b) they intensify each other and make the colors appear brighter.
- c) they create an optical illusion of the painting floating in midair.
- a) they make the painting heavier and more difficult to carry.

6. What are secondary colors?

- a) Colors like black, white, gray, and beige
- b) Colors obtained by blending primary colors
- c) Colors made by mixing complementary pairs of colors
- d) Colors used only by Modern and Contemporary artists

7. What is the primary difference between shape and form in art?

- a) Shape is two-dimensional, while form is three-dimensional.
- b) Shape is abstract, while form is representational.
- c) Shapes have depth and volume, while forms are flat.
- d) Painters need to study shapes, but not forms.

8. What feeling or emotion do curved lines typically convey in a painting?

- a) Strength and order
- b) Tension and instability
- c) Sudden and rapid change
- d) Grace, gentleness, and fluidity

9. What does rhythm add to a painting?
- a) The feeling of movement and flow
 - b) The illusion of three-dimensional space
 - c) The sound of music
 - d) A more accurate and realistic appearance

10. Which of the following would be an example of chiaroscuro?
- a) A painting with multiple points of view
 - b) A painting with bright and bold colors in a chaotic composition
 - c) A painting with strong contrasts between light and shadow to create a dramatic effect
 - d) A painting with soft and delicate brushstrokes and blended colors

True/False

11. Teal and aqua are examples of cool colors.
12. When talking about painting, “texture” can refer to the actual artwork’s surface, not just the perceived texture of the painted objects.
13. An artist's “oeuvre” typically includes only their most famous or well-known works.
14. Mixing yellow and purple makes orange.
15. The “mood” of an artwork is mainly conveyed through the facial expressions and body language of the depicted subjects.

Art History Section

16. What is the *Young Girl Plucking a Duck* primarily about?
- a) A young girl's realization of her beauty
 - b) A young person's confrontation with death
 - c) A girl's passion for cooking and food
 - d) A duck hunting expedition

17. The Renaissance period is known as a “rebirth” of which cultural influences?
- a) Ancient Egyptian and Mesopotamian
 - b) Medieval European
 - c) Eastern Orthodox
 - d) Classical Greek and Roman

18. What does *Composition with Large Blue Plane, Red, Black, Yellow, Gray* represent?
- a) A crowded marketplace filled with people
 - b) The chaos and trauma of World War I
 - c) The underlying order of the world
 - d) Nothing, it is purely abstract

19. *Banquet Still Life with Roses* reminds viewers to
- a) embrace the joy of parties and celebrations.
 - b) treasure the beauty of flowers and nature.
 - c) Appreciate the impermanence of life and cherish moments.
 - d) Value the abundance of food and luxury.

20. The Impressionists were known for capturing
- a) multiple angles of a subject simultaneously .
 - b) the idealized and timeless beauty of gods and goddesses.
 - c) the subconscious mind and dream worlds
 - d) the changing effects of natural light.

21. How does Kandinsky's *Improvisation 31 (Sea Battle)* appear at first glance?
- a) Abstract
 - b) Surreal and dreamlike
 - c) Violent and dark
 - d) Dull and colorless

22. During the Baroque period in the Netherlands, artists like Johannes Vermeer and Judith Leyster were known for painting

- a) Enormous religious frescoes to adorn grand Cathedrals
- b) Genre paintings, still lifes, and landscapes
- c) Cubist works
- d) Portraits of nobility

23. The portrait *Woman Holding an Apple* appears extremely lifelike when

- a) viewed from afar.
- b) viewed under dim lighting.
- c) viewed through a magnifying glass.
- d) viewed sideways.

24. What object does Romare Bearden use to symbolize the Great Migration and Underground Railroad in *Tomorrow I May Be Far Away*?

- a) A train
- b) A map of the United States
- c) A white dove
- d) A red apple

25. How does Alice Neel's approach to painting portraits differ from Renaissance artists?

- a) Neel painted with well-blended brushstrokes, while Renaissance artists used loose and expressive lines.
- b) Neel's portraits were often formal in their composition, while Renaissance portraits tended to feel intimate and spontaneous.
- c) Neel captured the subject's external beauty, while Renaissance artists captured their humanity and inner emotions.
- d) Neel's approach to portraits was more about revealing the subject's true character and personality, while Renaissance artists aimed for a more idealized representation.

True/False

26. Regionalist paintings primarily showcased scenes from European cities and cultures and were highly sought after by middle-class citizens during the Dutch Golden Age.

27. During the Contemporary period, many artists settled in New York, making the city a cultural center.

28. Only those of extreme wealth and nobility had a chance to model for Caravaggio.

29. Diego Rivera painted Delfina Flores several times throughout her life, capturing her growth and development as she aged.

30. The girls in Edvard Munch's *Girls on the Pier* are smiling out at the viewer.

Art Practice Test- Grades 7-8

Key

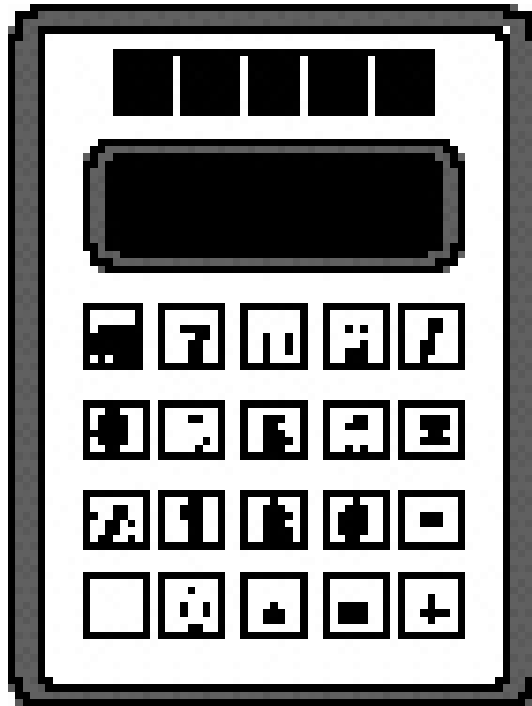
1. C
2. A
3. B
4. B
5. B
6. B
7. A
8. D
9. A
10. C
11. A
12. A
13. B
14. B
15. B
16. B
17. D
18. C
19. C
20. D
21. A
22. B
23. A
24. A
25. D
26. B
27. A
28. B
29. A
30. B

INVITATIONAL 2023-2024

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

2023 – 2024 UIL MS Calculator Test A

24A-1. $-5410 - 7000$ ----- 1= _____

24A-2. $77 - 8 - 10$ ----- 2= _____

24A-3. $81 + 553 + 379$ ----- 3= _____

24A-4. $39 - 41 - 22 - 31$ ----- 4= _____

24A-5. $2510 - 7510 - 7260 - 3740$ ----- 5= _____

24A-6. $355 - 88.9 - 505 - 211 + 487$ ----- 6= _____

24A-7. $4.38 - 0.983 + 2.5 - 6.24 - 2.61$ ----- 7= _____

24A-8. $1.68 + 0.626 + 1.24 + 2.32 + 0.592$ ----- 8= _____

24A-9. $568 \times 414 \times 662$ ----- 9= _____

24A-10. $40.9 \times 70.2 \times 292 \times 20.4$ ----- 10= _____

24A-11. Twenty-four point eight added to sixteen and one-third equals what number?----- 11= _____

24A-12. Two pi minus the positive square root of 10.5 equals a number. What is the number? ----- 12= _____

24A-13. A bin containing mixed taffy candy had an advertised price for the candy, of \$5.99 per pound. If the scale that weighed the candy I bought reads 2.18 pounds, how much did the candy cost excluding the state sales tax? ----- 13=\$ _____

24A-14. $(503)[651 \times 212/297]$ ----- 14= _____

24A-15. $(53/269)[390 - 411]$ ----- 15= _____

24A-16. $\left[\frac{194}{211}\right][((123/182) - 0.377)]$ ----- 16= _____

24A-17. $(465 + 523)[410 - 200 - 598]$ ----- 17= _____

24A-18. $\frac{(503/474) + (354/88)}{(0.0119 - 0.00498)}$ ----- 18= _____

24A-19. $\left[\frac{52/132}{331/138}\right] \{0.0024 + 0.003 - 0.00514\}$ ----- 19= _____

24A-20. $\frac{327}{(83 - 362)} - \frac{(150 - 206)}{250}$ ----- 20= _____

24A-21. $\frac{0.00508 + 0.00443 + 0.00495}{(0.00115)(3.75 \times 10^{-4})(3.73 \times 10^{-5})}$ ----- 21= _____

24A-22. $\left[\frac{1520 + 1610}{1470 - 2030}\right] \left[\frac{4010}{4100}\right]$ ----- 22= _____

24A-23. $\frac{(2530 \times 3130)/1260}{(3450 \times 5.58 \times 10^{-5}) + 0.0819}$ ----- 23= _____

24A-24. If Texas was granted statehood in 1845, for how many years has Texas been a state by 2023? ----- 24= _____ yrs (integer)

24A-25. The distance from Harlingen to Austin is 326.1 miles, via US 77 North and Interstate 37 North. How long does it take to drive that distance if I drive an average of 61 miles per hour? ----- 25= _____ hrs

24A-26. If ticket prices at a Texas Rangers baseball game are starting at \$17 and premium tickets cost \$906, how much does it cost to buy five of the cheaper tickets plus three premium tickets including a state sales tax of 8½%? ----- 26=\$ _____

24A-27. $(14.5)[(0.0341/0.0178)(0.128 + 0.184)]$ ----- 27= _____

24A-28. $\frac{(7.35 + 7.31)(101 + 36)}{(2.94 \times 10^{10})}$ ----- 28= _____

24A-29. $(0.556)[(477/467)(359/247)]$ ----- 29= _____

24A-30. $(1.48)[(7.87 \times 10^{10}) - (3.38 \times 10^{10})]$ ----- 30= _____

24A-31. $(0.00775) \left[\frac{0.00212}{(5.69 \times 10^9)} \right]$ ----- 31= _____

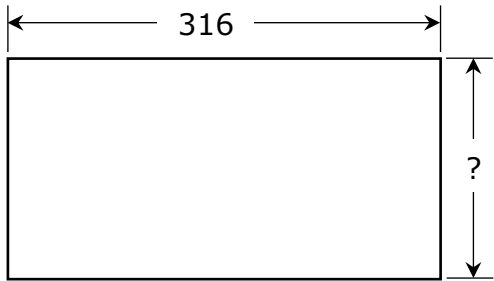
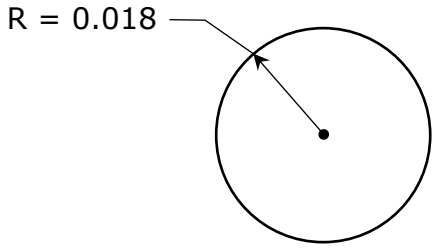
24A-32. $\frac{(0.438 + 0.318)}{(6.94 \times 10^{12})}$ ----- 32= _____

24A-33. $\frac{1}{642} - \frac{1}{(691 + 174)}$ ----- 33= _____

24A-34. $1/(0.782 - 0.393) - 1/(0.367)$ ----- 34= _____

24A-35. In a black bag there are 18 blue, 21 green, 11 yellow and 19 red marbles. What is the probability of randomly picking a red one? 35= _____

24A-36. It took 5 minutes and 23 seconds to drain one pint of blood from my arm during my blood donation. At what rate was the blood draining out of my arm? ----- 36= _____ oz/min

<p>24A-37.</p> <p style="text-align: center;">RECTANGLE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Rectangle Area = 66500</p> <p>24A-37= _____</p>	<p>24A-38.</p> <p style="text-align: center;">CIRCLE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Circumference = ?</p> <p>24A-38= _____</p>
---	--

24A-39. $\sqrt{\frac{1.2 + 1.15}{227 - 137}}$ ----- 39= _____

24A-40. $\frac{(11300 + 11200)^3}{(0.137 - 0.0487)^2}$ ----- 40= _____

24A-41. $(2.91 + 1.01)^2(0.614 + 0.601)^2$ ----- 41= _____

24A-42. $\sqrt{388} + \sqrt{384 + 257} - (\pi)\sqrt{55.8}$ ----- 42= _____

24A-43. $\sqrt{(65/410) + 0.146 - 0.0888}$ ----- 43= _____

24A-44. $(1/\pi)\sqrt[4]{\frac{0.00325 + 0.00295}{0.229 - 0.0641}}$ ----- 44= _____

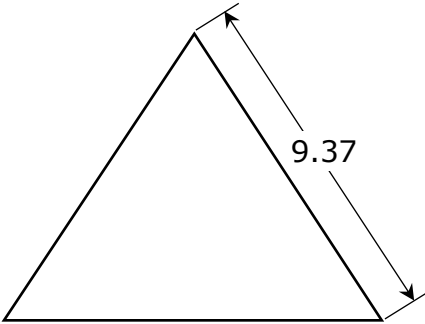
24A-45. $\frac{1}{\sqrt{1480 + 3060 + 1490}} + \left(\frac{1}{\sqrt{6.15}}\right)^4$ ----- 45= _____

24A-46. $(129)\sqrt{77900 + 53500 - 49000}$ ----- 46= _____

24A-47. If an oatmeal raisin cookie recipe calls for 1½ teaspoons of ground cinnamon and makes 28 cookies, how many teaspoons (tsp) of ground cinnamon are needed to make 100 cookies? ----- 47= _____ tsp

24A-48. Noah walked 100 ft due north, stopped and then walked due west to a spot where he picked up a dollar bill on the ground. He then walked straight back 130 ft to where he started from. How far did Noah walk due west? ----- 48= _____ ft

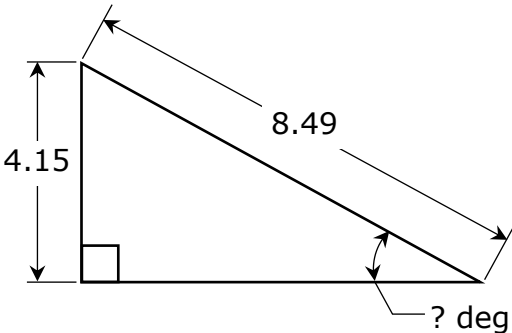
24A-49. EQUILATERAL TRIANGLE



Area = ?

24A-49= _____

24A-50. RIGHT TRIANGLE



? deg

24A-50= _____

24A-51. $\left[\frac{9.91 + 13.4 + \sqrt{131 + 396}}{22.5/23.3} \right]^3$ ----- 51= _____

24A-52. $\frac{(7490 + 8700 - 5710)^4}{\sqrt{24000 + 14000 + 15000}}$ ----- 52= _____

24A-53. $\frac{\sqrt{1.83 + \pi + 2.89}}{(33 - 29.2 + 21.8)^3}$ ----- 53= _____

24A-54. $\sqrt{\frac{(8.01 \times 10^5)(1.72 \times 10^5)}{(9200)(3.09 \times 10^5)}} - 1.85 + 2.34$ ----- 54= _____

24A-55. $(540)^2 \sqrt{(2.89)/(50.7)} - (22400 + 29800)$ ----- 55= _____

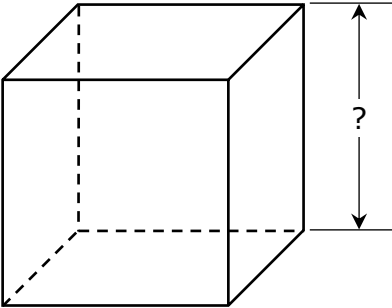
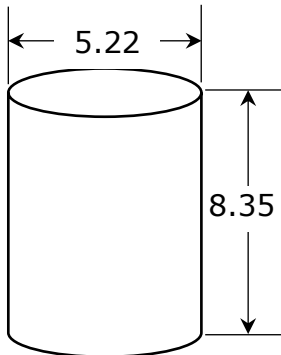
24A-56. $\sqrt{\frac{1/(275 - 149)}{(52.1)(3.71 + 6.09)^5}}$ ----- 56= _____

24A-57. $\sqrt{\frac{(124)(108)}{(1450) + (5420)}} - 1.5$ ----- 57= _____

24A-58. $(\text{deg}) \tan(240^\circ) + (608/1710)$ ----- 58= _____

24A-59. Body mass index (BMI) is a person's "weight", in kilograms, divided by the square of height in meters. If Mike weighs 104.5 kilograms and is 1.918 meters tall, what is Mike's BMI?----- 59= _____ Kg/m²

24A-60. The turning force (centripetal force), acting on a object to make an object turn can be defined as the product of the mass of an object by the ratio of its speed squared to the radius of the circle turned. If the mass of an object is in kilograms, its speed is in meters/second and the radius of the circle turned is in meters, then the units of centripetal force are in Newtons (N). What is the centripetal force acting on Mackenzie, whose mass is 38.2 kilograms, and is moving in a circle of radius 25 meters with a speed of 15 meters/second?----- 60= _____ N

<p>24A-61.</p> <p style="text-align: center;">SOLID CUBE</p>  <p style="text-align: center;">Surface Area = 0.00832</p> <p>24A-61= _____</p>	<p>24A-62.</p> <p style="text-align: center;">RIGHT CYLINDER</p>  <p style="text-align: center;">Volume = ?</p> <p>24A-62= _____</p>
---	---

24A-63. $\frac{14! + 16!}{19!}$ ----- 63= _____

24A-64. (deg) $(171 - 240)\tan(92.3^\circ)$ ----- 64= _____

24A-65. (deg) $(3760 + 2960)\sin(4.1^\circ)$ ----- 65= _____

24A-66. (rad) $\sin\left[\frac{(69.9)(\pi)}{(2.03)(120)}\right]$ ----- 66= _____

24A-67. (rad) $\frac{\tan(32.8)}{243/347}$ ----- 67= _____

24A-68. (rad) $\cos[(2.21 - 1.21)(17.8)]$ ----- 68= _____

24A-69. (deg) $\frac{\sin(4.41^\circ) - \tan(4.41^\circ)}{\sin(4.41^\circ)}$ ----- 69= _____

24A-70. $(113 + 211 + 89.7)^{3/5}$ ----- 70= _____

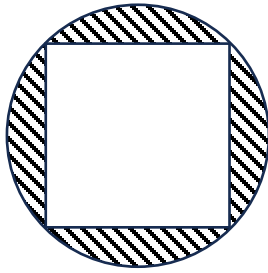
24A-71. How much water is in a pipe that is one inch in inside diameter and $\frac{1}{4}$ mile long? (Recall $231 \text{ in}^3 = 1 \text{ gallon.}$) ----- 71= _____ gal

24A-72. Dan guessed that a board was 3 ft long. The board's length is actually 40 inches long. What is the percent error in Dans guess? --- 72= _____ %

24A-73.

SQUARE AND CIRCLE

Square Area
= 100

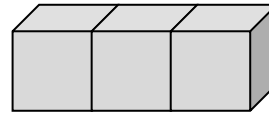


Shaded Area = ?

24A-73= _____

24A-74.

IDENTICAL CUBES



Exposed Surface Area = 100

Total Volume = ?

24A-74= _____

24A-75. $\ln\left[\frac{104 + 44.2 + 197}{463 + 415 - 301}\right]$ ----- 75= _____

24A-76. $\frac{(27.2)^{0.652}(0.517)^{0.731}}{(8.26 - 6.52)^{-11}}$ ----- 76= _____

24A-77. $(41100)_{10}^{(0.371)(6.7)}$ ----- 77= _____

24A-78. $\frac{\text{Log}[584 + (6.46)(112)]}{1.83 + \text{Log}[3400 + 6340]}$ ----- 78= _____

24A-79. $1 + 2 + 3 + \dots + 843$ ----- 79= _____

24A-80. $\frac{1}{(0.75)} + \frac{1}{3(0.75)^3} + \frac{1}{5(0.75)^5} + \frac{1}{7(0.75)^7}$ ----- 80= _____

2023 – 2024 UIL MS Calculator Test A Answer Key

$$\begin{aligned} 24A-1 &= -12400 \\ &= -1.24 \times 10^4 \end{aligned}$$

$$\begin{aligned} 24A-2 &= 59.0 \\ &= 5.90 \times 10^1 \end{aligned}$$

$$\begin{aligned} 24A-3 &= 1010 \\ &= 1.01 \times 10^3 \end{aligned}$$

$$\begin{aligned} 24A-4 &= -55.0 \\ &= -5.50 \times 10^1 \end{aligned}$$

$$\begin{aligned} 24A-5 &= -16000 \\ &= -1.60 \times 10^4 \end{aligned}$$

$$\begin{aligned} 24A-6 &= 37.0 \\ &= 3.70 \times 10^1 \end{aligned}$$

$$\begin{aligned} 24A-7 &= -2.95 \\ &= -2.95 \times 10^0 \end{aligned}$$

$$\begin{aligned} 24A-8 &= 6.46 \\ &= 6.46 \times 10^0 \end{aligned}$$

$$24A-9 = 1.56 \times 10^8$$

$$24A-10 = 1.71 \times 10^7$$

$$\begin{aligned} 24A-11 &= 41.1 \\ &= 4.11 \times 10^1 \end{aligned}$$

$$\begin{aligned} 24A-12 &= 3.04 \\ &= 3.04 \times 10^0 \end{aligned}$$

$$\begin{aligned} 24A-13 &= 13.06 \\ &\text{Dollar Answer} \end{aligned}$$

$$\begin{aligned} 24A-14 &= 234000 \\ &= 2.34 \times 10^5 \end{aligned}$$

$$\begin{aligned} 24A-15 &= -4.14 \\ &= -4.14 \times 10^0 \end{aligned}$$

$$\begin{aligned} 24A-16 &= 0.275 \\ &= 2.75 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 24A-17 &= -383000 \\ &= -3.83 \times 10^5 \end{aligned}$$

$$\begin{aligned} 24A-18 &= 735 \\ &= 7.35 \times 10^2 \end{aligned}$$

$$24A-19 = 4.27 \times 10^{-5}$$

$$\begin{aligned} 24A-20 &= -0.948 \\ &= -9.48 \times 10^{-1} \end{aligned}$$

$$24A-21 = 8.99 \times 10^8$$

$$\begin{aligned} 24A-22 &= -5.47 \\ &= -5.47 \times 10^0 \end{aligned}$$

$$\begin{aligned} 24A-23 &= 22900 \\ &= 2.29 \times 10^4 \end{aligned}$$

$$\begin{aligned} 24A-24 &= 178 \\ &\text{Integer Answer} \end{aligned}$$

$$\begin{aligned} 24A-25 &= 5.35 \\ &= 5.35 \times 10^0 \end{aligned}$$

$$\begin{aligned} 24A-26 &= 3041.26 \\ &\text{Dollar Answer} \end{aligned}$$

$$\begin{aligned} 24A-27 &= 8.67 \\ &= 8.67 \times 10^0 \end{aligned}$$

$$24A-28 = 6.83 \times 10^{-8}$$

$$\begin{aligned} 24A-29 &= 0.825 \\ &= 8.25 \times 10^{-1} \end{aligned}$$

$$24A-30 = 6.65 \times 10^{10}$$

$$24A-31 = 2.89 \times 10^{-15}$$

$$24A-32 = 1.09 \times 10^{-13}$$

$$\begin{aligned} 24A-33 &= 0.000402 \\ &= 4.02 \times 10^{-4} \end{aligned}$$

$$\begin{aligned} 24A-34 &= -0.154 \\ &= -1.54 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 24A-35 &= 0.275 \\ &= 2.75 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 24A-36 &= 2.97 \\ &= 2.97 \times 10^0 \end{aligned}$$

$$\begin{aligned} 24A-37 &= 210 \\ &= 2.10 \times 10^2 \end{aligned}$$

$$\begin{aligned} 24A-38 &= 1.13 \\ &= 1.13 \times 10^0 \end{aligned}$$

2023 – 2024 UIL MS Calculator Test A Answer Key

$$24A-39 = 0.162 \\ = 1.62 \times 10^{-1}$$

$$24A-40 = 1.46 \times 10^{15}$$

$$24A-41 = 22.7 \\ = 2.27 \times 10^1$$

$$24A-42 = 21.5 \\ = 2.15 \times 10^1$$

$$24A-43 = 0.464 \\ = 4.64 \times 10^{-1}$$

$$24A-44 = 0.140 \\ = 1.40 \times 10^{-1}$$

$$24A-45 = 0.0393 \\ = 3.93 \times 10^{-2}$$

$$24A-46 = 37000 \\ = 3.70 \times 10^4$$

$$24A-47 = 5.36 \\ = 5.36 \times 10^0$$

$$24A-48 = 83.1 \\ = 8.31 \times 10^1$$

$$24A-49 = 38.0 \\ = 3.80 \times 10^1$$

$$24A-50 = 29.3 \\ = 2.93 \times 10^1$$

$$24A-51 = 110000 \\ = 1.10 \times 10^5$$

$$24A-52 = 5.24 \times 10^{13}$$

$$24A-53 = 0.000167 \\ = 1.67 \times 10^{-4}$$

$$24A-54 = 7.45 \\ = 7.45 \times 10^0$$

$$24A-55 = 17400 \\ = 1.74 \times 10^4$$

$$24A-56 = 4.11 \times 10^{-5}$$

$$24A-57 = -0.104 \\ = -1.04 \times 10^{-1}$$

$$24A-58 = 2.09 \\ = 2.09 \times 10^0$$

$$24A-59 = 28.4 \\ = 2.84 \times 10^1$$

$$24A-60 = 344 \\ = 3.44 \times 10^2$$

$$24A-61 = 0.0372 \\ = 3.72 \times 10^{-2}$$

$$24A-62 = 179 \\ = 1.79 \times 10^2$$

$$24A-63 = 0.000173 \\ = 1.73 \times 10^{-4}$$

$$24A-64 = 1720 \\ = 1.72 \times 10^3$$

$$24A-65 = 480 \\ = 4.80 \times 10^2$$

$$24A-66 = 0.784 \\ = 7.84 \times 10^{-1}$$

$$24A-67 = 7.56 \\ = 7.56 \times 10^0$$

$$24A-68 = 0.498 \\ = 4.98 \times 10^{-1}$$

$$24A-69 = -0.00297 \\ = -2.97 \times 10^{-3}$$

$$24A-70 = 37.2 \\ = 3.72 \times 10^1$$

$$24A-71 = 53.9 \\ = 5.39 \times 10^1$$

$$24A-72 = -10.0 \\ = -1.00 \times 10^1$$

$$24A-73 = 57.1 \\ = 5.71 \times 10^1$$

$$24A-74 = 57.3 \\ = 5.73 \times 10^1$$

$$24A-75 = -0.514 \\ = -5.14 \times 10^{-1}$$

$$24A-76 = 2350 \\ = 2.35 \times 10^3$$

$$24A-77 = 1.26 \times 10^7$$

$$24A-78 = 0.536 \\ = 5.36 \times 10^{-1}$$

$$24A-79 = 356000 \\ = 3.56 \times 10^5$$

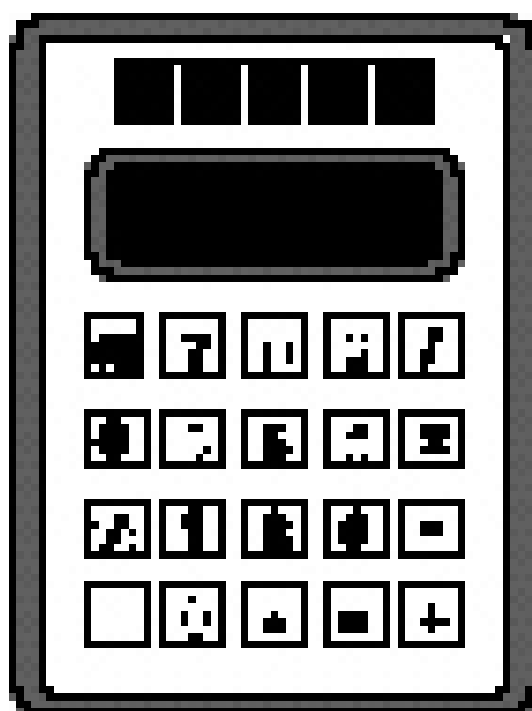
$$24A-80 = 4.04 \\ = 4.04 \times 10^0$$

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

2023 – 2024 UIL MS Calculator Test B

24B-1. $3880 - 3520$ ----- 1= _____

24B-2. $32 - 21 + 51$ ----- 2= _____

24B-3. $3.9 + 18.2 + \pi$ ----- 3= _____

24B-4. $42 - 81 - 76 - 26$ ----- 4= _____

24B-5. $-101 - 304 - 345 + 220$ ----- 5= _____

24B-6. $-213 - 375 - 518 + 206 + 331$ ----- 6= _____

24B-7. $(-0.594 + 1.12 - 1.24) - (1.14 + 0.587)$ ----- 7= _____

24B-8. $(-2.93 - 0.749) + (1.12 - 0.719 - 0.997)$ ----- 8= _____

24B-9. $157 \times 128 \times 21$ ----- 9= _____

24B-10. $2950 \times 2660 \times 217 \times 5820$ ----- 10= _____

24B-11. What is the product of nine and two-thirds and the negative square root of sixty-nine? ----- 11= _____

24B-12. What is the sum of the number of days in the months of September, March, and October? ----- 12= _____ days (Integer)

24B-13. A take-out menu for barbeque listed a brisket sandwich for \$11.65, a French-fry basket for \$5.65, a bowl of pinto beans for \$2.95, a bowl of corn for \$2.25, a Texas Pecan Pie dessert for \$4.95 and a soft drink for \$2. If Andy ordered one of each item listed, how much did he pay for all these items, excluding state sales tax? ----- 13=\$ _____

24B-14. $(155)[140 \times 121/181]$ ----- 14= _____

24B-15. $(373/285)[602 - 616]$ ----- 15= _____

24B-16. $\{(55)(29 - 40)(112)\} - 31600$ ----- 16= _____

24B-17. $\left[\frac{117}{145}\right] [(128/34) + 2.6]$ ----- 17= _____

24B-18. $\left[\frac{(2100/2410) - (2130/3750)}{30.4/12.1}\right]$ ----- 18= _____

24B-19. $\frac{[0.00377/(0.00414)]/0.0209}{(0.00171 \times 0.00155)(0.00837)}$ ----- 19= _____

24B-20. $(0.00647)[93/133 \times 99/128] - 5.61 \times 10^{-4}$ ----- 20= _____

24B-21. $\frac{5470 + 1790 + 4610}{(11.5)(0.00934)(48.8)}$ ----- 21= _____

24B-22. $\frac{[-(1300 + 1000)(1100 - 274)]}{(6.54 \times 10^{-4}/(0.0594))}$ ----- 22= _____

24B-23. $\left[\frac{470 + 477}{192 - 293}\right] \left[\frac{262}{1290}\right]$ ----- 23= _____

24B-24. If the University Interscholastic League was founded in 1910, how old is the UIL in 2023? ----- 24= _____ yrs (Integer)

24B-25. Albert is riding his bicycle at an average speed of 6.25 miles per hour. In the distance he sees his daughter, Mackenzie, and reaches her in 2½ minutes. How far away from Mackenzie was Albert when he first spotted her?----- 25= _____ feet

24B-26. A social media app called Threads had 30.6 million users within one day of its initial release by the Facebook’s parent company, Meta. What was the average rate of new users joining Threads? ----- 26= _____ users/min

24B-27. $[3870 - (1640 + 1510)] + [(-0.0549)(2640 - 6070)]$ --- 27=_____

24B-28. $(0.852)[(37/58.6)(3.05 \times 10^{-4} + 0.00254)]$ ----- 28=_____

24B-29. $(90.5)[(0.0088/0.0157)(178/310)]$ ----- 29=_____

24B-30. $[1.9] \left[\frac{1/0.823}{1/0.977} \right]$ ----- 30=_____

24B-31. $(28.7)[(3.83 \times 10^9) - (1.75 \times 10^9)]$ ----- 31=_____

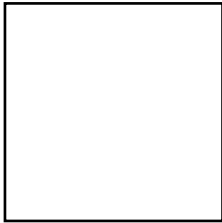
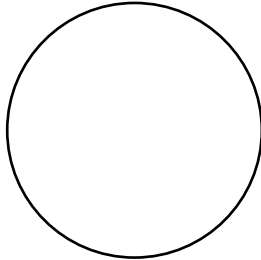
24B-32. $\frac{1}{792} + \frac{1}{(\pi)(384 - 129)}$ ----- 32=_____

24B-33. $1/(0.0518 - 0.033) - 1/(0.0084)$ ----- 33=_____

24B-34. $\frac{1}{170} - \frac{1}{55.2} + \frac{1}{126}$ ----- 34=_____

24B-35. Within a gym class there are 23 students that weigh between 75 and 100 pounds, 18 students that weigh between 101 and 125 pounds, 17 students that weigh between 126 and 150 pounds and 6 students that weigh more than 151 pounds. What is the probability of randomly selecting a student that weighs 119 pounds? ----- 35=_____

24B-36. If the distance from DFW Airport to Dulles International Airport is 1,172 miles and my airplane flight takes 2 hours 32 minutes to fly that distance, what is my plane's average speed?----- 36=_____ mph

<p>24B-37.</p> <p style="text-align: center;">SQUARE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Perimeter = 3.61×10^{12}</p> <p style="text-align: center;">Square Area = ?</p> <p>24B-37=_____</p>	<p>24B-38.</p> <p style="text-align: center;">CIRCLE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Circumference = 0.00825</p> <p style="text-align: center;">Circle Area = ?</p> <p>24B-38=_____</p>
--	---

24B-39. $\left[\frac{9600 + (1/(2.47 \times 10^{-4}))}{(3740/4520) - 0.311} \right]^2$ ----- 39= _____

24B-40. $\frac{(56400 + 36600)^3}{(0.0275 - 0.0189)^2}$ ----- 40= _____

24B-41. $\left[\frac{30.9}{16.5} \right] (25.6 + 18.5)^4$ ----- 41= _____

24B-42. $(1/\pi) \sqrt[3]{\frac{0.0167 + 0.0586}{0.0144 - 0.00603}}$ ----- 42= _____

24B-43. $\sqrt{8990 - 7650 + 8730} - \sqrt{4000}$ ----- 43= _____

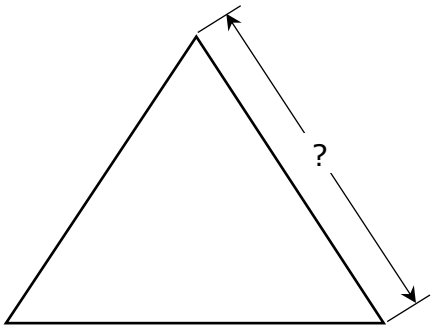
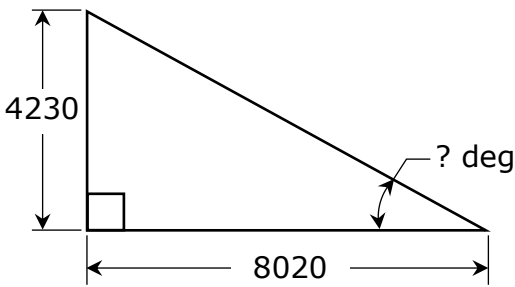
24B-44. $\sqrt{43.6} + \sqrt{24.5 + 64.8} - (\pi)\sqrt{47.5}$ ----- 44= _____

24B-45. $\left[\sqrt{(64.6/156)(810)} \right]^3$ ----- 45= _____

24B-46. $(2220) \sqrt[3]{9880 + 2920 - 2440}$ ----- 46= _____

24B-47. A typical 1.69-ounce bag of candies contains 56 candies. A "pi" bag of 3.14 ounces should hold at most how many candies (cnd)? ----- 47= _____ cnd (Integer)

24B-48. A 25-ft long rope is attached to the top of a 18-ft tall pole. If the rope stretched taut so that it touches the ground, at what acute angle to the ground does the rope make? ----- 48= _____ °

<p>24B-49. EQUILATERAL TRIANGLE</p>  <p style="text-align: center;">Area = 503000</p> <p>24B-49= _____</p>	<p>24B-50. RIGHT TRIANGLE</p>  <p>24B-50= _____</p>
---	---

24B-51. $\frac{\sqrt{5.17 + \pi + 3.18}}{(1290 - 4620 + 2140)^2}$ ----- 51= _____

24B-52. $\frac{(0.823 + 0.244 - 0.82)^2}{\sqrt{7.79 + 13.9 + 16.3}}$ ----- 52= _____

24B-53. $\sqrt{\frac{56.7}{(1.15)(0.45)} + \frac{(3570 - 2980)}{(21.8 + 17.9)}}$ ----- 53= _____

24B-54. $\sqrt{\frac{(7540)(6340)}{(2.97 \times 10^5)(58200)}} - 0.034 + 0.0429$ ----- 54= _____

24B-55. $(18.8)^2 \sqrt{(93.8)/(84.1)} - (164 + 260)$ ----- 55= _____

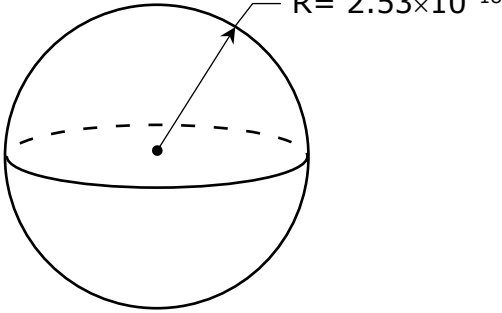
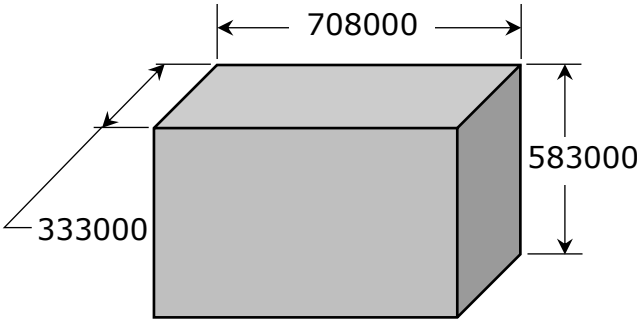
24B-56. $(67.1)(2.29 \times 10^9)^{1/3} - [(40900)(3.34 \times 10^5)]^{1/2}$ ----- 56= _____

24B-57. $(\text{deg}) \tan(163^\circ) + (15.6/31.6)$ ----- 57= _____

24B-58. $\sqrt{\frac{(6.43)(74.6)}{(2910) + (1230)}} + 1/(0.583)^{-2}$ ----- 58= _____

24B-59. The coefficient of friction, μ , can be defined as the ratio of the motion-opposing frictional force parallel to the object's surface in contact, to the normal, or perpendicular, force between an object's surface. If μ for rubber against concrete is 0.75 and a solid rubber block with a normal force (weight) of 2.75 pounds is rubbing against a concrete floor, what is the frictional force opposing the blocks motion? 59= _____ Lbs.

24B-60. A car traveling with an average speed of 65 miles per hour (mph) is just behind and starting to pass a car traveling with an average speed of 63 mph in the lane next to it. If the faster car has a length of 24-ft and the slower car has a length of 15.4-ft, how long does it take the faster car to pass the slower car so that its back end is 25-ft ahead of the front end of the slower car? ----- 60= _____ sec

<p>24B-61.</p> <p style="text-align: center;">SPHERE</p> <div style="text-align: center;">  <p style="margin-left: 100px;">R = 2.53×10^{-18}</p> <p style="margin-left: 100px;">Volume = ?</p> </div> <p>24B-61 = _____</p>	<p>24B-62.</p> <p style="text-align: center;">RECTANGULAR SOLID BOX</p> <div style="text-align: center;">  <p style="margin-left: 100px;">708000</p> <p style="margin-left: 100px;">333000</p> <p style="margin-left: 100px;">583000</p> <p style="margin-left: 100px;">Total Surface Area = ?</p> </div> <p>24B-62 = _____</p>
--	---

24B-63. $\frac{8! - 6!}{5!}$ ----- 63 = _____

24B-64. (deg) $(20.5 - 36)\tan(14.2^\circ)$ ----- 64 = _____

24B-65. (deg) $\frac{\tan(1.12^\circ)}{1270}$ ----- 65 = _____

24B-66. (deg) $[468]\cos(11.8^\circ - 14.2^\circ)$ ----- 66 = _____

24B-67. (rad) $\frac{\sin(495)}{2040/57.8}$ ----- 67 = _____

24B-68. (deg) $\frac{\sin(387^\circ)}{\tan(387^\circ)}[99.1]$ ----- 68 = _____

24B-69. (deg) $\frac{\cos(406^\circ)}{175 + 219}$ ----- 69 = _____

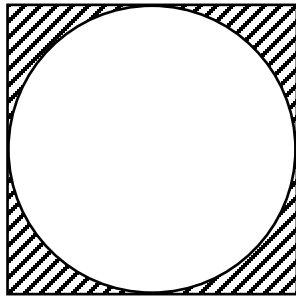
24B-70. $(74.1 + 74.2 + 81.1)^{4/5}$ ----- 70 = _____

24B-71. A rectangular box-shaped aquarium measures 20" by 10" by 12". How many gallons of water will it hold?----- 71 = _____ gal

24B-72. Mike predicted it would take $2\frac{3}{4}$ cubic yards of concrete to build a small concrete pad. If it actually took $2\frac{1}{2}$ cubic yards, what was Mike's percent error in his prediction? ----- 72 = _____ %

24B-73.

SQUARE AND CIRCLE



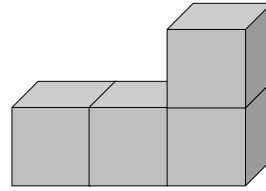
Circle Area = 7.46

Shaded Area = ?

24B-73= _____

24B-74.

IDENTICAL CUBES



Total Volume = 100

Total Exposed Surface Area = ?

24B-74= _____

24B-75. $\frac{\text{Log}(2.04 \times 10^{11} + 5.78 \times 10^{11})}{24.9}$ ----- 75= _____

24B-76. $\frac{(0.487)^{0.425}(12.3)^{0.51}}{(8.14 - 4.89)^{-5}}$ ----- 76= _____

24B-77. $2\text{Log}\sqrt{\frac{(23.9)(306)}{85.2 + 85}}$ ----- 77= _____

24B-78. $(0.381)^\pi(0.0565)^4(3.12 - 2.74)^5$ ----- 78= _____

24B-79. $4 + 6 + 8 + \dots + 370$ ----- 79= _____

24B-80. $-\frac{1}{(8.69)} + \frac{1}{3(8.69)^3} - \frac{1}{5(8.69)^5} + \frac{1}{7(8.69)^7}$ ----- 80= _____

2023 – 2024 UIL MS Calculator Test B Answer Key

24B-1	= 360 = 3.60×10^2	24B-14	= 14500 = 1.45×10^4	24B-27	= 908 = 9.08×10^2
24B-2	= 62.0 = 6.20×10^1	24B-15	= -18.3 = -1.83×10^1	24B-28	= 0.00153 = 1.53×10^{-3}
24B-3	= 25.2 = 2.52×10^1	24B-16	= -99400 = -9.94×10^4	24B-29	= 29.1 = 2.91×10^1
24B-4	= -141 = -1.41×10^2	24B-17	= 5.14 = 5.14×10^0	24B-30	= 2.26 = 2.26×10^0
24B-5	= -530 = -5.30×10^2	24B-18	= 0.121 = 1.21×10^{-1}	24B-31	= 5.97×10^{10}
24B-6	= -569 = -5.69×10^2	24B-19	= 1.96×10^9	24B-32	= 0.00251 = 2.51×10^{-3}
24B-7	= -2.44 = -2.44×10^0	24B-20	= 0.00294 = 2.94×10^{-3}	24B-33	= -65.9 = -6.59×10^1
24B-8	= -4.27 = -4.27×10^0	24B-21	= 2260 = 2.26×10^3	24B-34	= -0.00430 = -4.30×10^{-3}
24B-9	= 422000 = 4.22×10^5	24B-22	= -1.73×10^8	24B-35	= 0.281 = 2.81×10^{-1}
24B-10	= 9.91×10^{12}	24B-23	= -1.90 = -1.90×10^0	24B-36	= 463 = 4.63×10^2
24B-11	= -80.3 = -8.03×10^1	24B-24	= 113 Integer Answer	24B-37	= 8.15×10^{23}
24B-12	= 92 Integer Answer	24B-25	= 1380 = 1.38×10^3	24B-38	= 5.42×10^{-6}
24B-13	= \$29.45 Dollar Answer	24B-26	= 21300 = 2.13×10^4		

2023 – 2024 UIL MS Calculator Test B Answer Key

$$24B-39 = 6.98 \times 10^8$$

$$24B-40 = 1.09 \times 10^{19}$$

$$24B-41 = 7.08 \times 10^6$$

$$24B-42 = 0.662 = 6.62 \times 10^{-1}$$

$$24B-43 = 37.1 = 3.71 \times 10^1$$

$$24B-44 = -5.60 = -5.60 \times 10^0$$

$$24B-45 = 6140 = 6.14 \times 10^3$$

$$24B-46 = 48400 = 4.84 \times 10^4$$

$$24B-47 = 104$$

Integer Answer

$$24B-48 = 46.1 = 4.61 \times 10^1$$

$$24B-49 = 1080 = 1.08 \times 10^3$$

$$24B-50 = 27.8 = 2.78 \times 10^1$$

$$24B-51 = 2.39 \times 10^{-6}$$

$$24B-52 = 0.00990 = 9.90 \times 10^{-3}$$

$$24B-53 = 25.3 = 2.53 \times 10^1$$

$$24B-54 = 0.0615 = 6.15 \times 10^{-2}$$

$$24B-55 = -50.7 = -5.07 \times 10^1$$

$$24B-56 = -28400 = -2.84 \times 10^4$$

$$24B-57 = 0.188 = 1.88 \times 10^{-1}$$

$$24B-58 = 0.680 = 6.80 \times 10^{-1}$$

$$24B-59 = 2.06 = 2.06 \times 10^0$$

$$24B-60 = 22.0 = 2.20 \times 10^1$$

$$24B-61 = 6.78 \times 10^{-53}$$

$$24B-62 = 1.69 \times 10^{12}$$

$$24B-63 = 330 = 3.30 \times 10^2$$

$$24B-64 = -3.92 = -3.92 \times 10^0$$

$$24B-65 = 1.54 \times 10^{-5}$$

$$24B-66 = 468 = 4.68 \times 10^2$$

$$24B-67 = -0.0278 = -2.78 \times 10^{-2}$$

$$24B-68 = 88.3 = 8.83 \times 10^1$$

$$24B-69 = 0.00176 = 1.76 \times 10^{-3}$$

$$24B-70 = 77.4 = 7.74 \times 10^1$$

$$24B-71 = 10.4 = 1.04 \times 10^1$$

$$24B-72 = 10.0 = 1.00 \times 10^1$$

$$24B-73 = 2.04 = 2.04 \times 10^0$$

$$24B-74 = 154 = 1.54 \times 10^2$$

$$24B-75 = 0.478 = 4.78 \times 10^{-1}$$

$$24B-76 = 960 = 9.60 \times 10^2$$

$$24B-77 = 1.63 = 1.63 \times 10^0$$

$$24B-78 = 3.90 \times 10^{-9}$$

$$24B-79 = 34400 = 3.44 \times 10^4$$

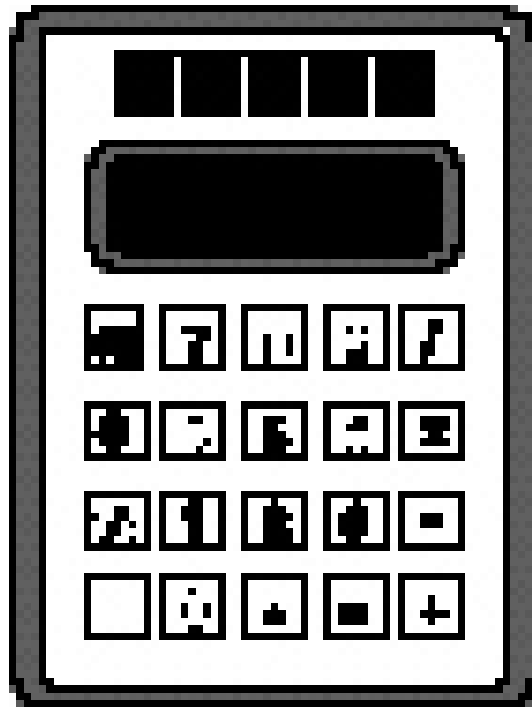
$$24B-80 = -0.115 = -1.15 \times 10^{-1}$$

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

2023 – 2024 UIL MS Calculator Test C

24C-1. $2730 - 1670$ ----- 1= _____

24C-2. $-70 + 35 - 10$ ----- 2= _____

24C-3. $1550 + 5810 - 5300$ ----- 3= _____

24C-4. $\pi - 3 + 5 - 1$ ----- 4= _____

24C-5. $319 + 998 - 1550 - 1300$ ----- 5= _____

24C-6. $68.9 - 178 - 532 - 202 + 173$ ----- 6= _____

24C-7. $-5.29 + 6.13 + 5.31 + 0.946 + 1.11$ ----- 7= _____

24C-8. $-2.25 + 4.17 - 2.48 + 4.9 + 3.77$ ----- 8= _____

24C-9. $60 \times 285 \times 157$ ----- 9= _____

24C-10. $341 \times 191 \times 4470 \times 1130$ ----- 10= _____

24C-11. What is the product of the negative square root of one thousand and twenty-eight point seven? ----- 11= _____

24C-12. How many hours are in $8\frac{1}{2}$ weeks? ----- 12= _____ hrs (Integer)

24C-13. A menu for a local Mexican food restaurant where I frequently eat listed chicken fajitas at \$18.50 each, guacamole at \$1.75, flour tortillas at \$1.25, pinto beans at \$1.75, rice at \$1.25 and tea at \$2.25. If I ordered each of the items listed, how much did I pay for all of these items, excluding sales tax? ----- 13= \$ _____

24C-14. $(470)[287 \times 495/295]$ ----- 14= _____

24C-15. $(-105)[260 \times 926 \times 922]$ ----- 15= _____

24C-16. $\{-86/42\} \left[\frac{97}{69 + 40} \right]$ ----- 16= _____

24C-17. $(295 + 63)[51 - 46 - 144]$ ----- 17= _____

24C-18. $\left[\frac{(0.01 + 0.0258)}{397/490} \right] \left[\frac{49.1}{135} \right]$ ----- 18= _____

24C-19. $\left[\frac{111/130}{94/213} \right] \{7.33 + 4.93 - 3.62\}$ ----- 19= _____

24C-20. $(0.733)[481/456 \times 201/285] - 0.248$ ----- 20= _____

24C-21. $\frac{(2.48)(0.00966)}{0.00422} (6.84 - 10.5)$ ----- 21= _____

24C-22. $\frac{(\pi)(153/225)(304/369)}{(535/734)}$ ----- 22= _____

24C-23. $\frac{(3.37 + 16.8 - \pi)}{\{(1.41 - 1.33)/(464)\}}$ ----- 23= _____

24C-24. If the city of Austin was founded in 1839, how old is the city of Austin in 2023? ----- 24= _____ yrs (Integer)

24C-25. Liz is jogging at an average speed of 4.25 miles per hour. In the distance she sees her oldest son, Wesley, standing underneath a large oak tree. If she gets to Wesley in 2½ minutes, how far away from Wesley was Liz when she first spotted him?----- 25= _____ feet

24C-26. A social media app called Threads had 100 million users within five days of its initial release by the Facebook’s parent company, Meta. What was the average rate of new users joining Threads? ----- 26= _____ users/min

24C-27. $\frac{(317 + 530)(0.335 + 0.292)}{(1.15 \times 10^{12})}$ ----- 27= _____

24C-28. $\frac{(1.84 \times 10^7) + (2.22 \times 10^7)}{(-0.0158)(0.0262) - 2.17 \times 10^{-4}}$ ----- 28= _____

24C-29. $\frac{(1.56 - 5.11)(42.2 + 81.6)}{(1.06 \times 10^{12})}$ ----- 29= _____

24C-30. $\frac{1}{0.031} + \frac{1}{(\pi)(0.0456 - 0.0357)}$ ----- 30= _____

24C-31. $(0.00201) \left[\frac{1.69}{(5.16 \times 10^{11})} \right]$ ----- 31= _____

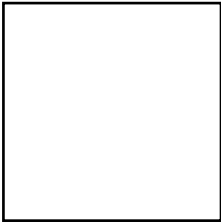
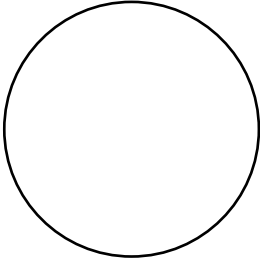
24C-32. $[0.00778] \left[\frac{1/68.8}{1/95.4} \right]$ ----- 32= _____

24C-33. $1/(0.0101 - 0.0124) - 1/(-9.77 \times 10^{-4})$ ----- 33= _____

24C-34. $\left[\frac{1/2960}{1/1780} \right] [4.16 \times 10^6]$ ----- 34= _____

24C-35. Within a gym class there are 23 students that weigh between 75 and 100 pounds, 18 students that weigh between 101 and 125 pounds, 17 students that weigh between 126 and 150 pounds and 6 students that weigh more than 151 pounds. What is the probability of randomly selecting a student that weighs 130 pounds? ----- 35= _____

24C-36. If the distance from McAllen to Rio Grande City is 42.3 miles and it takes Juan 48 minutes to travel that distance, what is Juan's average speed? ----- 36= _____ mph

<p>24C-37.</p> <p style="text-align: center;">SQUARE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Perimeter = 0.000419 Square Area = ?</p> <p>24C-37= _____</p>	<p>24C-38.</p> <p style="text-align: center;">CIRCLE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Circumference = 72900 Circle Area = ?</p> <p>24C-38= _____</p>
--	---

24C-39. $\frac{(42700 + 71400)^2}{(0.877 - 0.763)^3}$ ----- 39= _____

24C-40. $\left[\frac{10.4}{1180}\right](4.4 + 2.16)^2$ ----- 40= _____

24C-41. $(0.182 + 0.599)^2(4.97 + 9.63)^2$ ----- 41= _____

24C-42. $\sqrt{(3760/950) + 3.96 - 3.04}$ ----- 42= _____

24C-43. $(1/(0.00142))(30600 - 29600)^3$ ----- 43= _____

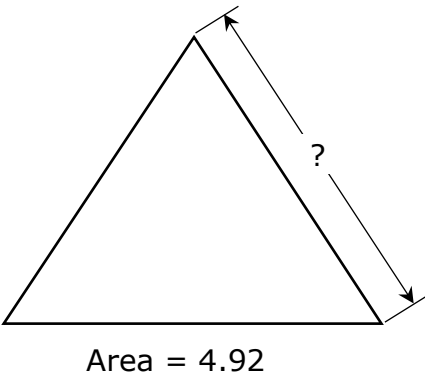
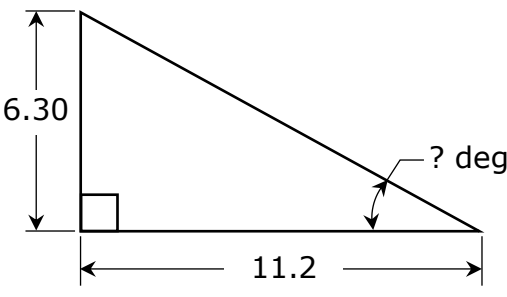
24C-44. $\sqrt{9.06} + \sqrt{12.6 + 18.4} - (\pi)\sqrt{13.9}$ ----- 44= _____

24C-45. $\sqrt[4]{0.917 - 203/430} + 1/\sqrt{5.97 + 9.95}$ ----- 45= _____

24C-46. $\frac{(5420 + 10600)^{1/2}}{(93.2 - 28.7)^{1/5}}$ ----- 46= _____

24C-47. A typical gallon jar of *Whole Queen Olives* usually holds 175 olives. Based on this fact, an 8-oz jar should hold at most how many whole *Whole Queen Olives* (WQO)?----- 47= _____ WQO (Integer)

24C-48. A 20-ft long rope is attached to the top of a 18-ft tall pole. If the rope stretched taut so that it touches the ground, at what acute angle to the ground does the rope make?----- 48= _____ °

<p>24C-49. EQUILATERAL TRIANGLE</p>  <p style="text-align: center;">Area = 4.92</p> <p>24C-49= _____</p>	<p>24C-50. RIGHT TRIANGLE</p>  <p style="text-align: center;">6.30</p> <p style="text-align: center;">11.2</p> <p style="text-align: right;">? deg</p> <p>24C-50= _____</p>
---	---

24C-51. $\frac{(0.0148 + 0.047 - 0.0604)^3}{\sqrt{3750 + 17800 + 14400}}$ ----- 51= _____

24C-52. $\frac{\sqrt{4.86 + \pi + 16.6}}{(0.974 - 5.87 + 5.38)^4}$ ----- 52= _____

24C-53. $\left[\frac{\sqrt{\sqrt{0.0516 - 0.0203}}}{-(1550 - 1280)} \right]^3 [0.737 + 1.77]$ ----- 53= _____

24C-54. $1820 + \sqrt{(5930)(6830)} - (1530 + 6240)$ ----- 54= _____

24C-55. $0.292 + \sqrt{(754)/(303)} - (0.304 + 0.299)^2$ ----- 55= _____

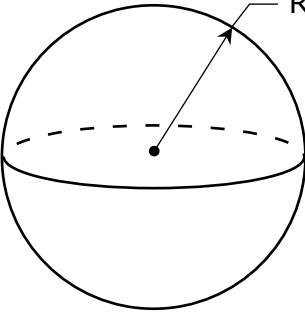
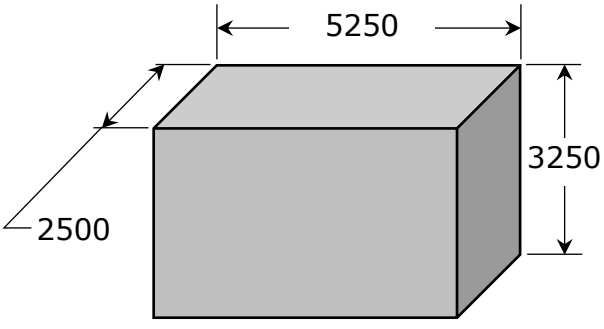
24C-56. $(9.12)^2 \sqrt{(373)/(47.9)} - (87.6 + 105)$ ----- 56= _____

24C-57. $(\text{rad}) \sin(78.5) + (28.1/20.3)$ ----- 57= _____

24C-58. $\sqrt{\frac{1/(13.8 - 13.5)}{(2510)(19.9 + 34.9)^6}}$ ----- 58= _____

24C-59. The coefficient of friction, μ , can be defined as the ratio of the motion-opposing frictional force parallel to the object's surface in contact, to the normal, or perpendicular, force between an object's surface. If μ for rubber against concrete is 0.75 and a solid rubber block with a normal force (weight) of 3.75 pounds is rubbing against a concrete floor, what is the frictional force opposing the blocks motion? 59= _____ Lbs.

24C-60. A car traveling with an average speed of 67 miles per hour (mph) is just behind and starting to pass a car traveling with an average speed of 63 mph in the lane next to it. If the faster car has a length of 24-ft and the slower car has a length of 15.4-ft, how long does it take the faster car to pass the slower car so that its back end is 25-ft ahead of the front end of the slower car? ----- 60= _____ sec

<p>24C-61.</p> <p style="text-align: center;">SPHERE</p> <div style="text-align: center;">  <p style="margin-left: 100px;">R = 8.26×10^8</p> <p style="margin-left: 100px;">Volume = ?</p> </div> <p>24C-61 = _____</p>	<p>24C-62.</p> <p style="text-align: center;">RECTANGULAR SOLID BOX</p> <div style="text-align: center;">  <p style="margin-left: 100px;">5250</p> <p style="margin-left: 100px;">2500</p> <p style="margin-left: 100px;">3250</p> <p style="margin-left: 100px;">Total Surface Area = ?</p> </div> <p>24C-62 = _____</p>
--	---

24C-63. $\frac{21!}{19!} + 5!$ ----- 63 = _____

24C-64. (deg) $(2.29 - 9.1)\sin(1.36^\circ)$ ----- 64 = _____

24C-65. (deg) $(4730 + 8850)\sin(26.3^\circ)$ ----- 65 = _____

24C-66. (deg) $(6.85 - 1.44)\tan(11.8^\circ) + 0.424$ ----- 66 = _____

24C-67. (deg) $[44.7]\cos(177^\circ - 172^\circ)$ ----- 67 = _____

24C-68. (deg) $\frac{\sin(3.31^\circ) - \tan(3.31^\circ)}{\sin(3.31^\circ)}$ ----- 68 = _____

24C-69. (rad) $\sin[(14 - 29.9)(5.48)]$ ----- 69 = _____

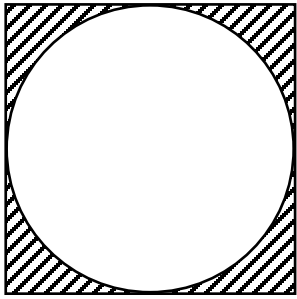
24C-70. $\left[(109) \left(\frac{25.2}{(11.3)(\pi)} \right) \right]^{7/2}$ ----- 70 = _____

24C-71. A rectangular box-shaped aquarium measures 30" by 15" by 18". How many gallons of water will it hold?----- 71 = _____ gal

24C-72. Mike predicted it would take $3\frac{1}{4}$ cubic yards of concrete to build a small concrete pad. If it actually took $2\frac{3}{4}$ cubic yards, what was Mike's percent error in his prediction? ----- 72 = _____ %

24C-73.

SQUARE AND CIRCLE



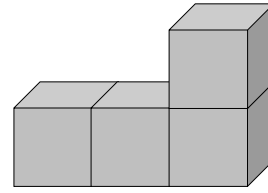
Circle Area = 100

Shaded Area = ?

24C-73= _____

24C-74.

IDENTICAL CUBES



Total Volume = 1000

Total Exposed Surface Area = ?

24C-74= _____

$$24C-75. \frac{(1.14)^{0.24}(28.4)^{0.233}}{(7.61 - 7.07)^{-3}} \text{ ----- } 75 = \underline{\hspace{2cm}}$$

$$24C-76. \frac{\text{Log}(1.18 \times 10^7 + 3.94 \times 10^6)}{10.2} \text{ ----- } 76 = \underline{\hspace{2cm}}$$

$$24C-77. \text{Log}(10.3 + 15.6 + 5.47) \text{ ----- } 77 = \underline{\hspace{2cm}}$$

$$24C-78. \frac{(e^{0.837})(e^{0.27})(e^{0.644})}{\text{Ln}(94 + 240)} \text{ ----- } 78 = \underline{\hspace{2cm}}$$

$$24C-79. 2 + 4 + 6 + \dots + 798 \text{ ----- } 79 = \underline{\hspace{2cm}}$$

$$24C-80. 1 + (0.97) + \frac{(0.97)^2}{2} + \frac{(0.97)^3}{6} + \frac{(0.97)^4}{24} \text{ ----- } 80 = \underline{\hspace{2cm}}$$

2023 – 2024 UIL MS Calculator Test C

24C-1	= 1060 = 1.06×10^3	24C-14	= 226000 = 2.26×10^5	24C-27	= 4.62×10^{-10}
24C-2	= -45.0 = -4.50×10^1	24C-15	= -2.33×10^{10}	24C-28	= -6.43×10^{10}
24C-3	= 2060 = 2.06×10^3	24C-16	= -1.82 = -1.82×10^0	24C-29	= -4.15×10^{-10}
24C-4	= 4.14 = 4.14×10^0	24C-17	= -49800 = -4.98×10^4	24C-30	= 64.4 = 6.44×10^1
24C-5	= -1530 = -1.53×10^3	24C-18	= 0.0161 = 1.61×10^{-2}	24C-31	= 6.58×10^{-15}
24C-6	= -670 = -6.70×10^2	24C-19	= 16.7 = 1.67×10^1	24C-32	= 0.0108 = 1.08×10^{-2}
24C-7	= 8.21 = 8.21×10^0	24C-20	= 0.297 = 2.97×10^{-1}	24C-33	= 589 = 5.89×10^2
24C-8	= 8.11 = 8.11×10^0	24C-21	= -20.8 = -2.08×10^1	24C-34	= 2.50×10^6
24C-9	= 2.68×10^6	24C-22	= 2.41 = 2.41×10^0	24C-35	= 0.266 = 2.66×10^{-1}
24C-10	= 3.29×10^{11}	24C-23	= 98800 = 9.88×10^4	24C-36	= 52.9 = 5.29×10^1
24C-11	= -90.8 = -9.08×10^1	24C-24	= 184 Integer Answer	24C-37	= 1.10×10^{-8}
24C-12	= 1428 Integer Answer	24C-25	= 935 = 9.35×10^2	24C-38	= 4.23×10^8
24C-13	= 26.75 Dollar Answer	24C-26	= 13900 = 1.39×10^4		

2023 – 2024 UIL MS Calculator Test C

$$24C-39 = 8.79 \times 10^{12}$$

$$24C-40 = 0.379 = 3.79 \times 10^{-1}$$

$$24C-41 = 130 = 1.30 \times 10^2$$

$$24C-42 = 2.21 = 2.21 \times 10^0$$

$$24C-43 = 7.04 \times 10^{11}$$

$$24C-44 = -3.13 = -3.13 \times 10^0$$

$$24C-45 = 1.07 = 1.07 \times 10^0$$

$$24C-46 = 55.0 = 5.50 \times 10^1$$

$$24C-47 = 10$$

Integer Answer

$$24C-48 = 64.2 = 6.42 \times 10^1$$

$$24C-49 = 3.37 = 3.37 \times 10^0$$

$$24C-50 = 29.4 = 2.94 \times 10^1$$

$$24C-51 = 1.45 \times 10^{-11}$$

$$24C-52 = 90.4 = 9.04 \times 10^1$$

$$24C-53 = -9.48 \times 10^{-9}$$

$$24C-54 = 414 = 4.14 \times 10^2$$

$$24C-55 = 1.51 = 1.51 \times 10^0$$

$$24C-56 = 39.5 = 3.95 \times 10^1$$

$$24C-57 = 1.42 = 1.42 \times 10^0$$

$$24C-58 = 2.21 \times 10^{-7}$$

$$24C-59 = 2.81 = 2.81 \times 10^0$$

$$24C-60 = 11.0 = 1.10 \times 10^1$$

$$24C-61 = 2.36 \times 10^{27}$$

$$24C-62 = 7.66 \times 10^7$$

$$24C-63 = 540$$

$$24C-64 = -0.162 = -1.62 \times 10^{-1}$$

$$24C-65 = 6020$$

$$24C-66 = 1.55 = 1.55 \times 10^0$$

$$24C-67 = 44.5 = 4.45 \times 10^1$$

$$24C-68 = -0.00167 = -1.67 \times 10^{-3}$$

$$24C-69 = 0.740 = 7.40 \times 10^{-1}$$

$$24C-70 = 4.07 \times 10^6$$

$$24C-71 = 35.1 = 3.51 \times 10^1$$

$$24C-72 = 18.2 = 1.82 \times 10^1$$

$$24C-73 = 27.3 = 2.73 \times 10^1$$

$$24C-74 = 714 = 7.14 \times 10^2$$

$$24C-75 = 0.354 = 3.54 \times 10^{-1}$$

$$24C-76 = 0.706 = 7.06 \times 10^{-1}$$

$$24C-77 = 1.50 = 1.50 \times 10^0$$

$$24C-78 = 0.991 = 9.91 \times 10^{-1}$$

$$24C-79 = 160000 = 1.60 \times 10^5$$

$$24C-80 = 2.63 = 2.63 \times 10^0$$

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

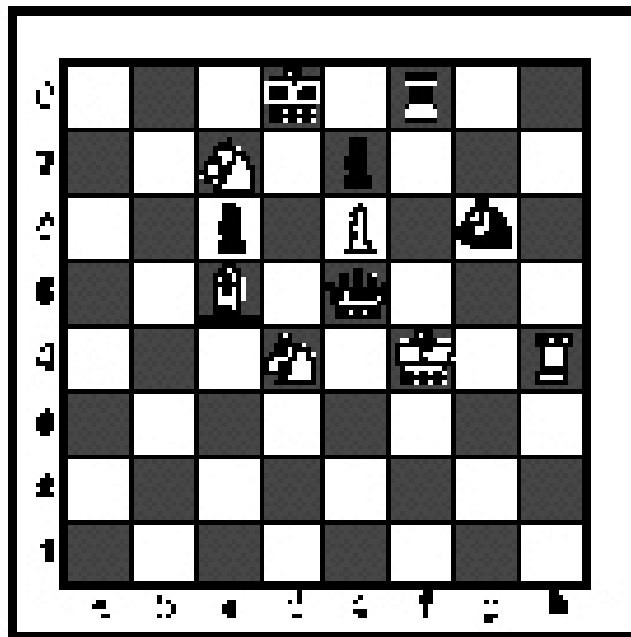
8. a b c d

INVITATIONAL 2023-2024

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.

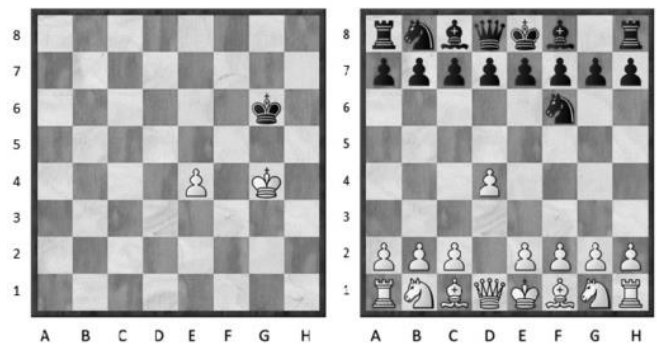


Piece Names	Each chessman can also be represented by a symbol, except for the pawn. (Figurine Notation)
King	
Queen	
Rook	
Bishop	
Knight	
Pawn	a-h (We write the file it's on.)

- 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.

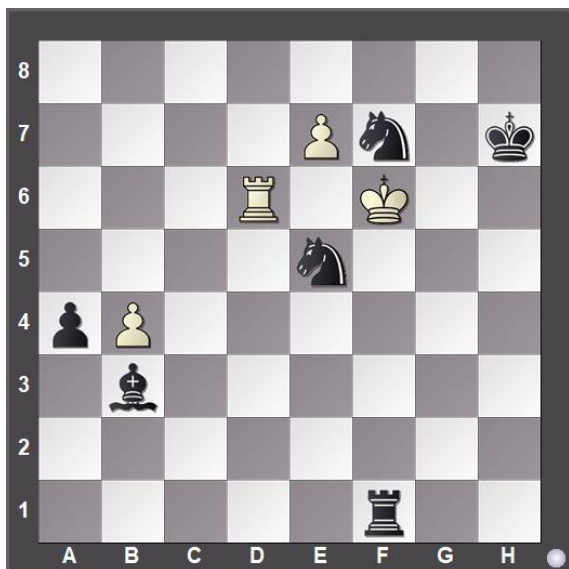
At right are two sample moves.

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**

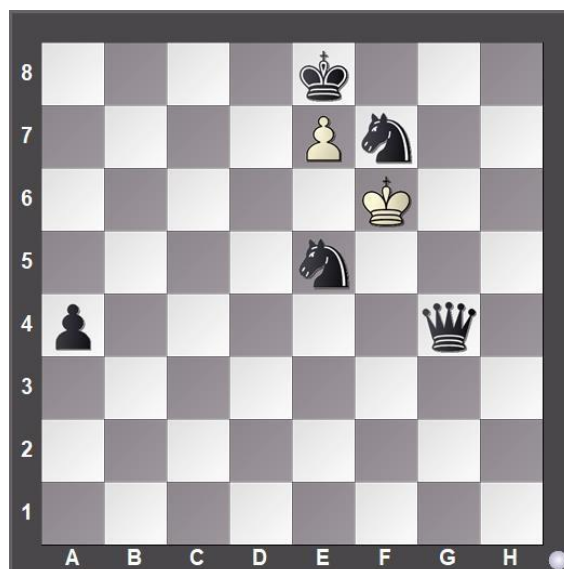
#1. White to move



What term best describes this situation?

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

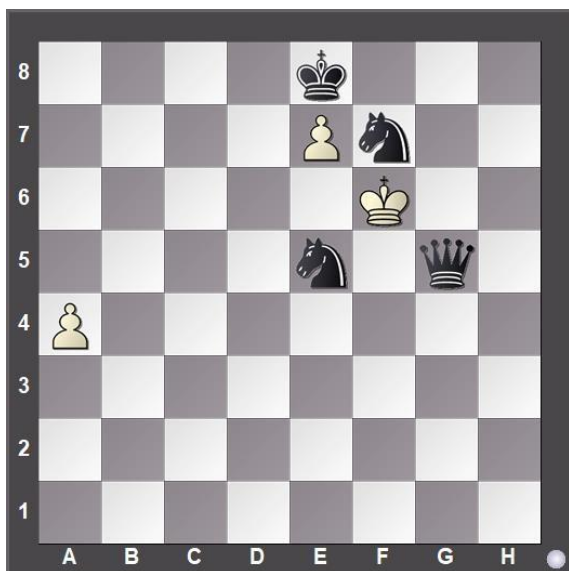
#2. White to move



What term best describes this situation?

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

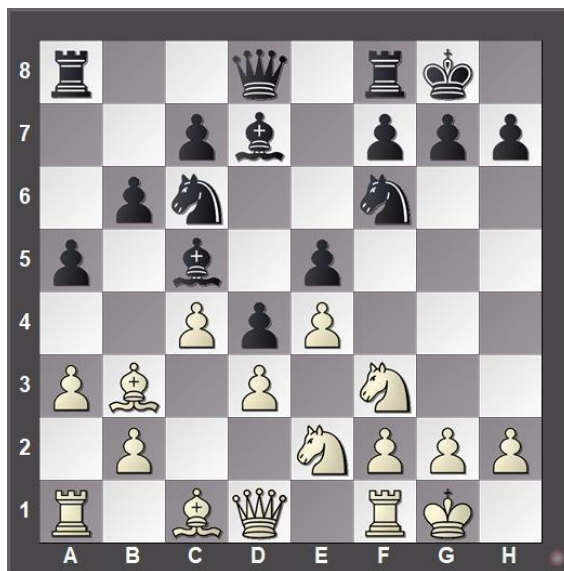
#3. White to move



What term best describes this situation?

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

#4. Black to move



White just played c2 to c4. Which pawn can be captured?

- a) White's a-pawn
- b) White's c-pawn
- c) White's e-pawn
- d) All of the above

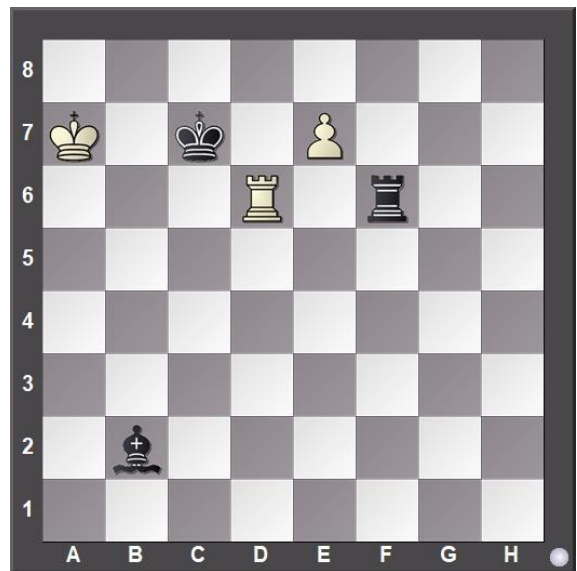
#5.



Which side has a material advantage?

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

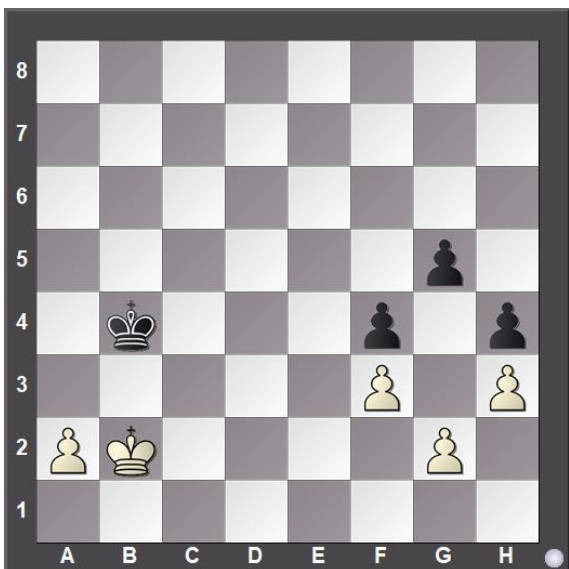
#6. White to move



To which piece should White promote the pawn?

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

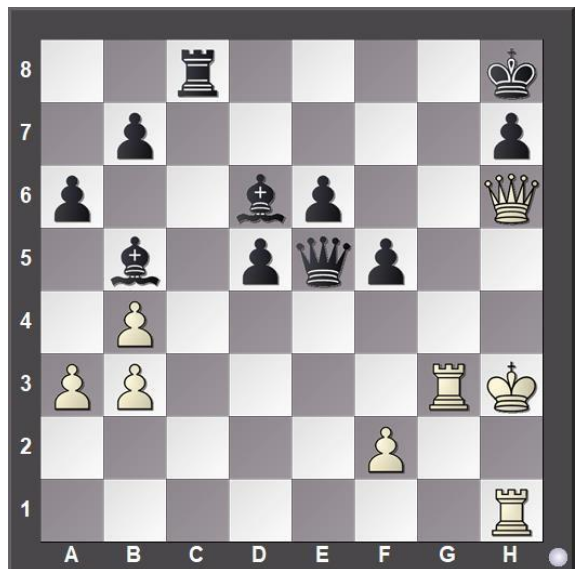
#7. White to move



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

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

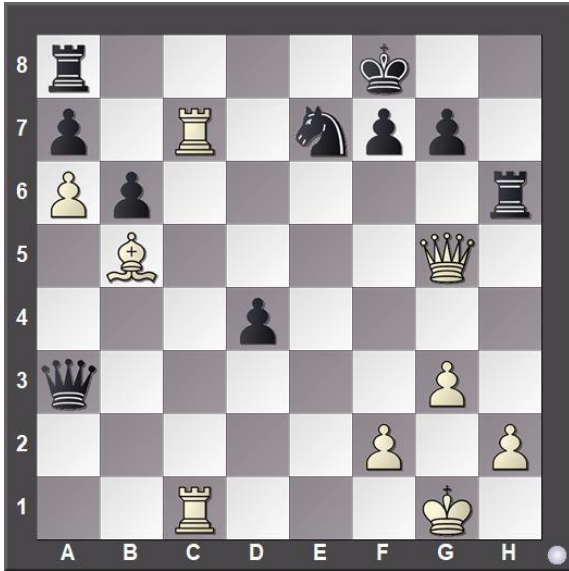
#8. Black to move



What piece should White sacrifice to checkmate Black?

- a) White Queen
- b) White g3-Rook
- c) White h1-Rook
- d) None

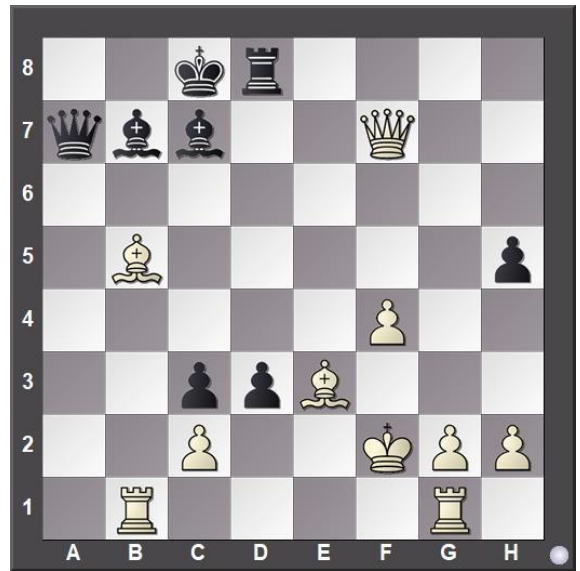
#9. White to move



If White can checkmate Black, what is the *first* move?

- a) ♔×e7
- b) ♖×e7
- c) ♖c8
- d) White cannot checkmate Black

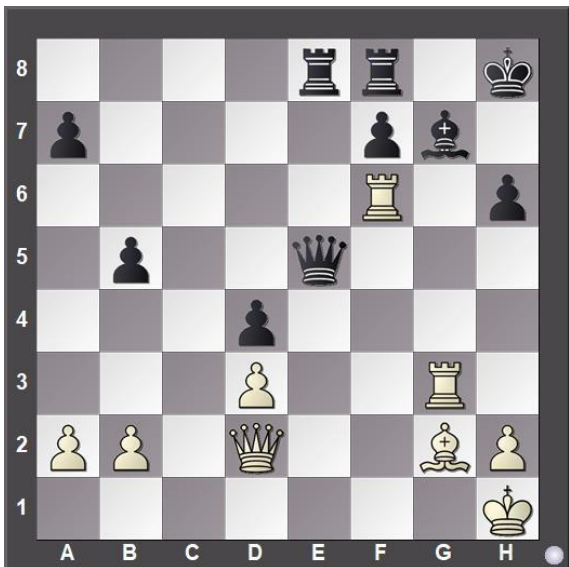
#10. Black to move



What piece does Black need to sacrifice to checkmate White?

- a) Bishop
- b) Rook
- c) Queen
- d) None

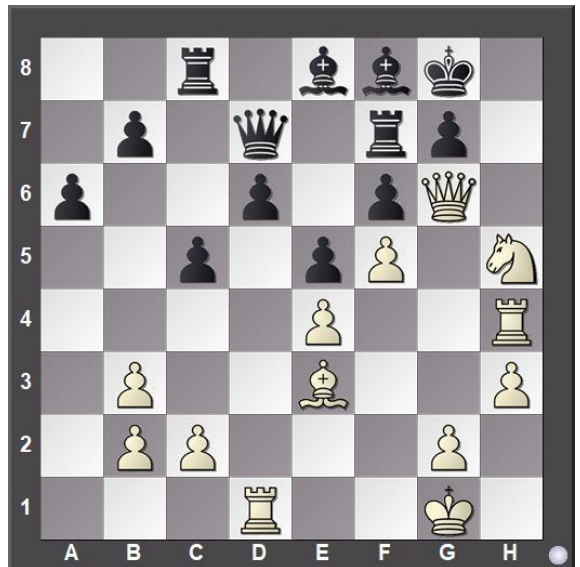
#11. White to move



What is White's best move?

- a) ♖×h6
- b) ♖×g7
- c) ♔×h6
- d) ♔e4

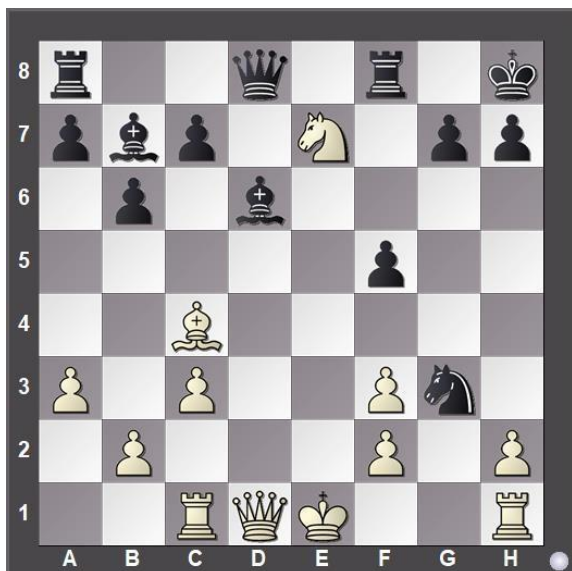
#12. White to move



What is White's best move?

- a) ♘×f6
- b) ♘×g7
- c) ♔h6
- d) ♔h7

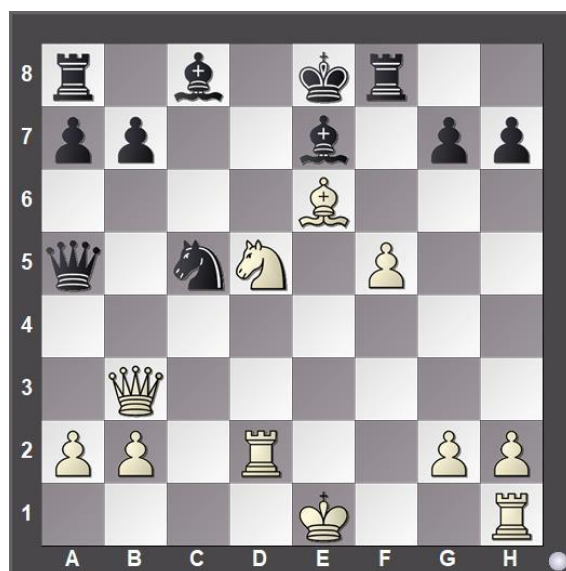
#13. White to move



How many moves should it take to checkmate Black in this position?

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

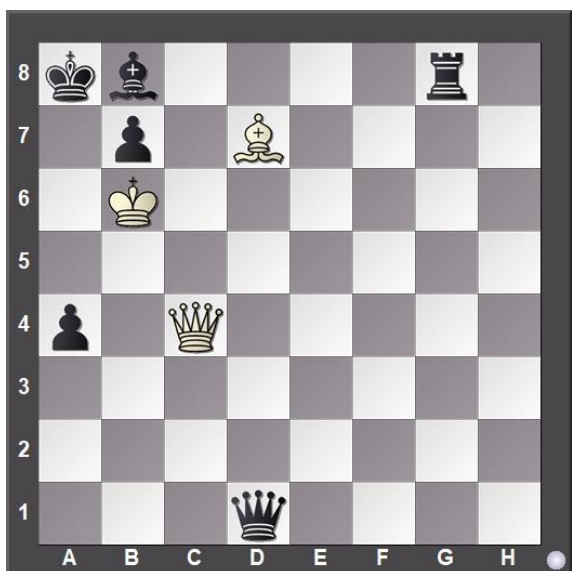
#14. White to move



What is White's best move?

- a) ♔b5
- b) ♔a4
- c) ♞c7
- d) ♞d7

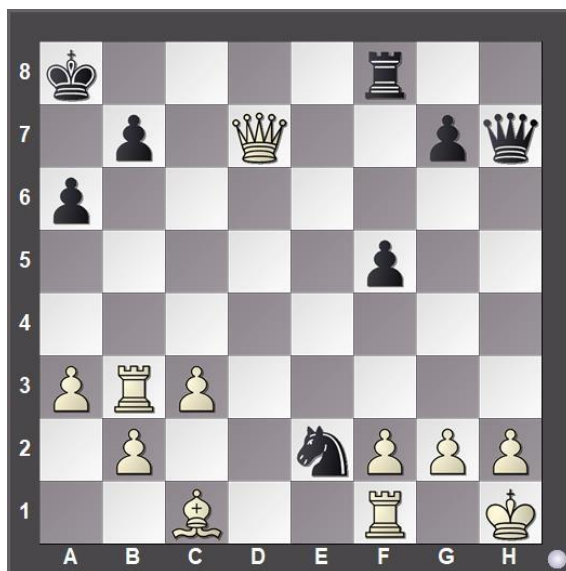
#15. White to move



What is White's best move?

- a) ♔x a4
- b) ♔a6
- c) ♔x g8
- d) ♞c6

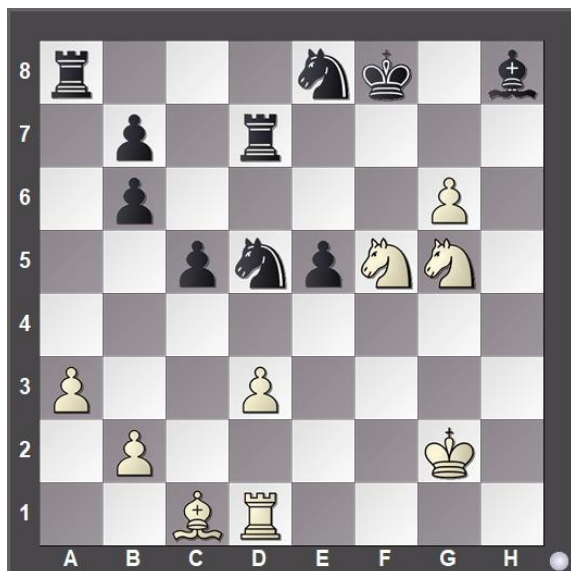
#16.



What is the outcome of the game?

- a) Black wins.
- b) White wins.
- c) It is a draw.
- d) It depends on whose move it is.

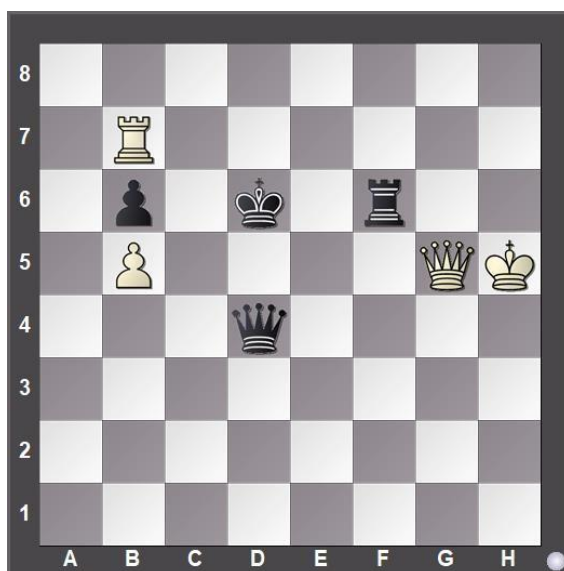
#17. White to move



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

- a) ♖h7
- b) ♖e6
- c) g7
- d) ♖f1

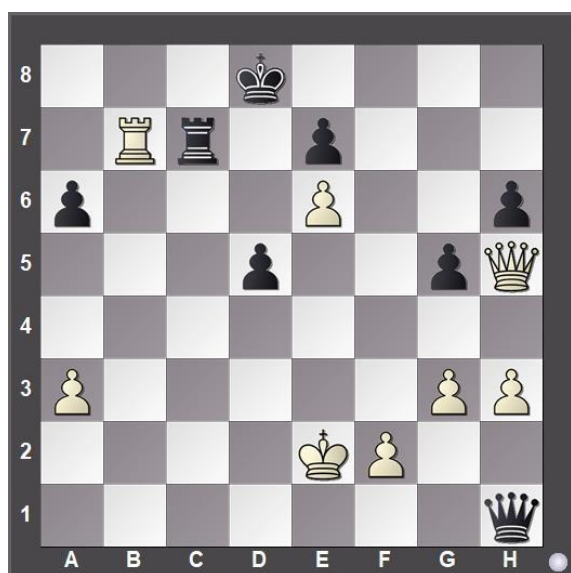
#18. White to move



What is White's best move?

- a) ♙xf6
- b) ♙g3
- c) ♖xb6
- d) ♖d7

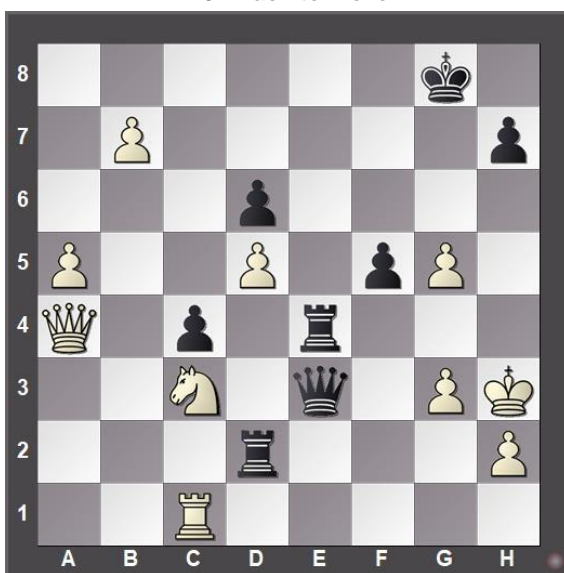
#19. White to move



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

- a) ♖b8
- b) ♖xc7
- c) ♙e8
- d) ♙xh6

#20. Black to move



What is Black's best move?

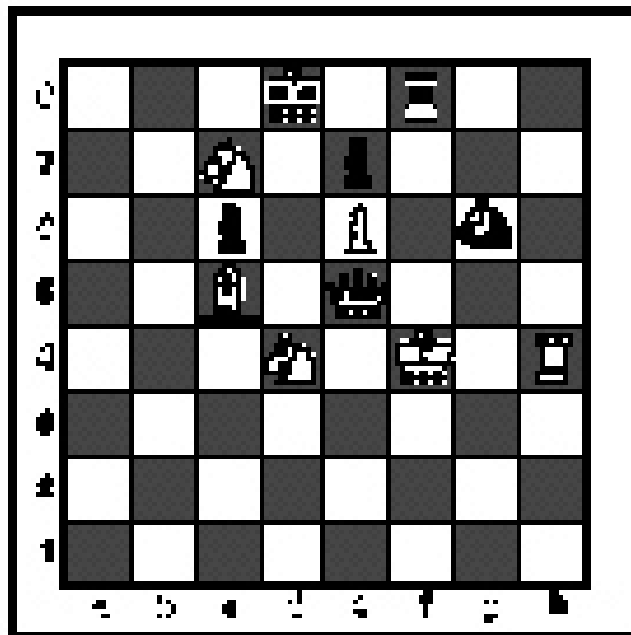
- a) ♖xh2
- b) ♖h4
- c) ♙xg5
- d) ♙xg3

INVITATIONAL 2023-2024

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Chess Puzzle Solving

TIEBREAKER - ALL GRADES

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

IMPORTANT INSTRUCTIONS:

This is the tiebreaker test for all grades for the Spring District UIL Chess Puzzle Solving Test.

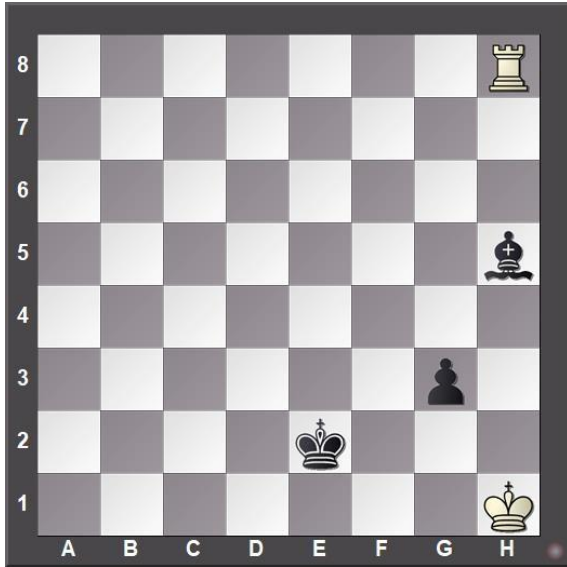
Use the separate answer sheet to write all your answers. You have five (5) minutes to take this part of the test. There are eight (8) questions. Some questions are very difficult.

As before, the symbols for check and checkmate commonly used after moves have been omitted because they would be hints.

Each correct answer earns you one point. There is no penalty for incorrect answers or unanswered questions.

These questions are hard, but the puzzles are interesting! Good luck and have fun!

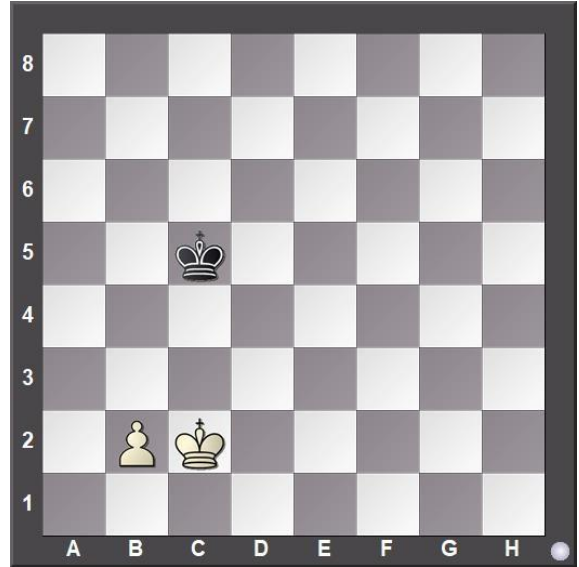
#1. Black to move



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.

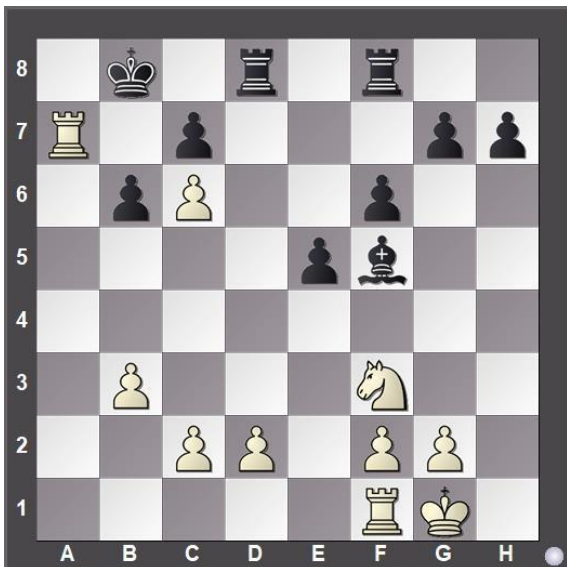
#2. White to move



What is White's best move?

- a) b3
- b) ♖b3
- c) ♖c3
- d) ♖d3

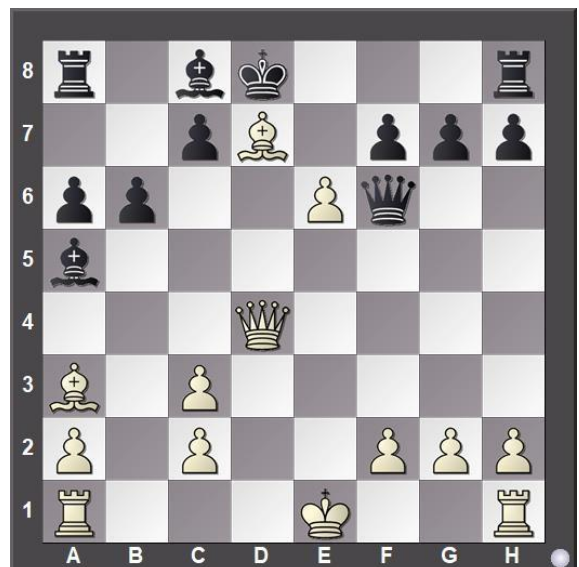
#3. White to move



What is White's best move

- a) ♖a6
- b) ♖a8
- c) ♖fa1
- d) ♖xc7

#4. White to move



What is White's best move?

- a) e7
- b) ♘e7
- c) ♘c6
- d) ♙xf6

#5. White to move



What is White's best move?

- a) g3
- b) ♘d6
- c) ♔×e5
- d) ♔×a5

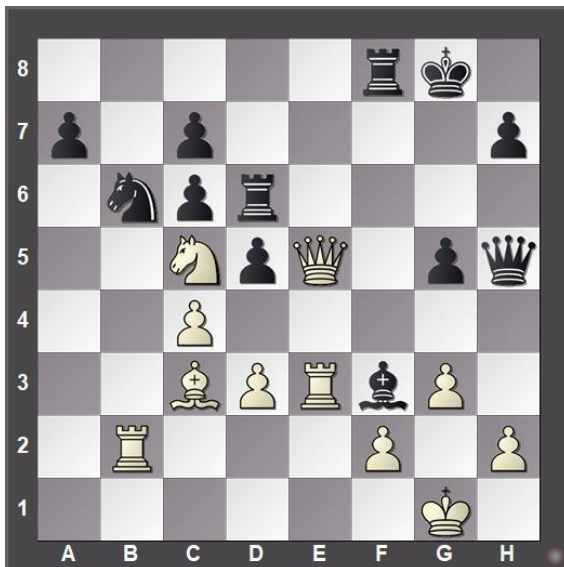
#6. White to move



What is White's best move?

- a) ♘g6
- b) ♔h7
- c) ♔h8
- d) ♔×f7

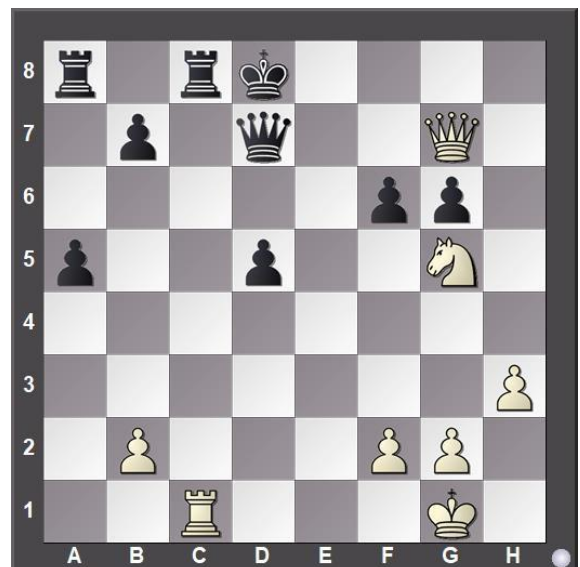
#7. Black to move



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

- a) ♖h6
- b) ♖×f2
- c) ♔×h2
- d) ♔d1

#8. White to move



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

- a) ♔×d7
- b) ♔f8
- c) ♖×c8
- d) ♘f7



**University Interscholastic League
A+ Chess Puzzle Contest
2023-2024 Invitational — Grades 6-8**

ANSWER KEY

Test

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

Tiebreaker

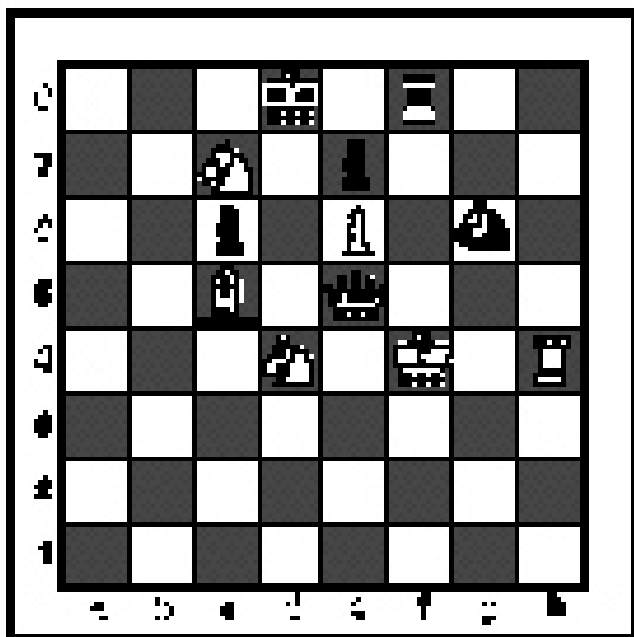
- | | | | |
|----|---|----|---|
| 1. | B | 5. | C |
| 2. | C | 6. | C |
| 3. | C | 7. | A |
| 4. | C | 8. | B |

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



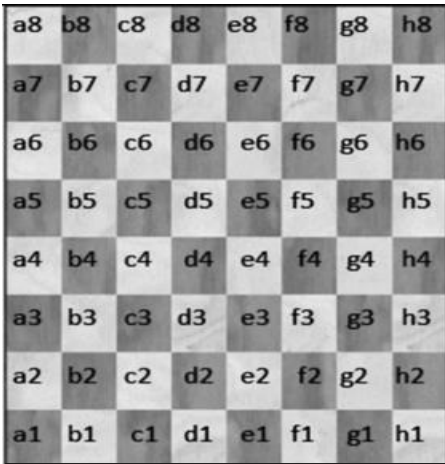
Chess Puzzle Solving






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.

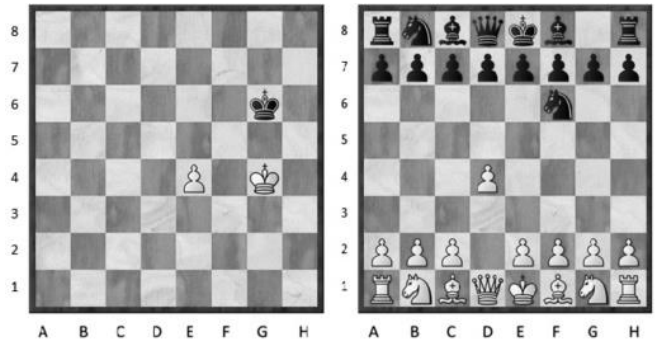


Piece Names	Each chessman can also be represented by a symbol, except for the pawn. (Figurine Notation)
King	
Queen	
Rook	
Bishop	
Knight	
Pawn	a-h (We write the file it's on.)


- 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.

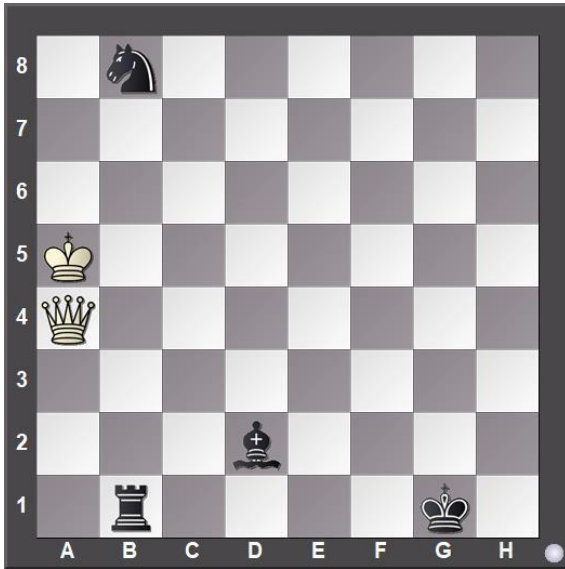
If you look closely at the diagrams in the questions below, you'll see that the frame around the diagram labels the ranks (1-8) and files (a-h) to help you.



White has just played **e4**.

Black has just played ...  **f6**

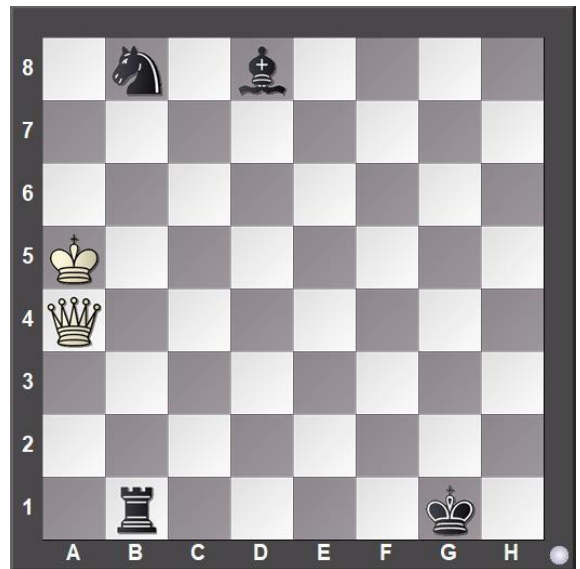
#1. White to move



What term best describes this situation?

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

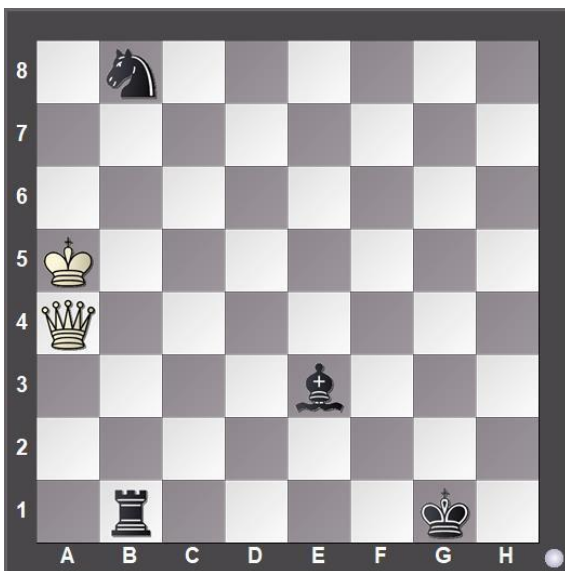
#2. White to move



What term best describes this situation?

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

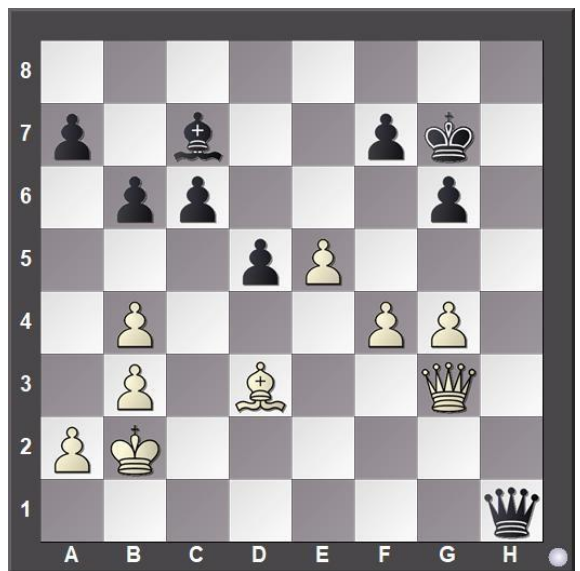
#3. White to move



What term best describes this situation?

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

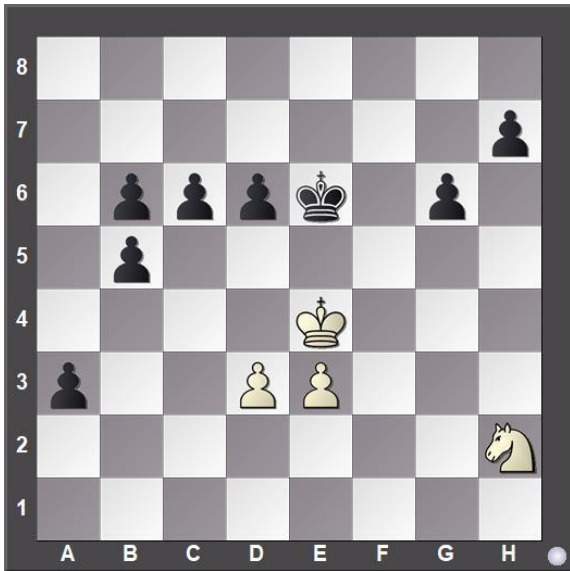
#4. White to move



Black just played d7 to d5. Which pawn can be captured?

- a) Black's c-pawn
- b) Black's d-pawn
- c) Black's f-pawn
- d) None of the above

#5.



Which side has a material advantage?

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

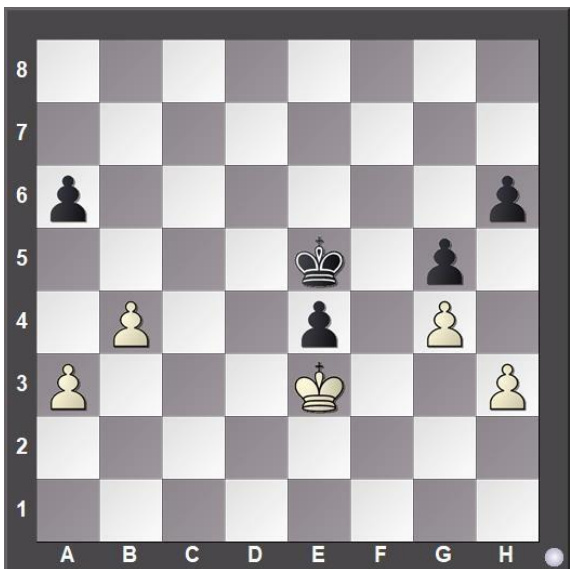
#6. Black to move



What piece should Black capture?

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

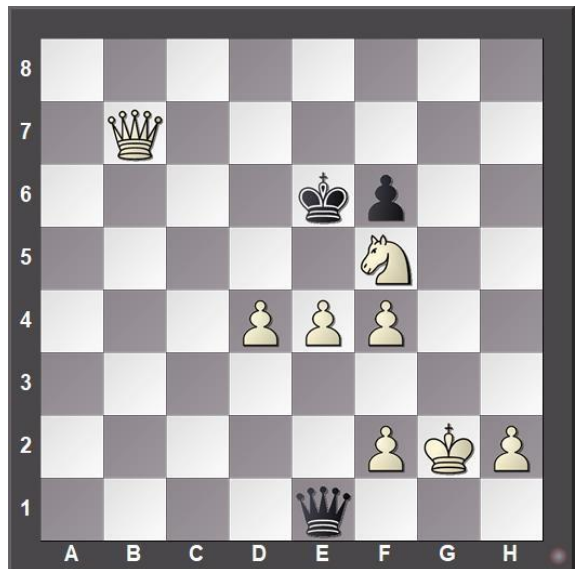
#7.



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

- a) White wins
- b) Black wins
- c) Draw
- d) It depends on whose move it is.

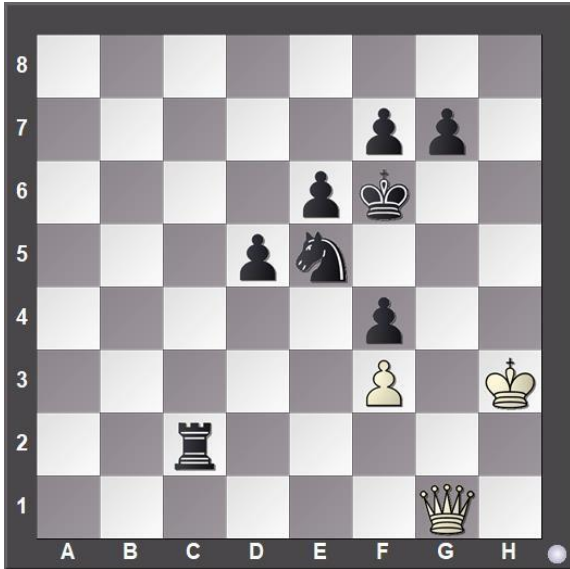
#8. Black to move



All moves can make a draw, except?

- a) ♔f2
- b) ♔e3
- c) ♔f1
- d) ♔g1

#9. White to move



What is White's best move?

- a) ♔g5
- b) ♔xg7
- c) ♔d4
- d) ♔h4

#10. White to move



What is White's best move?

- a) ♖xh6
- b) ♔g4
- c) ♔g5
- d) ♖xf2

#11. White to move



What is White's best move?

- a) ♘g7
- b) ♔f8
- c) ♔xf6
- d) ♘f8

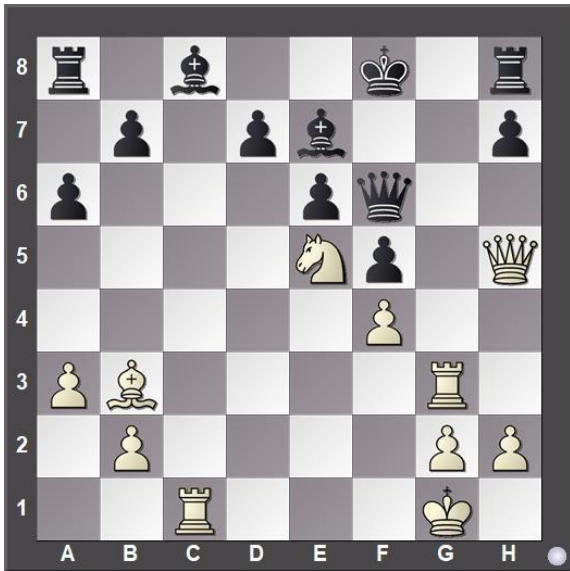
#12. White to move



If White can checkmate Black, how many moves does White need?

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

#13. White to move



What is White's best move?

- a) ♖×c8
- b) ♘×d7
- c) ♘g6
- d) ♕e8

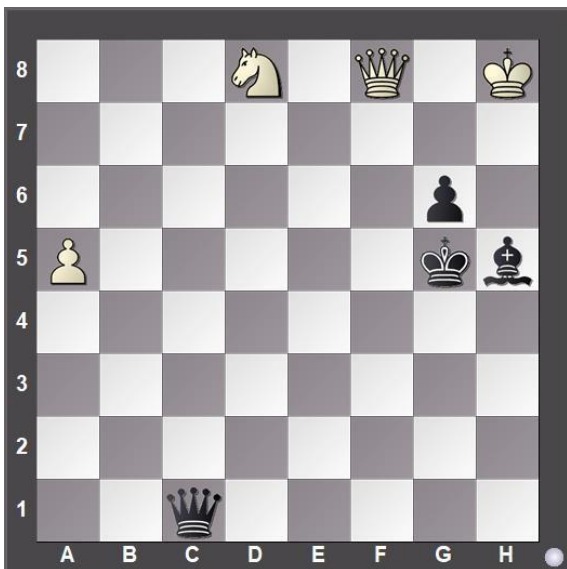
#14. Black to move



If Black can checkmate White, how many moves does Black need?

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

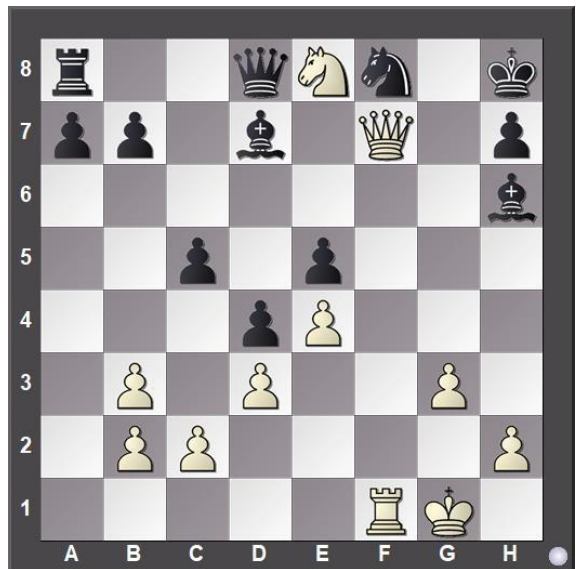
#15. White to move



What is White's best move?

- a) ♕c5
- b) ♕h6
- c) ♘f7
- d) ♕f6

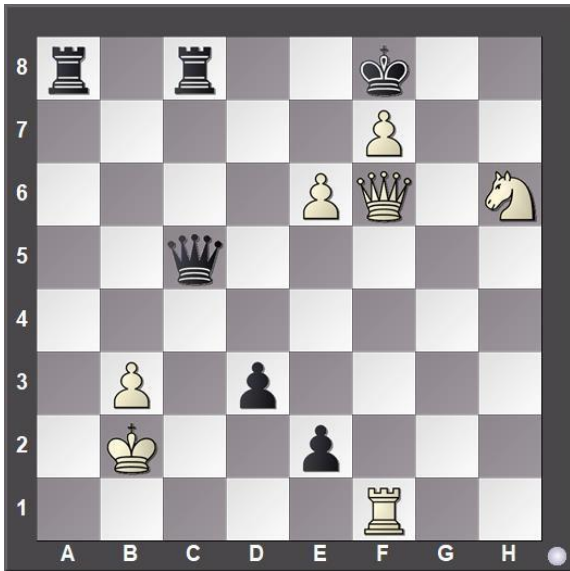
#16. White to move



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

- a) ♕×f8
- b) ♕×h7
- c) ♕g7
- d) ♘f6

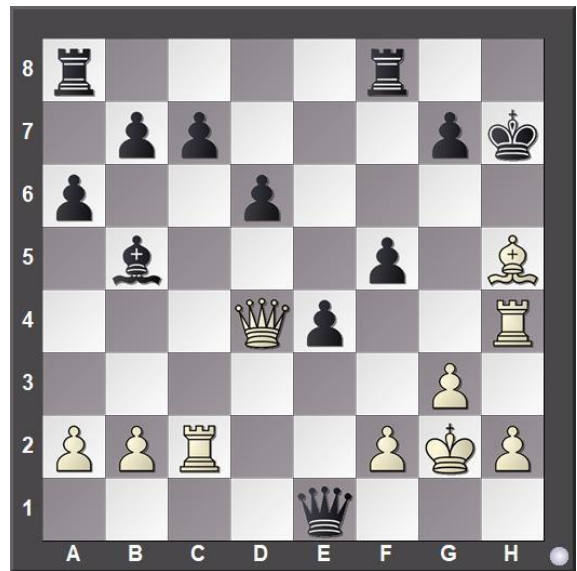
#17. White to move



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

- a) ♔h8
- b) ♔e7
- c) ♔g7
- d) e7

#18.



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

- a) Black wins.
- b) White wins.
- c) It is a draw.
- d) It depends on whose move it is.

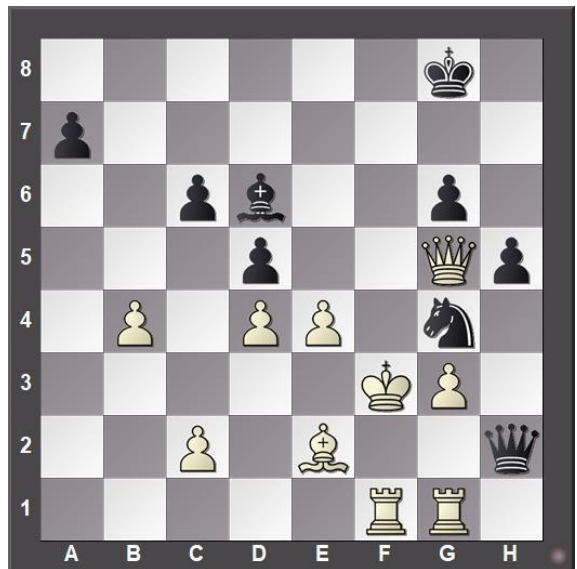
#19. Black to move



What is Black's best move?

- a) ♜a6
- b) ♜b7
- c) ♜d7
- d) ♜g4

#20. Black to move



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

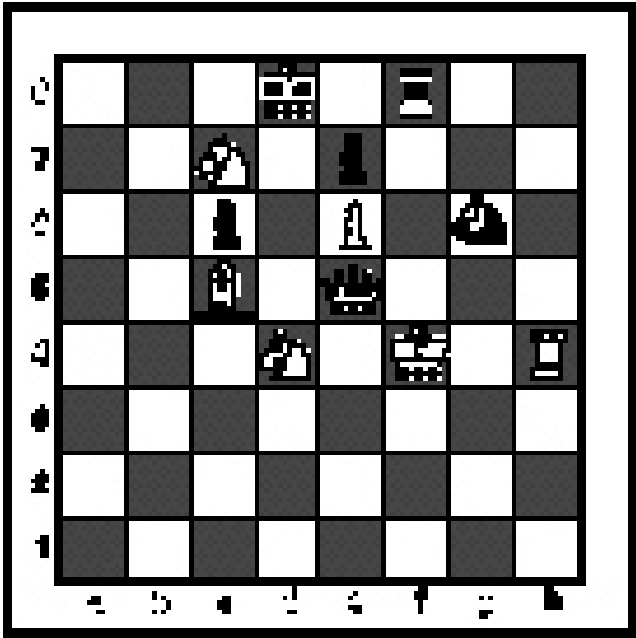
- a) ♔×e2
- b) ♔×g3
- c) ♞f6
- d) d×e

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Chess Puzzle Solving

TIEBREAKER - ALL GRADES

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

IMPORTANT INSTRUCTIONS:

This is the tiebreaker test for all grades for the Spring District UIL Chess Puzzle Solving Test.

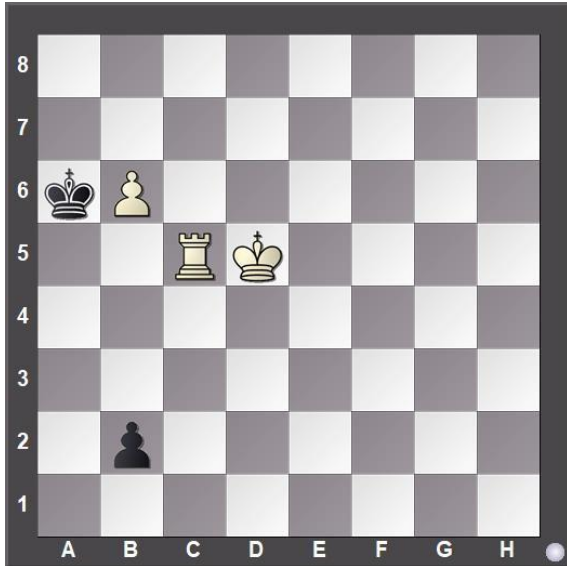
Use the separate answer sheet to write all your answers. You have five (5) minutes to take this part of the test. There are eight (8) questions. Some questions are very difficult.

As before, the symbols for check and checkmate commonly used after moves have been omitted because they would be hints.

Each correct answer earns you one point. There is no penalty for incorrect answers or unanswered questions.

These questions are hard, but the puzzles are interesting! Good luck and have fun!

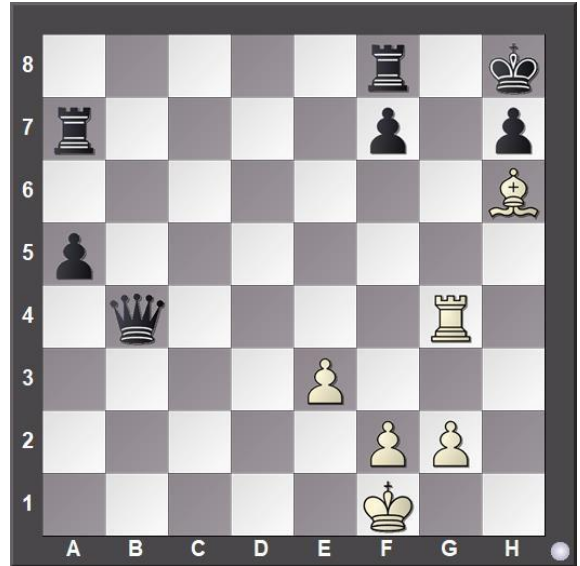
#1. White to move



What is White's best move?

- a) ♖c6
- b) ♖b5
- c) b7
- d) ♔c6

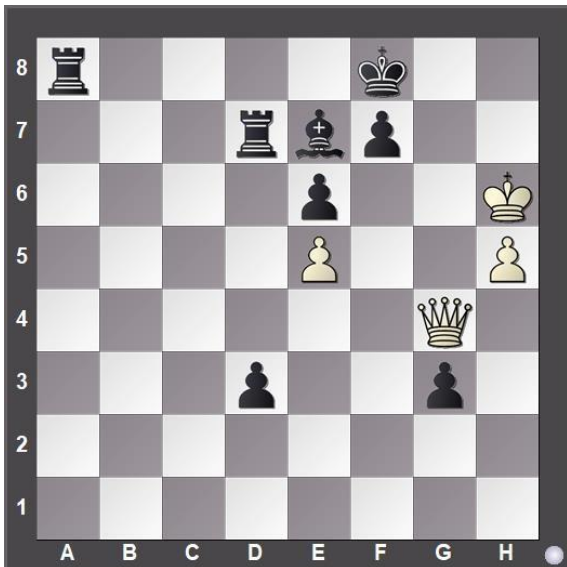
#2. White to move



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

- a) ♔f6
- b) ♔e5
- c) ♔d4
- d) All of the above

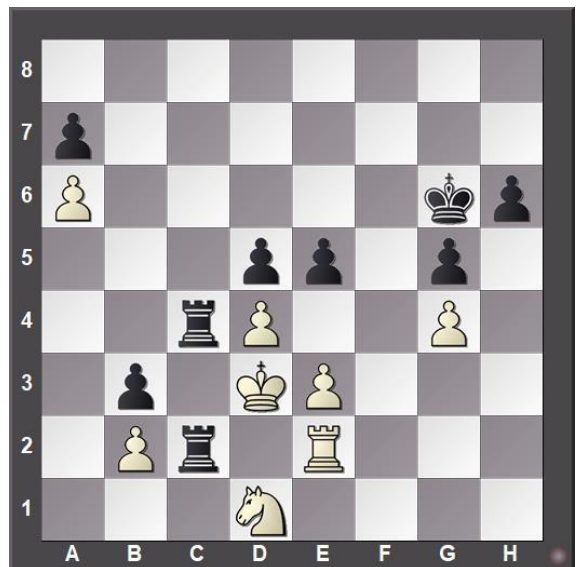
#3. White to move



What is White's best move

- a) ♔g3
- b) ♔h7
- c) ♔g7
- d) ♔g8

#4. Black 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

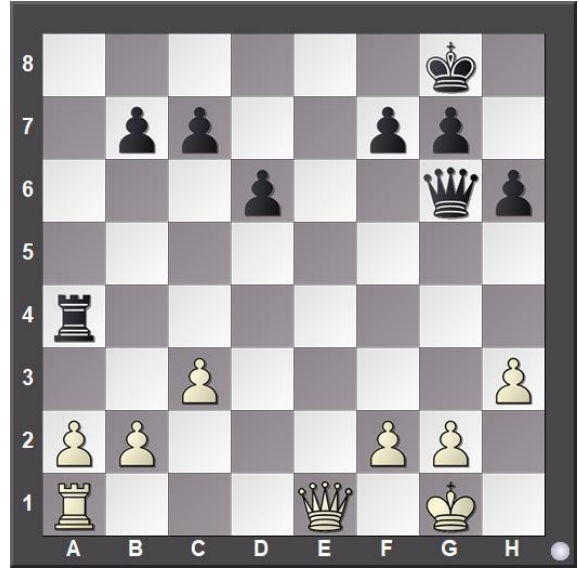
#5. White to move



What is White's best move?

- a) ♔×e8
- b) ♖c8
- c) ♕g7
- d) ♕f8

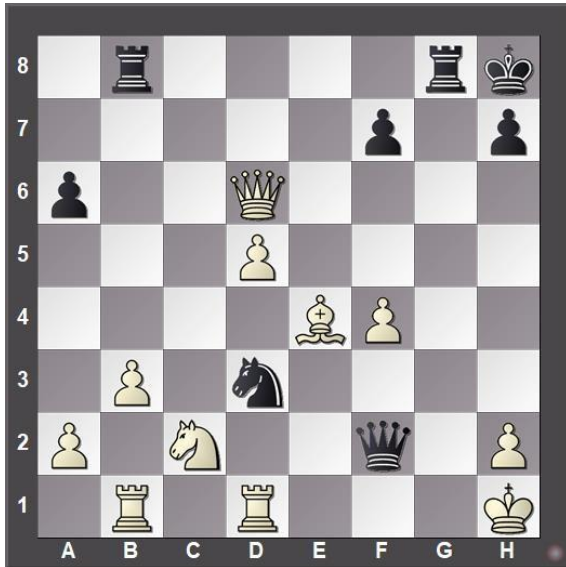
#6. White to move



What is White's best move?

- a) ♖d1
- b) ♕e7
- c) ♕e8
- d) g3

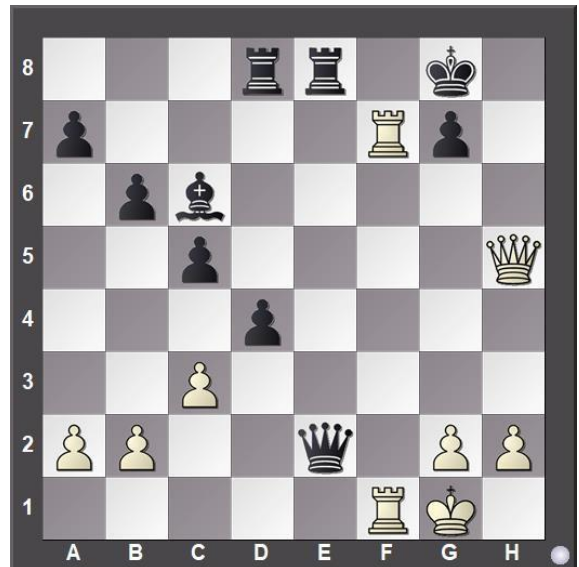
#7. Black to move



What is Black's best move?

- a) ♖g1
- b) ♕g2
- c) ♕g1
- d) ♕×h2

#8. White to move



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

- a) ♖×g7
- b) ♕h8
- c) ♖f7
- d) ♕f7



**University Interscholastic League
A+ Chess Puzzle Contest
2023-2024 Fall/Winter — Grades 6, 7, and 8
ANSWER KEY**

Test

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

Tiebreaker

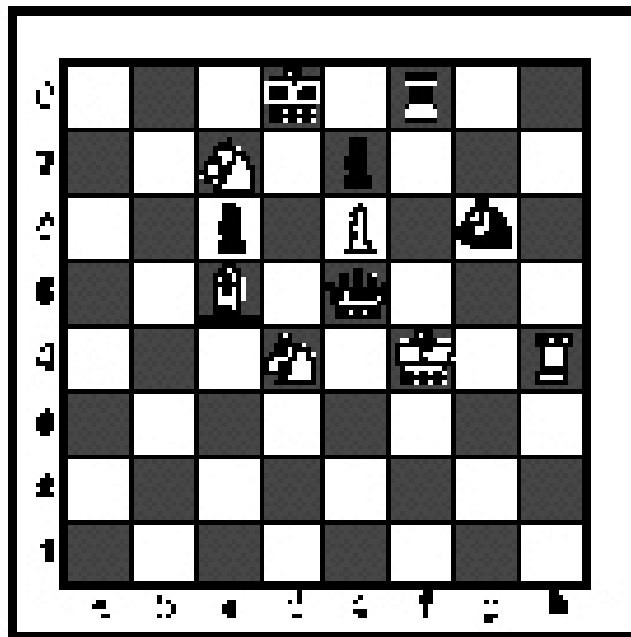
- | | | | |
|----|---|----|---|
| 1. | B | 5. | D |
| 2. | C | 6. | C |
| 3. | D | 7. | C |
| 4. | B | 8. | C |

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Chess Puzzle Solving

grades 6, 7, 8

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

IMPORTANT INSTRUCTIONS:

[Test-administrators, please read text in this box aloud.]

This is the UIL Chess Puzzle Solving Invitational Test for grades six through eight. There are 20 questions on this test. You have 30 minutes to complete it. All questions are multiple choice. Use the answer sheet to mark your answers. Multiple choice answers purposely do not indicate check, checkmate, or e.p. symbols. You will be awarded one point for each correct answer. No deductions will be made for incorrect answers on this test. Finishing early is not rewarded, even to break ties. So use all of your time. Some of the questions may be hard, but all of the puzzles are interesting! Good luck and have fun!

If you don't already know chess notation, reading and referring to the section below on this page will help you.

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.

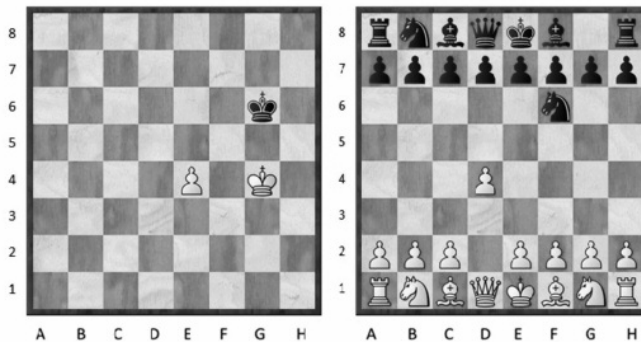


Piece Names	Each chessman can also be represented by a symbol, except for the pawn. (Figurine Notation)
King	
Queen	
Rook	
Bishop	
Knight	
Pawn	a-h (We write the file it's on.)

- 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.

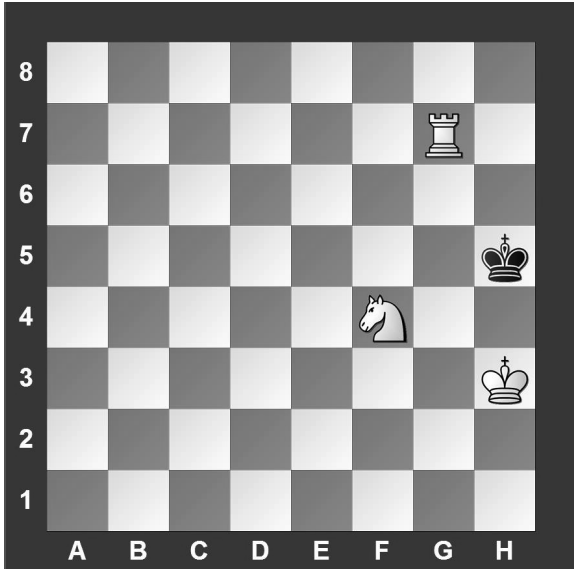
At right are two sample moves.

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 ... **Nf6**.

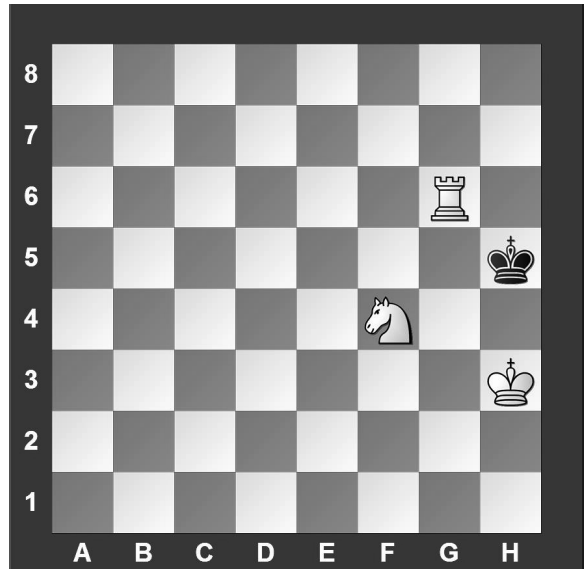
#1. Black to move



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.

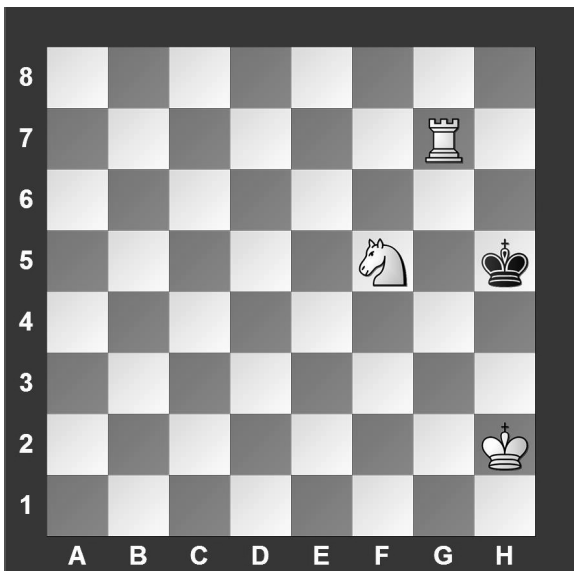
#2. Black to move



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.

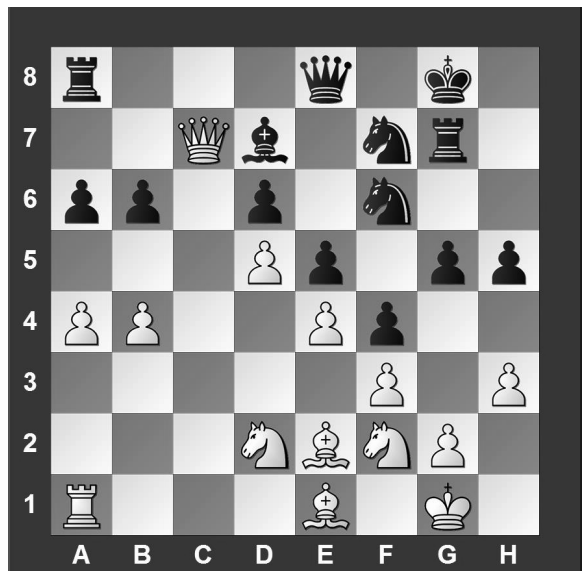
#3. Black to move



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.

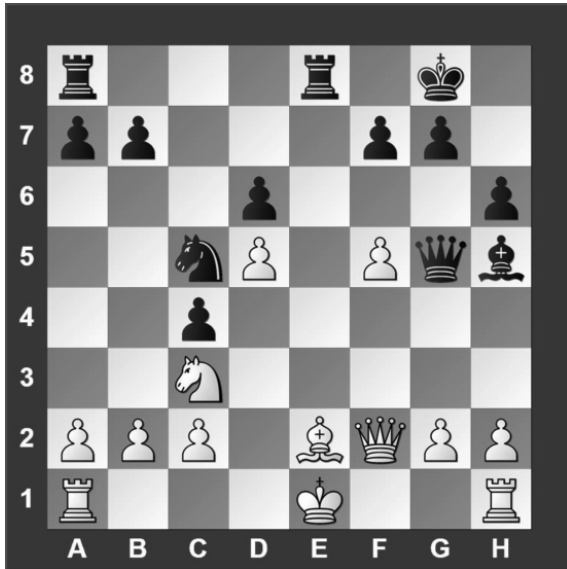
#4.



Which side has material advantage?

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

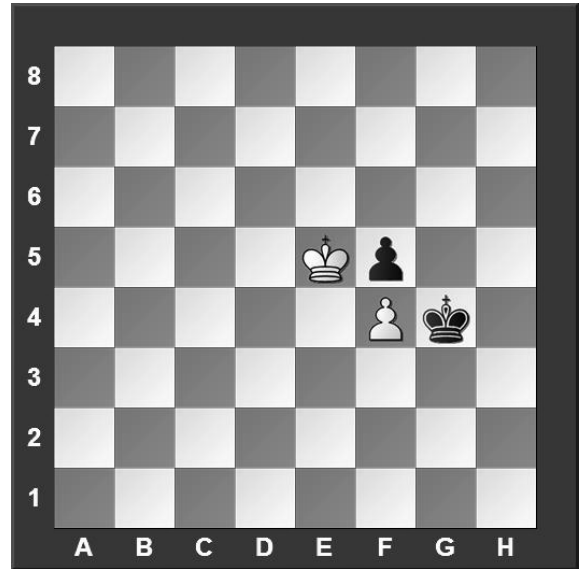
#5. White to move



Which move is possible for White?

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

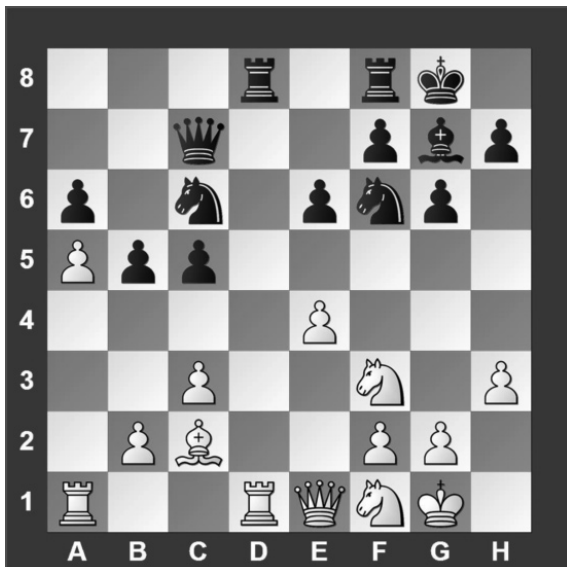
#6. White to move



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.

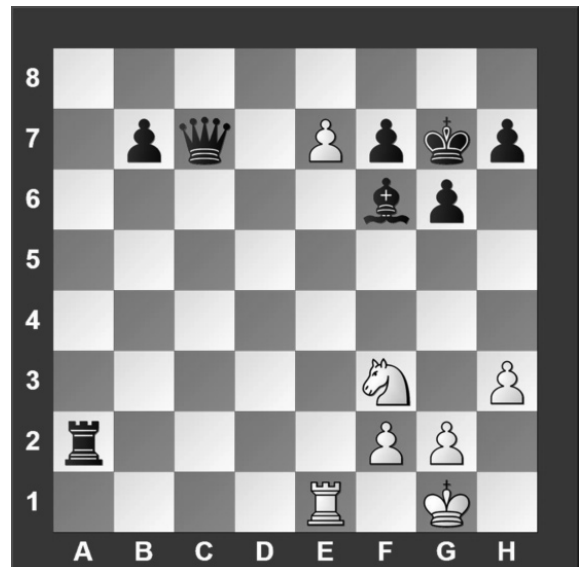
#7. White to move



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

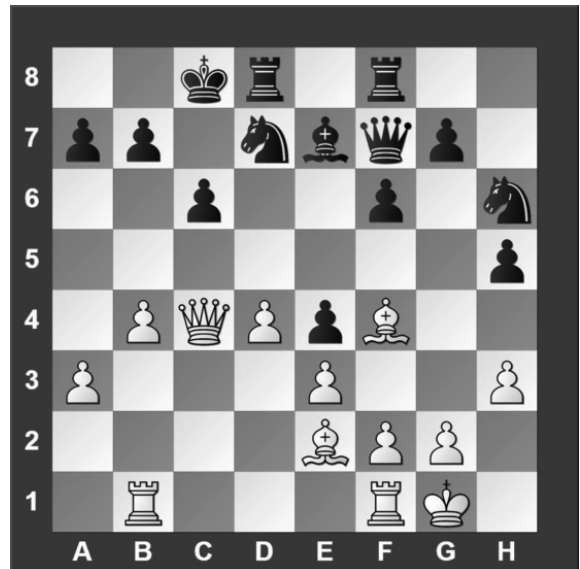
#9. White to move



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

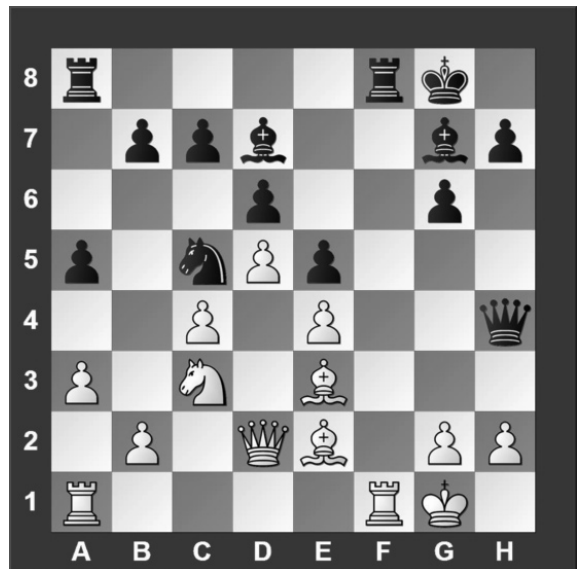
#11. White to move



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

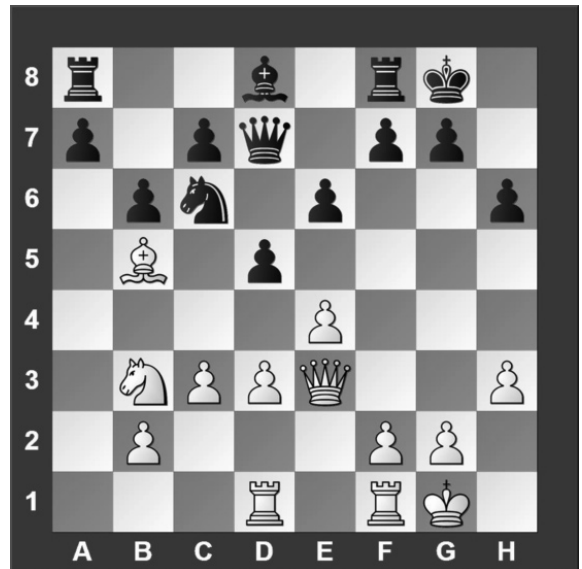
#13. White to move



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) ♖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

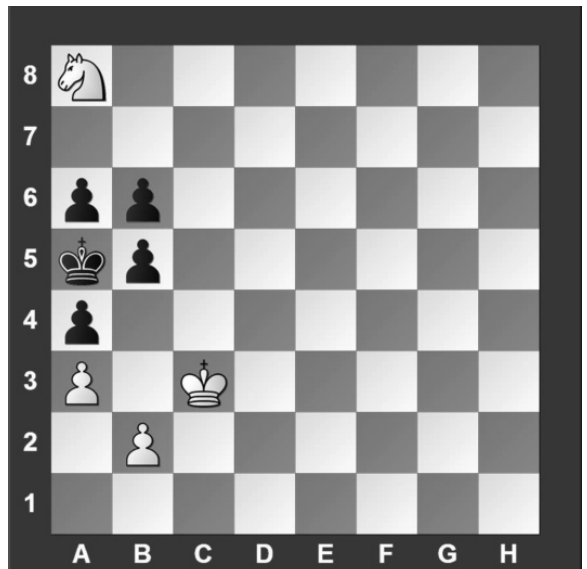
#19. White to move



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?

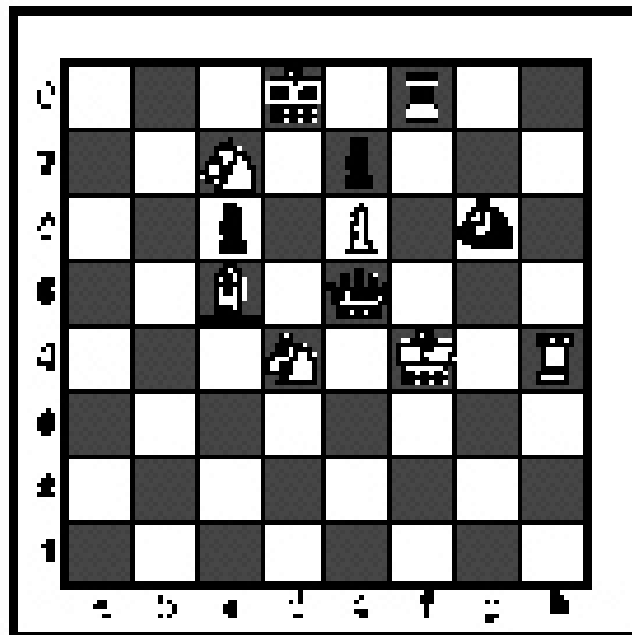
- a) 1
- b) 2
- c) 3
- d) 4

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Chess Puzzle Solving

TIEBREAKER - ALL GRADES

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

IMPORTANT INSTRUCTIONS:

This is the tiebreaker test for all grades for the Invitational UIL Chess Puzzle Solving Test.

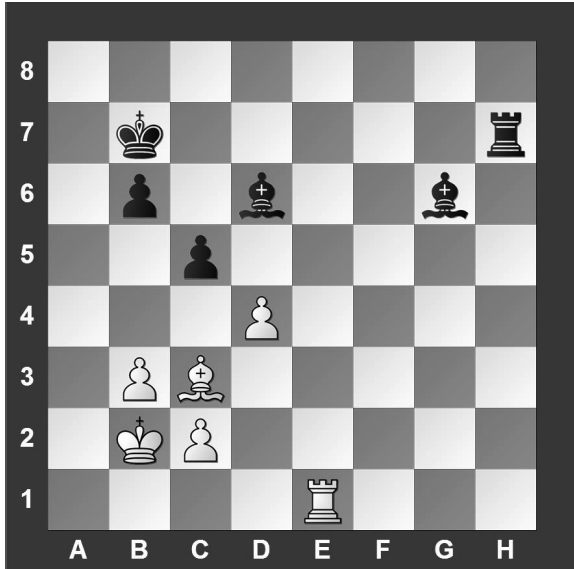
Use the separate answer sheet to write all your answers. You have five (5) minutes to take this part of the test. There are eight (8) questions. Some questions are very difficult.

As before, the symbols for check and checkmate commonly used after moves have been omitted because they would be hints.

Each correct answer earns you one point. There is no penalty for incorrect answers or unanswered questions.

These questions are hard, but the puzzles are interesting! Good luck and have fun!

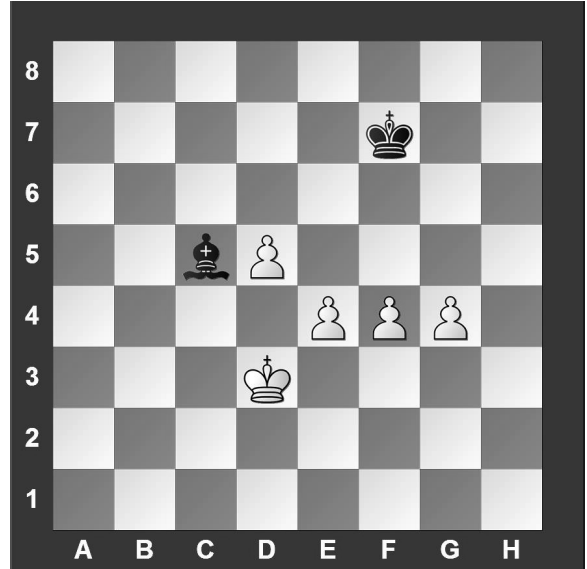
#1. White to move



What is White's best move?

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

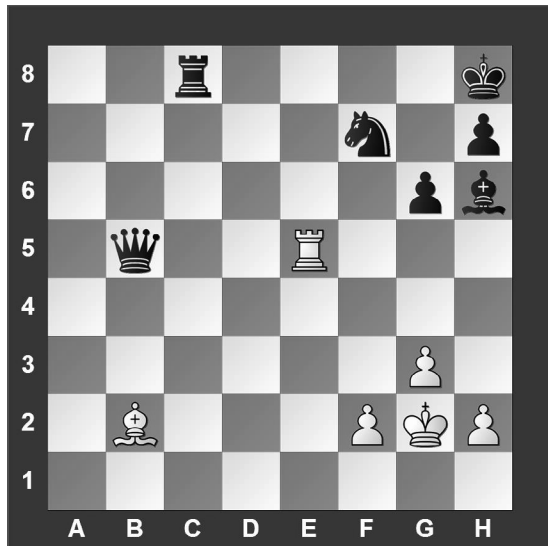
#2. White to move



What should be the outcome of the game?

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

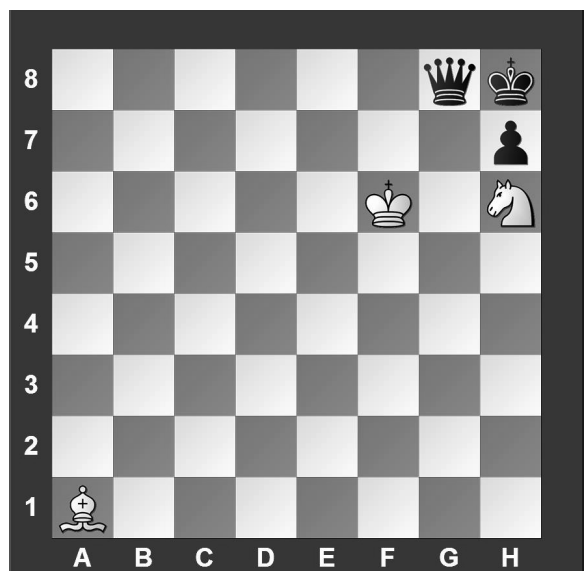
#3. White to move



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) $\text{N}f7$

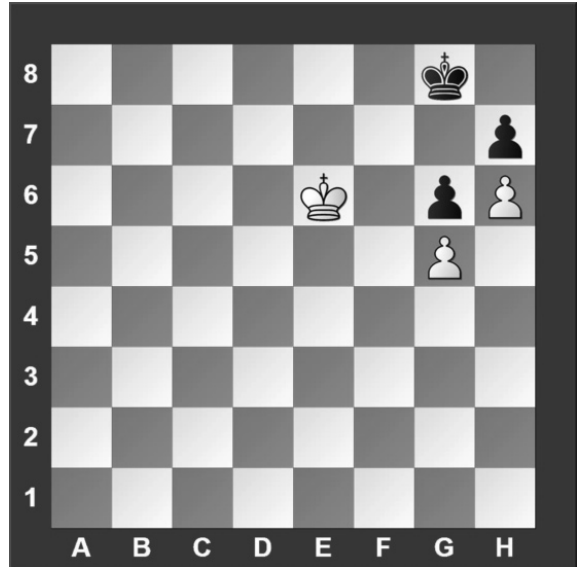
#5. White to move



What is White's best move?

- a) ♖d7
- b) ♘c4
- c) fxe5
- d) ♘d3

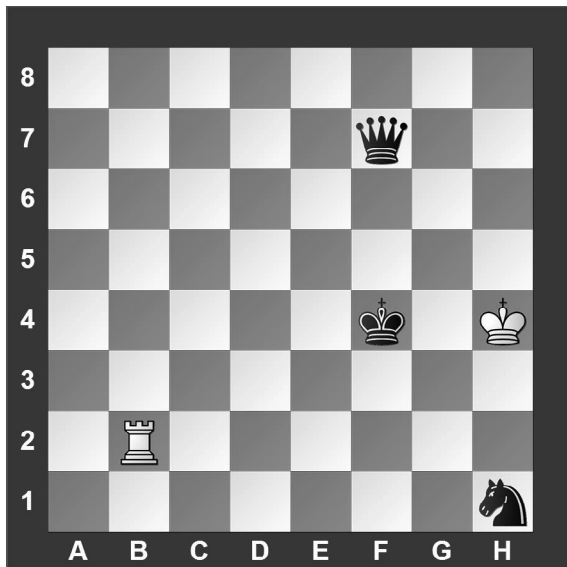
#6. White to move



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

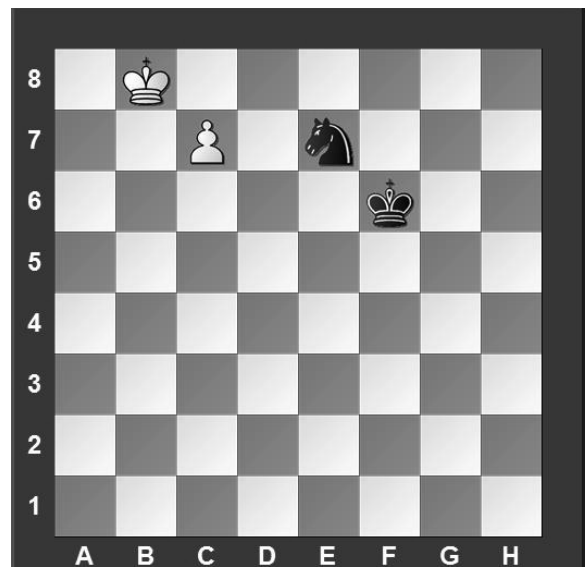
#7. White to move



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



**University Interscholastic League
A+ Chess Puzzle Contest
2023-2024 Spring — Grades 6-8**

ANSWER KEY

Test

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

Tiebreaker

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

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. 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

21. A B C D

22. A B C D

23. A B C D

24. A B C D

25. A B C D

26. A B C D

27. A B C D

28. A B C D

29. A B C D

30. A B C D

31. A B C D

32. A B C D

33. A B C D E F G H

34. A B C D E F G H

35. A B C D E F G H

36. A B C D E F G H

37. A B C D E F G H

38. A B C D E F G H

39. A B C D E F G H

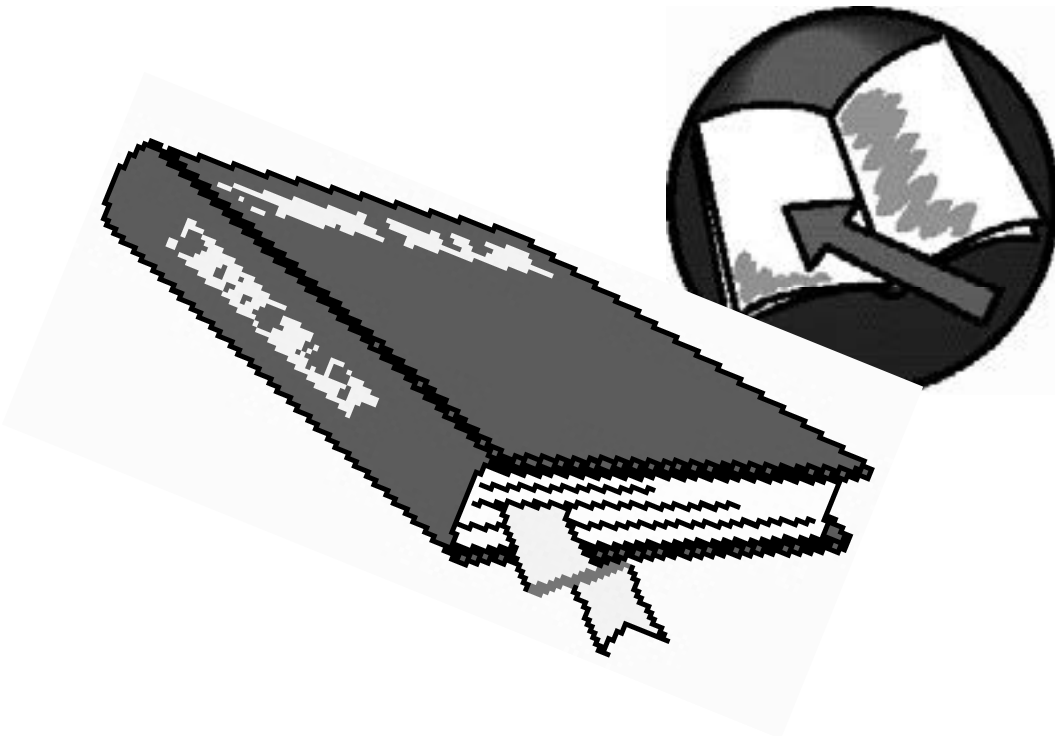
40. A B C D E F G H

INVITATIONAL 2023-2024

A+ ACADEMICS



University Interscholastic League



Dictionary Skills

grades 7 & 8

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

**University Interscholastic League
2023-24 Dictionary Skills Contest
Invitational District Test — Grades 7 & 8**

1. What shape did ammonite take?
A. Cube
B. Spiral
C. Pyramid
D. Shapeless
2. Which of the following is a synonym for merry?
A. Jocose
B. Jitney
C. Joggle
D. Jicama
3. A gondolier can be found operating his water vehicle in what European city?
A. Rome
B. London
C. Helsinki
D. Venice
4. Emily is feeling very languorous today. What is she feeling?
A. Weak
B. Silly
C. Angry
D. Hungry
5. The Brazilian cruzeiro is similar to all of the following except _____?
A. The Italian lira
B. The Greek drachma
C. The Canadian cruet
D. The French franc
6. What organ is hepatic?
A. Liver
B. Kidney
C. Brain
D. Bladder
7. What constellation is Rigel a part of?
A. Ursa Major
B. Andromeda
C. Orion
D. Cassiopeia
8. Which of the following homes is bucolic?
A. An urban apartment
B. A high-rise condo
C. A suburban family home
D. A rural farmhouse
9. A horse is to a saddle as a howdah is to _____?
A. A donkey
B. A camel
C. An ox
D. A steer
10. Which of the following cities is in a torrid environment?
A. Seattle, Washington
B. St. Paul, Minnesota
C. Boston, Massachusetts
D. Phoenix, Arizona

11. What is a dram equal to?
A. 0.083 pound
B. 0.0625 ounce
C. 0.05 ounce
D. 0.002083 ounce
12. What kind of vehicle participates in a regatta?
A. Go-kart
B. Horse-drawn buggy
C. Boat
D. Snowmobile
13. Where in the United States could you most likely find kudzu growing?
A. Northwestern
B. Southwestern
C. Northeastern
D. Southeastern
14. Muscatel is a _____ wine that is _____ in color?
A. Sweet; golden
B. Dry; pink
C. Tart; yellow
D. Rich; red
15. What profession would need to be aware of isostasy?
A. Veterinarian
B. Geologist
C. Attorney
D. Journalist
16. What was nepenthe used mainly for?
A. To make crops grow
B. To paint walls
C. To flavor food
D. To dull pain
17. What is the function of xylem in plants?
A. Transport water
B. Produce flowers
C. Aid photosynthesis
D. Remove waste
18. Which of the following insects is a lepidopteran?
A. Honeybee
B. Mosquito
C. Butterfly
D. Junebug
19. Where would one typically deliver a eulogy?
A. Funeral
B. Graduation
C. Wedding
D. Award ceremony
20. Which of the following is NOT a synonym of compunction?
A. Anger
B. Uneasiness
C. Guilt
D. Regret
21. What shape is a delta?
A. Circle
B. Square
C. Rhombus
D. Triangle

22. What does an osprey mainly feed on?
- A. Small birds
B. Insects
C. Fish
D. Rodents
23. According to morse code, what is the appropriate code for the letter N?
- A. . -
B. - - -
C. . - .
D. - .
24. What would be a reason to contact an ombudsman?
- A. Neighbor making loud noises at night
B. Suspecting congressman is taking bribes
C. Family member moving to a new city
D. New restaurant opening in town
25. Which of the following is a plural of index?
- A. Indexer
B. Index
C. Indices
D. Indic
26. Who would most likely need to know how to use potassium dichromate?
- A. Farmhand
B. Photographer
C. Baker
D. Dentist
27. Someone who is a muscovite was born or raised in what city?
- A. Manchester, England
B. Montreal, Canada
C. Monterey, Mexico
D. Moscow, Russia
28. What natural feature can produce perlite?
- A. Volcano
B. Geyser
C. Waterfall
D. Cave
29. How many zeroes are in the American number decillion?
- A. 9
B. 33
C. 21
D. 18
30. What activity is done on a kibbutz?
- A. Dancing
B. Reading
C. Farming
D. Teaching
31. Bryan just spilled his coffee on his shirt. The shirt is now _____ with stains.
- A. Mortised
B. Moribund
C. Muddled
D. Mottled
32. The planet Neptune is _____ million miles from the Sun.
- A. 35.99
B. 149.60
C. 1426.73
D. 2795.68

- | | |
|---------------------|----------------------------|
| _____ 33. flounder | A. not easily pulled apart |
| _____ 34. slovenly | B. to decline in strength |
| _____ 35. tenacious | C. foolish |
| _____ 36. gradient | D. treat with disrespect |
| _____ 37. enervate | E. to struggle |
| _____ 38. beguile | F. slope |
| _____ 39. fatuity | G. to deceive |
| _____ 40. desecrate | H. untidy |

**University Interscholastic League
2023-24 Dictionary Skills Contest
Invitational Test — Grades 7 & 8**

Answer Key

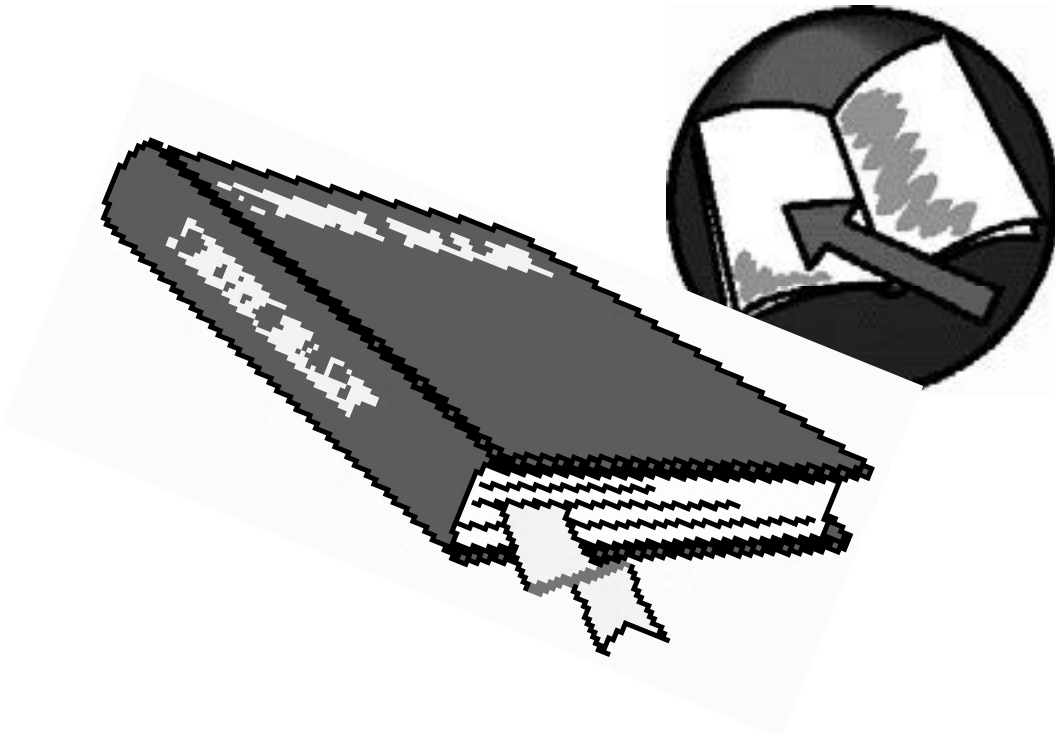
- | | |
|-------|-------|
| 1. B | 21. D |
| 2. A | 22. C |
| 3. D | 23. D |
| 4. A | 24. B |
| 5. C | 25. C |
| 6. A | 26. B |
| 7. C | 27. D |
| 8. D | 28. A |
| 9. B | 29. B |
| 10. D | 30. C |
| 11. B | 31. D |
| 12. C | 32. D |
| 13. D | 33. E |
| 14. A | 34. H |
| 15. B | 35. A |
| 16. D | 36.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

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Dictionary Skills

grades 7 & 8

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

**University Interscholastic League
2023-24 Dictionary Skills Contest
Fall/Winter District Test — Grades 7 & 8**

1. Which of the following is NOT a synonym for vexation?
A. Irritation
B. Annoyance
C. Trouble
D. Anger
2. Where in the digestive system is the jejunum located?
A. Pancreas
B. Stomach
C. Small intestine
D. Esophagus
3. Jane's friends threw her a surprise birthday party. What adjective best describes their behavior?
A. Susceptible
B. Surreptitious
C. Surly
D. Svelte
4. Which of the following is not abbreviated MD?
A. medieval
B. medical doctor
C. Maryland
D. muscular dystrophy
5. The sun enters the zodiac sign Sagittarius on what date?
A. March 21
B. November 22
C. July 23
D. January 20
6. If an item is made of scrimshaw, what is it made out of?
A. Rhinoceros horn
B. Goat hoof
C. Whale teeth
D. Elephant tusk
7. How long was Odysseus on his odyssey?
A. 1 year
B. 5 years
C. 8 years
D. 10 years
8. What items does a lapidary work with?
A. Precious stones
B. Fine fabrics
C. Delicate metals
D. Expensive perfumes
9. What U.S. State does the East River run through?
A. Massachusetts
B. New York
C. Delaware
D. Vermont

10. What do the punctuation marks called guillemets look like?
A. {} C. ()
B. [] D. << >>
11. Which of the following fabrics is similar to abaca?
A. Cotton C. Angora
B. Leather D. Wool
12. Respiratory is to lungs as cutaneous is to _____?
A. Skin C. Hair
B. Teeth D. Nails
13. In Roman mythology, Saturn is the god of _____?
A. Water C. Agriculture
B. Strategy D. Spring
14. What is the proper translation of the latin phrase *ex post facto*?
A. Before the fact C. During the fact
B. After the fact D. Without any facts
15. What language do we get the word fjord from?
A. Norwegian C. Swedish
B. Finnish D. Dutch
16. What ancient culture was led by an emperor?
A. Greek C. Roman
B. Chinese D. Egyptian
17. Jessica received a free side of fries with her cheeseburger. This is an example of a _____?
A. Laggard C. Lamella
B. Lagniappe D. Lamasery
18. Where would you find a maelstrom?
A. In the desert C. In the forest
B. In the mountains D. In the ocean
19. If someone has a lachrymal problem, they have an issue producing _____?
A. Tears C. Adrenaline
B. Insulin D. Mucus
20. Which of the following is a synonym of malediction?
A. Celebration C. Cure
B. Curse D. Caveat

21. What kind of animal is a capon?
A. Female cow
B. Male goat
C. Male chicken
D. Female sheep
22. What time zone is the state of Wyoming in?
A. Pacific time
B. Mountain time
C. Central time
D. Eastern time
23. Bobby was given a sobriquet by his mother. What was he given?
A. A present
B. A new pet
C. An allowance
D. A nickname
24. Which of the following is most similar to the kola nut?
A. Coffee bean
B. Almond
C. Mushroom
D. Raspberry
25. One who has a lot of gumption has a lot of _____?
A. Wealth
B. Creativity
C. Jealousy
D. Courage
26. What does tête-à-tête mean in French?
A. Back-to-back
B. Head-to-head
C. Hand-to-hand
D. Toe-to-toe
27. What century was the harquebus used in?
A. 11th century
B. 13th century
C. 15th century
D. 17th century
28. Which of the following countries would you NOT find people speaking quechua?
A. Brazil
B. Peru
C. Bolivia
D. Chile
29. How can a knish be prepared?
A. Grilled
B. Steamed
C. Baked
D. Poached
30. Historically, what did the latin word for vermin, *vermis*, mean?
A. Pest
B. Rat
C. Insect
D. Worm
31. What room in a house is most similar to a scullery?
A. Attic
B. Garage
C. Kitchen
D. Laundry room

32. According to dentition, which teeth are the furthest back in the mouth?
- A. Canines
 - B. Incisors
 - C. Premolars
 - D. Molars

- | | |
|------------------------|-----------------------------------|
| _____ 33. sagacious | A. occurring without loss of heat |
| _____ 34. ratify | B. mask for disguise |
| _____ 35. vizard | C. smallness of number |
| _____ 36. adiabatic | D. out of control |
| _____ 37. Nom de plume | E. pen name |
| _____ 38. truss | F. wise in understanding |
| _____ 39. berserk | G. a framework of beams |
| _____ 40. paucity | H. to give legal approval |

**University Interscholastic League
2023-24 Dictionary Skills Contest
Fall/Winter Test — Grades 7 & 8**

Answer Key

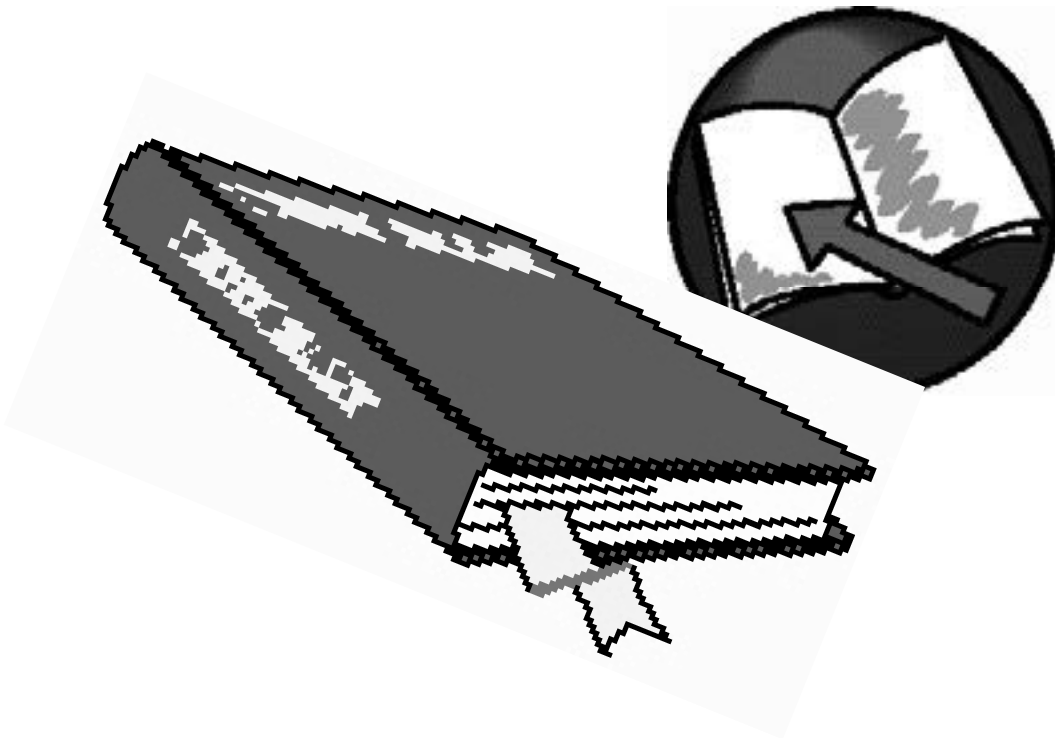
- | | |
|-------|-------|
| 1. D | 21. C |
| 2. C | 22. B |
| 3. B | 23. D |
| 4. A | 24. A |
| 5. B | 25. D |
| 6. C | 26. B |
| 7. D | 27. C |
| 8. A | 28. A |
| 9. B | 29. C |
| 10. D | 30. D |
| 11. A | 31. C |
| 12. A | 32. D |
| 13. C | 33. F |
| 14. B | 34. H |
| 15. A | 35. B |
| 16. C | 36.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

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Dictionary Skills

grades 7 & 8

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

**University Interscholastic League
2023-24 Dictionary Skills Contest
Spring District Test — Grades 7 & 8**

1. Crazy Horse was the Chief of which Native American tribe?
A. Apache
B. Sioux
C. Navajo
D. Inuit
2. Joe just became a septuagenarian. How old is he?
A. 10
B. 30
C. 50
D. 70
3. Tyler is using nougat as an ingredient in a dish he's making. What is he most likely making?
A. Pizza
B. Candy
C. Sandwich
D. Salad
4. What does a miser store?
A. Water
B. Gems
C. Canned goods
D. Money
5. What is the main action that is done when using a bola?
A. Spinning
B. Throwing
C. Dropping
D. Catching
6. Asmara is the capital of what African nation?
A. Cameroon
B. Angola
C. Nigeria
D. Eritrea
7. Which of the following is NOT a part of the nucleus?
A. Endoplasmic reticulum
B. Mitochondria
C. Nuclear membrane
D. Nucleolus
8. What is a hurricane called in the Phillipines?
A. Typhoon
B. Typhus
C. Typhoid
D. Tympanum
9. Ancient Greeks referred to the hippopotamus by what two word phrase?
A. Gray hog
B. Armored pig
C. River horse
D. Water cow
10. Retinol is a common form of what vitamin?
A. Vitamin B
B. Vitamin K
C. Vitamin C
D. Vitamin A

11. Someone who is afflicted with vertigo is frequently feeling _____?
A. Exhausted
B. Dizzy
C. Depressed
D. Ravenous
12. How tall can redwoods grow?
A. 360 feet
B. 450 feet
C. 520 feet
D. 600 feet
13. Where are broncos commonly found in the wild?
A. Northern Canada
B. Western United States
C. Southern Mexico
D. Caribbean islands
14. What kind of bird is an accipiter?
A. Falcon
B. Eagle
C. Hawk
D. Vulture
15. How is a kiva typically shaped?
A. Pyramid
B. Square
C. Hexagon
D. Round
16. What color and shape are forsythia flowers?
A. Red; bowl-shaped
B. Pink; tube-shaped
C. Yellow; bell-shaped
D. White; star-shaped
17. Where is a portico found on a building?
A. On the second floor
B. At the entrance
C. On the roof
D. In the basement
18. At what range above the Earth can you find the ozone layer?
A. 5-10 miles
B. 10-15 miles
C. 20-30 miles
D. 40-50 miles
19. The mazurka is found in what country?
A. Poland
B. Germany
C. Turkey
D. Russia
20. What part of the body can be affected by trachoma?
A. Throat
B. Ears
C. Eyes
D. Nose
21. What ingredients are necessary to create mead?
A. Espresso, milk, syrup
B. Water, hops, malt
C. Honey, malt, yeast
D. Milk, eggs, sugar

22. What date is Candlemas celebrated on?
A. January 8
B. February 2
C. May 19
D. December 23
23. Hessian flies are destructive to which of the following crops?
A. Corn
B. Cotton
C. Wheat
D. Rice
24. Where in the mouth does a guttural sound come from?
A. Behind the front teeth
B. Under the tongue
C. From the lips touching
D. Back of the tongue
25. What oil is used in the creation of linoleum?
A. Linseed oil
B. Mineral oil
C. Walnut oil
D. Lavender oil
26. How long does it take the planet Jupiter to revolve around the sun?
A. 87.97 days
B. 686.99 days
C. 11.86 years
D. 164.79 years
27. In the metric system, what is the U.S. equivalent of a kiloliter?
A. 0.02 gallons
B. 2.64 gallons
C. 26.42 gallons
D. 264.17 gallons
28. Which of the following is a way to use borax?
A. To darken colors on clothes
B. As a cleansing agent
C. To polish metals
D. As a sugar alternative
29. In what state can you find the Inupiat people?
A. Oklahoma
B. New Mexico
C. Alaska
D. Washington
30. Guadalcanal is located in which ocean?
A. Pacific
B. Atlantic
C. Indian
D. Antarctic
31. The meaning of dismal comes from what Latin phrase?
A. *de minimis*
B. *deus ex machina*
C. *dies mali*
D. *disiecta membra*
32. In what states were stegosaurus fossils found?
A. New Mexico and Utah
B. Texas and Oklahoma
C. Nebraska and Kansas
D. Colorado and Wyoming

Match each of the following words to its correct meaning:

- | | |
|-------------------------|---------------------------|
| _____ 33. indefatigable | A. Japanese number puzzle |
| _____ 34. grapnel | B. theft |
| _____ 35. sudoku | C. tireless |
| _____ 36. amalgamate | D. to persuade |
| _____ 37. larceny | E. boredom |
| _____ 38. ennui | F. to complain loudly |
| _____ 39. cajole | G. to combine or merge |
| _____ 40. fulminate | H. small anchor |

**University Interscholastic League
2023-24 Dictionary Skills Contest
Spring Test — Grades 7 & 8**

Answer Key

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



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 _____



Editorial Writing

A+ Invitational • 2023-2024

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 has 1,220 students and is located in East Texas. This month, Principal Jackson Sweetly proposed a ban on all colognes, perfumes, scented deodorants and body sprays on school property. He made the proposal after surveying faculty and staff, 82% of whom said they would support the proposal.

According to Sweetly at least one teacher on staff suffers from chemical sensitivity or severe allergy. The teacher in question was out sick 12 days this semester because of illnesses related to strong fragrances in the school.

“As principal at Leaguetown Middle School, one of my most important jobs is to create a safe working environment for the employees who work here,” Sweetly said. “I understand why many students and staff enjoy wearing these perfumes and body sprays, but we need to look at the cost of allowing these things to continue. When you walk down the hall, sometimes you are bombarded with different sprays and smells. We plan to eliminate these hazards for everyone’s safety.”

According to school nurse Angela Hartman, odors can irritate people with asthma, trigger headaches and cause severe respiratory symptoms. In addition, 38 students at the school are known to suffer from asthma.

“I frequently have students visiting my office with a simple headache,” she said. “After questioning them, I find that either they haven’t drunk enough water or that they have sprayed themselves with some type of perfume or have been sitting next to someone who has. Most students aren’t aware of the potential problems these things can cause.”

Students like 8th-grader Allison Harris said the ban is too extreme.

“Sometimes I just need to spray some essential oils because there are so many other awful smells in class or in the hall,” Harris said. “Some 6th-graders haven’t gotten used to wearing deodorant every day and sometimes it’s just easier to do a little spray at my desk. Don’t get me started on what it smells like when kids don’t shower after an athletic period when kids have gone outside for practice. Mr. Sweetly should just address smells when they become an issue rather than banning them all.”

The school board will vote on the proposal at its Nov. 8 meeting and if approved, the ban will go into effect immediately. The next issue of the Press will be distributed Friday, Nov. 3.

STANCES

Supporting

With at least one teacher and potentially dozens of students having their health negatively affected by fragrances on campus, banning these products is the right thing to do. Teachers should not have to go to school in an environment where they aren’t safe. Students should find other ways to maintain a clean-smelling body odors. By showering daily and wearing deodorant as necessary, students can cut down on those unpleasant smells that some students cover with perfumes and body sprays.

Opposing

Students in middle school are responsible enough to be trusted with spraying perfume and body spray. Instead of banning students and staff from spraying at school, Mr. Sweetly should put out guidelines on how to spray safely. For example, students could do one or two sprays in the restroom, rather than bringing the spray into the classroom. In addition, those with medical conditions should find better ways to prevent themselves from being exposed, rather than depending on others to leave perfume sprays at home.

UIL Editorial Writing Contest • A+ Invitational • 2023-2024

(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

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Editorial Writing

A+ Fall/Winter District • 2023-2024

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You have 45 minutes.

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STATEMENT OF SITUATION

Leaguetown Middle School is located in North Texas and has an enrollment of 1,200 students in grades 6, 7 and 8.

For the past 10 years, students in the Principles of AV, Arts, Technology and Communications class have produced a daily, five-minute broadcast featuring announcements, the school lunch menu, birthday shout-outs and occasional video packages produced by the students. Teachers would receive a link in their email every day during third period and would be instructed to click the link and show the broadcast, titled “LTV Now,” to their class.

Last week, Principal Cody Arbabi met with the adviser and teacher of the class, David Blayton and told him that the broadcast could no longer be distributed to teachers to show daily. Instead, Arbabi would read the daily announcements over the PA system and the production class would be welcome to produce their broadcast to be posted on the school website. Arbabi said the reason behind the decision was that third period teachers needed those five additional minutes for instruction during class.

“We are proud of the work students do in Mr. Clayton’s class,” Arbabi said. “However, spending five minutes a day watching their production takes 910 minutes a year from those students learning English, math, science and social studies in their other classes. This solution allows the students to continue to produce their work, while giving that precious time back to students and teachers for their learning.”

Clayton announced Arbabi’s decision to the class on Monday and by Thursday, two student producers of the broadcast and their parents had a meeting scheduled with Arbabi to ask him to appeal his decision.

“LTV Now’ is crucial part of our school’s culture,” student producer and eighth-grader McKensie Lane said. “Having a real, daily audience for our work adds authenticity to the experience of learning how to produce a broadcast TV show.”

English teacher Sally Heal said she enjoys the daily broadcast, but understands Arbabi’s decision.

“We have so much content to get through in each unit,” she said. “My third period class is always a little behind the others because of ‘LTV Now.’ The students and I always enjoy it, but school is for learning and that has to come first.”

Despite the decision sixth-grader Hayden Walleesen said “LTV Now” has helped him learn about different aspects of the school as a first-year middle-schooler.

“My first day of middle school was pretty scary,” he said. “But since we’ve been watching ‘LTV Now’ every day, I’ve been able to learn about how middle school works. I can learn about new classes at the school and see what students are doing. Even though I’m shy, it’s made me feel like a part of the school.”

After meeting with “LTV Now” students and parents, Arbabi said he will consider their appeal and respond by Monday. You are writing for the issue of The Press to be distributed Friday after the Thursday meeting.

STANCES

Supporting

Teachers and students have a limited amount of time during the class period to teach lessons and get work done. By showing “LTV Now” during third period, students are at a disadvantage in terms of how successful they will be in that class. Moving the broadcast to the website will still give the broadcast a home where people can go to watch it. This is the most fair solution for all students and teachers.

Opposing

The entire school community benefits by showing “LTV Now” during class. It can connect students and teachers who have never even met by showing various aspects of the school. In addition, having a large audience benefits students in the class by making the product more authentic and making it feel like a real-world experience. The show is a part of the school’s culture and that should not be changed.

UIL Editorial Writing Contest • A+ Fall/Winter District • 2023-2024

(Distribute this sheet to judges prior to judging.)

JUDGING INSTRUCTIONS

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SAMPLE EDITORIAL

One of the best traditions at the school, the broadcast "LTV Now," will have its impact significantly diminished if principal Cody Arbabi goes forward with his idea to move the broadcast out of third period and put it on the school's website every day instead. Two LTV now students and their parents have appealed this decision and Arbabi will respond to their appeal on Monday.

Arbabi should reverse his decision and keep the student-produced broadcast shown every day during third period.

Moving the broadcast online will reduce the size of the audience. One of the best roles the broadcast plays is that it connects members of the school community together by showing them aspects of the school that they might not otherwise see. Losing this connection could damage the fabric of the school's culture.

In a class where students learn video storytelling, interviewing and news judgment, having a real audience every day helps the learning process of students in the video class. Students take production decisions more seriously knowing that the whole school will see the broadcast.

Even with the production available on the school's website, it is unlikely that many students will visit the school's website and click on that link every day. Many students do not have social media, so their only want to get the important information shared during the broadcast is to hear it when it is shown during class.

It is understandable that teachers want additional time to teach during the school day. But removing LTV Now from third period is not worth the cost

Arbabi should keep "LTV Now" as a part of third period every day. The school can't afford to lose its informed students and strong school culture.



Editorial Writing

A+ SPRING DISTRICT • 2023-2024

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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 1,000 students in grades 6, 7 and 8.

Following the Covid-19 pandemic, teaching instruction and assignments have become increasingly digitized, to accommodate the growing needs of students. With recent developments in artificial intelligence (AI), students have now started to utilize tools such as ChatGPT to complete their online work.

After receiving complaints from teachers, and noting a rapidly escalating plagiarism problem, Principal Laura Redington announced a new consequence for students caught using AI programs in school.

If a student is found to have used AI to complete an assignment, they will be sent to the disciplinary alternative education program (DAEP) for two days and receive a zero in the gradebook.

“Our teachers began to notice that many assignments were coming back marked for plagiarism,” Redington said. “When they began to press students on the issue, they admitted to using AI programs to complete their work. Not only did the students not learn from the assignment, but they did not understand the new concepts being taught.”

Sixth grade student Reagan Keaton has seen her classmates use AI in class.

“Usually when our teacher is grading at her desk, kids will use an AI program on their computer to write their essay for them or to do their math problems,” she said. “Then for the rest of class they pretend to work while they play computer games or watch a movie. It’s really distracting for the kids actually trying to do their work.”

Despite the issues that AI causes in the classroom, some students feel that Principal Redington’s consequence is too strict.

“I understand that it’s not okay to use AI to complete an entire assignment, but sometimes we need help figuring a problem out when our teacher is busy with other students,” eighth grade student Liam Marshall said. “It’s not our fault that we need more help, students shouldn’t be punished for it.”

Principal Redington said she will conduct a staff vote on the proposed consequences next week. “If a majority of the staff vote in favor of the consequences they will begin in the following month and will not affect any student caught using AI before then.”

STANCES

Supporting

AI programs allow students to complete assignments without using their own skills and knowledge. Students are not practicing what they have learned in class when they use AI, and are more likely to do worse on future tests and assignments. Principal Redington’s proposed consequence will show students that it is a serious offense to use AI. With the chance of receiving a zero if caught and attending DAEP, students will be encouraged to do their own work.

Opposing

As technology improves, teachers should embrace it in their classrooms. AI can be used to help students who may be struggling with a concept and some programs even tutor students in a particular subject. AI is a tool, not a weapon. Students and teachers should work together to learn how it can best be used in a learning environment.

UIL Editorial Writing Contest • A+ Spring District • 2023-2024

(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

This week, Principal Laura Redington announced that students found using artificial intelligence programs in class would be subject to two days in the disciplinary alternative education program (DAEP) and a zero in the gradebook.

The teachers and staff, set to vote on the proposal on Monday, should favor the consequence to support honesty in the classroom.

Punishing students who use AI to complete assignments makes it fair for those who don't use AI in class. It's not fair that students who work hard and students who cheat have the same grade. Students won't be encouraged to stop using AI if this continues.

Students who use AI in class are also unprepared for tests and future assignments. If they're using AI programs to complete their work, they aren't learning the concepts being taught.

It hurts their learning environment as a whole.

Those who oppose Principal Redington's consequence think AI should be used by teachers and students in the classroom. However, AI gives students the answers to their questions, it does not just help them find it themselves. Until it can, AI programs should not be used.

The staff should approve the consequence to keep students honest and actively learning. Though it may be difficult to stop using AI for some, it will help them to succeed long-term.



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
2023-2024 Invitational
PRELIMINARY ROUND

1. A city I would like to visit...
2. Something that's under my bed...
3. The best game to play at recess...
4. My favorite season of the year...
5. The best weekend I ever had...
6. My favorite piece of clothing...
7. The best way to make new friends...
8. If I could fly a spaceship...
9. If I could design clothes...
10. My best friend...
11. If I could breathe underwater...
12. My dream job...
13. The best lunch I ever had...
14. I like taking pictures of...
15. When I get my driver's license...

A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Invitational
PRELIMINARY ROUND

CUT APART FOR TOPIC SELECTION



2023-24 Invitational– Impromptu Prelims

1. A city I would like to visit...



2023-24 Invitational– Impromptu Prelims

2. Something that's under my bed...



2023-24 Invitational– Impromptu Prelims

3. The best game to play at recess...



2023-24 Invitational– Impromptu Prelims

4. My favorite season of the year...



2023-24 Invitational– Impromptu Prelims

5. The best weekend I ever had...



2023-24 Invitational– Impromptu Prelims

6. My favorite piece of clothing...



2023-24 Invitational– Impromptu Prelims

7. The best way to make new friends...



2023-24 Invitational– Impromptu Prelims

8. If I could fly a spaceship...



2023-24 Invitational– Impromptu Prelims

9. If I could design clothes...



2023-24 Invitational– Impromptu Prelims

10. My best friend...



2023-24 Invitational– Impromptu Prelims

11. If I could breathe underwater...



2023-24 Invitational– Impromptu Prelims

12. My dream job...



2023-24 Invitational– Impromptu Prelims

13. The best lunch I ever had...



2023-24 Invitational– Impromptu Prelims

14. I like taking pictures of...



2023-24 Invitational– Impromptu Prelims

15. When I get my driver's license...





A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Invitational
FINAL ROUND

1. Standing up for your beliefs means...
2. A person who has had an impact on my life...
3. Something I want to be remembered for...
4. If I could change one thing about the world...
5. The biggest challenge I ever faced...
6. Education is important because...
7. An adventure I wish I could go on...
8. You should always tell the truth because...
9. If a documentary was made about my school...
10. One thing I wish computers could do...
11. One thing I wish people knew about me...
12. Something I'm scared of...
13. Trying your best means...
14. I hope my generation...
15. If everyone had to travel everywhere by bike...

A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Invitational
FINAL ROUND

CUT APART FOR TOPIC SELECTION



2023-24 Invitational– Impromptu Finals

1. Standing up for your beliefs means...



2023-24 Invitational– Impromptu Finals

2. A person who has had an impact on my life...



2023-24 Invitational– Impromptu Finals

3. Something I want to be remembered for...



2023-24 Invitational– Impromptu Finals

4. If I could change one thing about the world...



2023-24 Invitational– Impromptu Finals

5. The biggest challenge I ever faced...



2023-24 Invitational– Impromptu Finals

6. Education is important because...



2023-24 Invitational– Impromptu Finals

7. An adventure I wish I could go on...



2023-24 Invitational– Impromptu Finals

8. You should always tell the truth because...



2023-24 Invitational– Impromptu Finals

9. If a documentary was made about my school...



2023-24 Invitational– Impromptu Finals

10. One thing I wish computers could do...



2023-24 Invitational– Impromptu Finals

11. One thing I wish people knew about me...



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12. Something I'm scared of...



2023-24 Invitational– Impromptu Finals

13. Trying your best means...



2023-24 Invitational– Impromptu Finals

14. I hope my generation...



2023-24 Invitational– Impromptu Finals

15. If everyone had to travel everywhere by bike...





A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Fall/Winter District
PRELIMINARY ROUND

1. The best pizza toppings...
2. If I were as small as a mouse...
3. I can't leave home without...
4. The best kind of candy...
5. If I ran a store, I would sell...
6. The best day of the week is...
7. My favorite ride at the amusement park...
8. The easiest snack to make...
9. The coolest vacation I ever went on...
10. The best way to spend a weekend...
11. My dream house...
12. When I look outside my bedroom window...
13. My favorite Christmas memory...
14. When I get to high school...
15. If I could invent a new toy...

A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Fall/Winter District
PRELIMINARY ROUND

CUT APART FOR TOPIC SELECTION



2023-24 Invitational– Impromptu Prelims

1. The best pizza toppings...



2023-24 Invitational– Impromptu Prelims

2. If I were as small as a mouse...



2023-24 Invitational– Impromptu Prelims

3. I can't leave home without...



2023-24 Invitational– Impromptu Prelims

4. The best kind of candy...



2023-24 Invitational– Impromptu Prelims

5. If I ran a store, I would sell...



2023-24 Invitational– Impromptu Prelims

6. The best day of the week is...



2023-24 Invitational– Impromptu Prelims

7. My favorite ride at the amusement park...



2023-24 Invitational– Impromptu Prelims

8. The easiest snack to make...



2023-24 Invitational– Impromptu Prelims

9. The coolest vacation I ever went on...



2023-24 Invitational– Impromptu Prelims

10. The best way to spend a weekend...



2023-24 Invitational– Impromptu Prelims

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2023-24 Invitational– Impromptu Prelims

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13. My favorite Christmas memory...



2023-24 Invitational– Impromptu Prelims

14. When I get to high school...



2023-24 Invitational– Impromptu Prelims

15. If I could invent a new toy...





A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Fall/Winter District
FINAL ROUND

1. A rule I would change at my school...
2. The best piece of advice I ever heard...
3. Listening to your parents is important because...
4. Being a good citizen means...
5. If I could be really good at one thing, it would be...
6. A historical person I look up to...
7. Something about me you wouldn't know just by looking at me...
8. Courage...
9. If kids ran the government...
10. Respecting the environment...
11. If I had a pilot's license...
12. Friendship means...
13. Sometimes I get nervous about...
14. Something I'm proud of...
15. I always wonder about...

A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Fall/Winter District
FINAL ROUND

CUT APART FOR TOPIC SELECTION



2023-24 Fall/Winter– Impromptu Finals

1. A rule I would change at my school...



2023-24 Fall/Winter– Impromptu Finals

2. The best piece of advice I ever heard...



2023-24 Fall/Winter– Impromptu Finals

3. Listening to your parents is important because...



2023-24 Fall/Winter– Impromptu Finals

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2023-24 Fall/Winter– Impromptu Finals

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2023-24 Fall/Winter– Impromptu Finals

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2023-24 Fall/Winter– Impromptu Finals

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2023-24 Fall/Winter– Impromptu Finals

8. Courage...



2023-24 Fall/Winter– Impromptu Finals

9. If kids ran the government...



2023-24 Fall/Winter– Impromptu Finals

10. Respecting the environment...



2023-24 Fall/Winter– Impromptu Finals

11. If I had a pilot's license...



2023-24 Fall/Winter– Impromptu Finals

12. Friendship means...



2023-24 Fall/Winter– Impromptu Finals

13. Sometimes I get nervous about...



2023-24 Fall/Winter– Impromptu Finals

14. Something I'm proud of...



2023-24 Fall/Winter– Impromptu Finals

15. I always wonder about...





A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Spring District
PRELIMINARY ROUND

1. The silliest thing that ever happened to me...
2. The best dessert...
3. If I had a magical creature for a pet...
4. My favorite part of the first day of school...
5. My favorite outdoor activity...
6. My favorite meal is...
7. My favorite amusement park ride...
8. If I woke up in a cat's body...
9. A club I want to start...
10. If I was seven feet tall...
11. Kindness is important because...
12. If I met an alien from outer space...
13. The ingredients I like to put on my burger...
14. My favorite TV show...
15. I wish I had a collection of...

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A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Spring District
PRELIMINARY ROUND

CUT APART FOR TOPIC SELECTION



2023-24 Spring– Impromptu Prelims

1. The silliest thing that ever happened to me...



2023-24 Spring– Impromptu Prelims

2. The best dessert...



2023-24 Spring– Impromptu Prelims

3. If I had a magical creature for a pet...



2023-24 Spring– Impromptu Prelims

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2023-24 Spring– Impromptu Prelims

5. My favorite outdoor activity...



2023-24 Spring– Impromptu Prelims

6. My favorite meal is...



2023-24 Spring– Impromptu Prelims

7. My favorite amusement park ride...



2023-24 Spring– Impromptu Prelims

8. If I woke up in a cat's body...



2023-24 Spring– Impromptu Prelims

9. A club I want to start...



2023-24 Spring– Impromptu Prelims

10. If I was seven feet tall...



2023-24 Spring– Impromptu Prelims

11. Kindness is important because...



2023-24 Spring– Impromptu Prelims

12. If I met an alien from outer space...



2023-24 Spring– Impromptu Prelims

13. The ingredients I like to put on my burger...



2023-24 Spring– Impromptu Prelims

14. My favorite TV show...



2023-24 Spring– Impromptu Prelims

15. I wish I had a collection of...





A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Spring District
FINAL ROUND

1. Something that scares me about the future...
2. When I grow up, the job I want is...
3. If there were 25 hours in a day...
4. The qualities I want in my friends...
5. The best way to spend a Saturday...
6. My role model is...
7. If I could go back in time to the American Revolution...
8. During long car rides, I like to...
9. My favorite book...
10. If animals could talk, the most interesting animal would be...
11. Recycling is important because...
12. My secret skill...
13. Some ways I like to exercise...
14. The historical event I know the most about...
15. Honesty is important because...

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A+ IMPROMPTU SPEAKING TOPICS
2023-2024 Spring District
FINAL ROUND

CUT APART FOR TOPIC SELECTION



2023-24 Spring– Impromptu Finals

1. Something that scares me about the future...



2023-24 Spring– Impromptu Finals

2. When I grow up, the job I want is...



2023-24 Spring– Impromptu Finals

3. If there were 25 hours in a day...



2023-24 Spring– Impromptu Finals

4. The qualities I want in my friends...



2023-24 Spring– Impromptu Finals

5. The best way to spend a Saturday...



2023-24 Spring– Impromptu Finals

6. My role model is...



2023-24 Spring– Impromptu Finals

7. If I could go back in time to the American Revolution...



2023-24 Spring– Impromptu Finals

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2023-24 Spring– Impromptu Finals

9. My favorite book...



2023-24 Spring– Impromptu Finals

10. If animals could talk, the most interesting animal would be...



2023-24 Spring– Impromptu Finals

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2023-24 Spring– Impromptu Finals

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2023-24 Spring– Impromptu Finals

13. Some ways I like to exercise...



2023-24 Spring– Impromptu Finals

14. The historical event I know the most about...



2023-24 Spring– Impromptu Finals

15. Honesty is important because...



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. 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. T F
- 20. T F
- 21. T F
- 22. T F
- 23. T F
- 24. T F
- 25. T F

UIL LISTENING CONTEST - GRADES 7/8 INVITATIONAL MEET 2023-2024

“The History of Nail Polish”

If you look around you in any place where crowds gather, you are likely to find women, and sometimes men, with painted fingernails and toenails. There are nail salons in almost every town. Both men and women have manicures and pedicures on a regular basis. When did this trend begin? Let’s find out!

Thousands of years ago, women and men began decorating their nails not only for beauty but as a class distinction. It is claimed that warriors in Babylonia during 3200 would spend hours preparing for battle. Their preparations included their nails being manicured and colored. The ingredient they most often chose was kohl. Kohl was made primarily from the mineral galena which was ground onto a palette and mixed with oils or animal fats. The kohl was then stored in beautiful, variously shaped small vessels and applied using a thin kohl stick. Galena ore was found near the Nile River at the city of Aswan, in present-day southeast Egypt, and on the banks of the Red Sea.

1:00 During this same century, the Chinese and Egyptians used beeswax, egg whites, gelatin, natural gums and flowers to make nail colors. In its earliest form, nail coloring was worn by the rulers and those in high society as a symbol of their wealth and power. Only those from royalty or the upper class were allowed to color their nails. Around 600 B.C., during the Zhou dynasty, the royal houses preferred metallic, gold and silver. Should anyone in the lower class in China dare to wear nail polish, they would be sentenced to death.

The techniques of the ancient Chinese eventually made their way across to India, Africa and the Middle East. Cleopatra used plant extracts to dye her nails a deep blood red. We know that it was not just Cleopatra, however, because other mummified Pharaohs

were found with henna stained nails. It was popular for women across India and Africa to dye their fingertips with henna as an adornment. Nail polish didn't make its way across into Europe until much later, arriving in the late 18th century with trade deals from India and the Middle East. It was still very much associated with the wealthy at this stage, until the first nail salon opened in the late 19th century in Paris. It was during this time that French manicures became available to the general public.

2:00 Mary E. Cobb was born in May 1852. Her father, Pleasant A. Cobb, was a carpenter and a descendant of Ambrose Cobbs, a wealthy businessman who came to America from England in 1635. After the Civil War, Mary Cobb moved from Lynchburg, Virginia, to New York City with her mother and two brothers. While living in New York City, Mary met and married Dr. Joseph Parker Pray. Dr. Pray was a New England podiatrist who made his fortune selling foot powders and ladies' cosmetics. Shortly after her marriage, Mary traveled to France as a companion of the Baronesse de Rothschild where she learned the skill of nail manicure. French manicuring was quite popular in Europe, but was not as well known in America.

Mary Cobb returned home and opened her own manicure salon in Manhattan in 1878. She redeveloped the French manicure process by developing a specific series of steps which included soaking the fingers, carefully trimming the nails, and using a specially devised file to shape the nail. To complete the process, she created an enamel that would ensure that the nail was protected as well as giving color to the nail. Although her husband originally allowed her to finance her salon as an extension to his own business, over time she was able to stand alone. She began to focus on a high-end market and eventually had businesses in two townhouses on West 23rd street in New York and branches in Chicago, Washington, Boston, and Philadelphia.

3:00

In addition to manicures, Cobb began offering hairdressing and skin care. The most lasting contribution she made to the nail care industry was the invention of the emery board. An emery board is a stiff cardboard or paper strip that is covered with the

mineral emery, sand, or a similar rough substance. When you move an emery board back and forth across a nail, the rough surface creates friction which gently removes small amounts of the nail and allows you to create a smooth surface. In essence, it is sand paper for the nails. By 1900, Mary Cobb's business was one of the largest female-owned and managed businesses in the world.

In 1911, the Cutex company was launched with only one product: an extract for softening cuticles around the nail bed. Take a look at your own fingernails. Notice that the bottom of your nail has a tiny patch of skin that connects the skin of your fingers to your fingernail. That is called the cuticle. The cuticle's function is to protect new nails from bacteria when they grow out from the nail root. The area around the cuticle is delicate. It can get dry, damaged, and infected. Cutex still has a product, Cutex Intense Recovery that claims to nurture and strengthen your weak and damaged nails

4:00 with a treatment formulated with keratin that moisturizes and conditions nails and cuticles. In 1925, Cutex went on to create liquid nail polish. Cutex has grown to be a well-known company and one of the largest nail product companies in the world.

In 1920, makeup artist Michelle Menard was inspired by the incredibly shiny enamel paint that began appearing on automobiles. She partnered with the Charles Revson Company to determine if the same type of color and shine could be applied to fingernails. They established a factory and began to produce nail polish as their first product. At this time what we know now as nail polish was called nail lacquer. This partnership officially became the Revlon Company in 1932. Revlon sold its nail enamel in a variety of colors at drugstores and department stores for several years before expanding into lipstick and eventually an entire makeup line.

During this time, the "moon manicure" was the most popular style. Nails were long and only painted in the middle of the nail. The crescent shaped tip of the nail was unpolished. Before the 1960s, nail polish was only applied to bare, natural nails, whether it was done as a manicure or pedicure. Although women loved the new colors

5:00

and shine, they began to clamor for instant long nails and fast-drying, longer-wearing polish.

In 1954, Dr. Fred Slack, a dentist, broke his fingernail while he was at his office. He decided to use dental materials to mend his broken nail. He used aluminum foil as a platform to build out the acrylic on his thumb. This eventually became what is known as the acrylic nail extension platform and eventually developed into artificial nails. He patented his invention, then, along with his brother Tom, he developed other chemicals to keep the nails from yellowing. Although he originally used his own dental equipment, he eventually developed new equipment better suited for nails. Dr. Slack and his brother started their own company called Nail Systems International to develop the new equipment. At first, the company made both dental and nail equipment, but by 1987, they began focusing only on the nail industry. Currently, Nail Systems International is run by Dr. Slack's son and grandson.

After Dr. Slack's invention, other companies began to develop new technologies as well. These companies produced artificial nails and acrylic nail enhancements that instantly provided long nails and solved the issue of nail polish chipping because the acrylic surface provided better adherence of the product.

6:00 In 1982, James Giuliano introduced the idea of hard gel polishes. These gel polishes come in jars and the liquid is brushed onto the natural nail and hardened, or cured, when it is exposed to UV light. They are called hard gels because once they are cured, they don't chip. The only way to remove them is by filing them off.

In 1990, the first UV top coat was invented. Its formula was created to be a clear covering for traditional nail polish. The nail technician would apply nail polish to the customer's nails, then apply the top coat, wait three minutes and then expose the nails to UV light for three or four minutes. The top coat would then protect the nails and keep the polish from chipping off. But, because it was a gel, it also had to be filed off.

7:00 The first long wearing nail polish that wears like a gel but that can be removed with nail polish remover was invented in 2007. Unlike the traditional nail polish which can take up to an hour to dry, this long-wear polish air-dries in just 5 minutes and can last up to 2 weeks without chipping. The main ingredient in regular nail polish is something called nitrocellulose, originally known as guncotton. It's made of plant fiber and the stuff that makes TNT explode. TNT stands for trinitrotoluene. It is a pale yellow, solid organic nitrogen compound that melts at 178 degrees Fahrenheit and explodes at 465 degrees Fahrenheit. Because your body isn't nearly that hot, there isn't any chance that it will explode. It's also used in products such as ping pong balls without exploding, so there isn't any danger that you will tap your nails and cause an explosion. In fact, it won't explode without a detonator. For nail polish, the nitrocellulose is dissolved in a solvent called ethyl acetate. Once the nail polish goes on your nail, the solvent evaporates leaving the nitrocellulose to dry into a solid film.

Today, nails are a multibillion-dollar industry and still growing fast. Many salons offer basic services as well as decorative nails with intricate designs and even gemstones. The nail polish industry has come a long way from its origins. I wonder what Cleopatra would say about it now.

INVITATIONAL 2023-2024

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 MEET 2023-2024**

“The History of Nail Polish”

1. Around 600 B.C., during the Zhou dynasty, the royal houses preferred nails to be painted
 - A. red
 - B. henna or brown
 - C. metallic
 - D. black

2. Kohl was made primarily from the mineral
 - A. henna
 - B. galena
 - C. onyx
 - D. emery

3. Where did Mary Cobb live before the Civil War?
 - A. Lynchburg, Virginia
 - B. New York City, New York
 - C. Paris, France
 - D. Philadelphia, Pennsylvania

4. In what year did Mary Cobb open her own manicure salon in Manhattan, New York?
 - A. 1858
 - B. 1878
 - C. 1898
 - D. 1918

5. Cutex has a product that claims to nurture and strengthen your weak and damaged nails with a treatment formulated with
 - A. enamel
 - B. petroleum jelly
 - C. acrylic
 - D. keratin

6. Galena ore was found near the Nile River at the city of Aswan, in present-day southeast Egypt, and on the banks of
 - A. the Jordan River
 - B. the Red Sea
 - C. the Indian Ocean
 - D. the English Channel

7. Mary Cobb redeveloped the French manicure process by developing a specific series of steps which included all of the following except
 - A. soaking the fingers
 - B. carefully trimming the nails
 - C. using a file to shape the nail
 - D. painting the nail with a bright color

8. Where is the cuticle located?
- A. the tip of the nail
 - B. between the nail bed and tip
 - C. the bottom of the nail near the skin
 - D. underneath the nail
9. What inspired makeup artist Michelle Menard in 1920 to create a nail product?
- A. a shiny car
 - B. a bright red apple
 - C. a twinkly tiara
 - D. a dental procedure
10. Currently, the main ingredient in regular nail polish is nitrocellulose, originally known as
- A. dental enamel
 - B. guncotton
 - C. kohl
 - D. nitrogen
11. At what temperature does trinitrotoluene explode?
- A. 465 degrees F
 - B. 178 degrees F
 - C. 212 degrees F
 - D. 386 degrees F
12. Who introduced the idea of hard gel polishes?
- A. Fred Slack
 - B. Charles Revson
 - C. James Giuliano
 - D. Michelle Menard
13. What company was the first to develop and sell nail lacquer?
- A. Cutex
 - B. the Mary Cobb company
 - C. Slack Nail Company
 - D. Revlon
14. The Chinese and Egyptians used all of the following to make nail colors except
- A. beeswax
 - B. egg whites
 - C. keratin
 - D. gelatin
15. French manicures became available to the public during which century?
- A. 17th
 - B. 18th
 - C. 19th
 - D. 20th
16. Mary Cobb eventually had businesses in New York, Washington, Boston, and
- A. Philadelphia
 - B. London
 - C. Los Angeles
 - D. Lynchburg
17. In 1925, Cutex went began to create
- A. emery boards
 - B. liquid nail polish
 - C. acrylic gels
 - D. nail polish remover

18. After breaking a nail at the office, Dr. Fred Slack used _____ as a platform to build out an acrylic nail on his thumb.
- A. dental floss
 - B. hard gel enamel
 - C. aluminum foil
 - D. rubber tooth molding

True/False

19. In 1911, the Cutex company was launched with only one product: an extract for softening cuticles around the nail bed.
20. It was popular for women across India and Africa to dye their fingertips with henna as an adornment.
21. The "moon manicure" was a very popular style in which the crescent shaped tip of the nail was painted white or yellow and the middle of the nail was unpainted.
22. Dr. Slack and his brother Tom started their own company called Nail Systems International which produced both dental and nail equipment until 1987 when they began focusing only on the nail industry.
23. Hard gel polishes which don't chip, come in jars and the liquid is brushed onto the natural nail and hardened, or cured, when it is exposed to UV light.
24. The first long wearing nail polish, invented in 2010, is similar to a gel, but takes hours to dry and must be touched up after 1 week because it chips.
25. Trinitrotoluene is a pale yellow, solid organic nitrogen compound used in nail polish that has to be altered to keep it from melting when it is exposed to your body temperature.

**UIL LISTENING CONTEST - GRADES 7/8
INVITATIONAL MEET 2023-2024**

"The History of Nail Polish"

Answer Key

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

**UIL LISTENING CONTEST - GRADES 7/8
FALL/WINTER DISTRICT 2023-2024**

“Bananas”

What is your go-to snack? Some people want something sweet like candy. Others really enjoy something salty like chips. Believe it or not, one of the most popular foods in the world is the banana. In fact, your local supermarket will probably tell you that bananas are in the top 5 items of produce that they order each month. In fact, they outsell oranges and apples combined. Let’s find out more about bananas.

The banana is one of the most important fruit crops in the world. Bananas that are eaten raw are called dessert, or sweet, bananas. The most common dessert variety is the Cavendish. Cavendish bananas are long, plump, and golden yellow. Most bananas that are imported from tropical areas into non tropical countries are Cavendish. This has not always been the case. The Gros Michel variety is richer and sweeter than the Cavendish, and at one time it dominated the world’s commercial banana business.

However, in the late 1950s the Gros Michel variety began to contract Panama disease. Panama disease causes banana plants to wilt and die. In order to continue producing bananas, farmers had to abandon the Gros Michel in favor of the hardier Cavendish.

1:00 The Canary Island banana, which is smaller, sweeter, and more fragrant than the Cavendish, is consumed mainly in Spain. There are many other varieties, but not all are exported. The Lady Finger, a banana that is about 3 to 4 inches (7.6 to 10 centimeters) is grown in Latin America and Australia. It is too delicate to be exported. Other prized varieties include the Lakatan, an orange banana that is sweeter than the Cavendish and is found in the Philippines, and the Champa of India.

Another type of banana, Plantains, are more often used for cooking and are more starchy than sweet. Plantains are grown extensively as a food source in tropical regions.

Besides being eaten raw, bananas are served in many ways. In tropical countries bananas are preserved by sun-drying them and sprinkling them with sugar. Unripe

bananas are dried and ground to make banana flour. The blossoms of some banana plants are considered a delicacy in India and are cooked in curries. And, of course, they are used in salads, desserts, and baked goods.

Bananas are a distinct source of carbohydrates. In unripe bananas, the carbohydrates occur mainly as starch. Green bananas contain up to 80% starch. During ripening the starch is converted into sugars and ends up being less than 1 percent when the banana **2:00** is fully ripe. In ripe bananas, the total sugar content can reach at least 16% of its weight. The most common types of sugar in ripe bananas are sucrose, fructose, and glucose.

Despite their high carbohydrate content, bananas have a relatively low glycemic index (GI) of 42-58 depending on how ripe the banana is. The GI is a measure of how quickly carbs enter your bloodstream and raise blood sugar. The reason for the low GI of bananas is their high content of resistant starch. Resistant starch is not processed by the body but passes through your intestines undigested.

Bananas are also a good source of other types of fiber, such as pectin. Some of the pectin in bananas is water-soluble. As bananas ripen the amount of water-soluble pectin increases, which is one of the main reasons why bananas turn softer as they age. Pectin, like resistant starch, slows the rise in blood sugar after a meal. Bananas are also great sources of nutrition.

A medium sized banana contains 422 milligrams of potassium, which is 9% of what you **3:00** need every day. This mineral is very important for a healthy heart. Potassium is responsible for powering the muscles that squeeze blood through the heart and can regulate heartbeat and cardiac functioning. In fact, when there is a potassium deficiency, one of the main signs is an irregular heartbeat and palpitations.

Bananas can also help lower blood pressure, and it was found that those who consumed more potassium saw a lower systolic blood pressure numbers of at least 10 points. This helps prevent strokes! Additionally, potassium can help keep your bones healthy as you age. Bananas contain the vitamin B6. A medium banana gives you about

25% of the vitamin B6 you should get each day. It helps with metabolism and plays an important role in brain development during pregnancy and infancy, as well as immune system health. Bananas also contain vitamin A. Vitamin A is good for your vision and might even help protect you from cancer.

Bananas sound like a pretty good food. Where did they come from? Bananas come from a family of plants called Musa that are native to Southeast Asia and are grown in many of the warmer areas of the world. It is believed that bananas first began to grow in the Asian tropics.

4:00

There are many legends and stories that mention them. We do know that bananas have been grown in India for at least 4,000 years. Traveling Arabs found them there and carried them to Palestine, Egypt, and Africa. Bananas are also mentioned in early Greek, Latin and Arabic writings. Alexander the Great mentioned them in his writings and is known to have enjoyed eating them. The Portuguese discovered bananas on the coast of Africa and brought them to the Canary Islands. Spanish missionaries brought them to the tropical regions of Central and South America. Bananas became an important food in many parts of the world. Bananas finally reached North America and the United States when a traveler brought them from Cuba to New York City in 1804. At that time, they were sold one at a time wrapped in tinfoil.

Although most people refer to the banana plant as a tree, it is really a giant herb. It does not have the woody trunk like a tree but instead has a stalk that grows from an underground stem called a rhizome. The stalk, sometimes called a false trunk, can reach a height of 10 to 20 feet. The stalk consists of tightly wrapped leaves that overlap each other. When new leaves are formed in the center of the stalk, they force the stalk to expand both in width and height. The leaves grow to reach as much as 12 feet long and 2 feet wide. When the plant has reached 9 months old, a flower spike begins to grow on the top of the stalk. These flowers are yellow and are protected by

5:00

large, purple structures called bracts.

As the plant continues to grow, the flowers bend downward and open showing developing fruit. These young bananas point toward the ground, but in time they turn upward. The bananas grow in clusters. These clusters, called hands have from 10 to 20 individual fingers that can grow from 5 to 8 inches long. These hands are clustered together into what is called a bunch which can contain six to nine hands. After a stalk bears a bunch, it dies. Workers cut it to the ground and new stalks grow from the underground root. After the first crop, the banana plant produces fruit continuously. Frequent pruning is required in order to prevent crowding. Commercial bunches of bananas should consist of nine hands or more and weigh 50-140 pounds. Three hundred or more bunches may be produced each year on only one acre of land.

Most bananas are grown on plantations. Banana plants grow best in deep, loose, well-drained soil. The climate must be warm and humid which is why they grow in tropical areas or in semi-arid regions such as Jamaica with well planned irrigation systems. The ideal temperature is about 80 degrees. Freezing temperatures can critically damage the plant causing it to die. Without irrigation, the plants need about 80 to 100 inches of

6:00 rain each year.

Banana plantation owners have to closely monitor the amount of rain or water the bananas receive. Too much or too little water can ruin a crop. Banana plants are also easily damaged by strong winds which can tear the leaves or blow down the plants. Banana plants are also very susceptible to pests and diseases. One serious disease is a leaf spot disease called sigatoka. This disease, caused by a fungus, can be fairly well kept away by spraying fungicide from helicopters or airplanes. Another fungal disease mentioned earlier is Panama disease in which fungus grows in the soil and infects the plant.

Because bananas are sold world-wide, they are usually grown close to seaports in order for the fruit to be more easily shipped to markets. These companies are usually large and employ thousands of workers. Most of the large banana plantations and companies are located in Central and South America. If bananas are to be exported, they are harvested before they are ripe. When they reach their destination, they are

placed in ripening rooms in which heating, ventilation, and humidity are monitored carefully and controlled. Sometimes ripening is induced by exposing the shipment to ethylene gas. Ripening generally takes three to five days.

7:00 At this time, fewer than one-fifth of the bananas produced world-wide are exported. Most of them are consumed in the countries in which they are grown. In fact, the 3 largest producers of bananas in the world (listed in order) India, China and Indonesia are not major exporters. In 2021, India produced 33,062 tons of making it the leading producer in the world. The second largest producer is China at 11,725 tons. This is in sharp contrast to the fact that none of the top 3 producers made the top 15 list in exports of bananas.

The United States does not have the proper climate for growing bananas. We import them instead. The top importer of bananas to the United States is Guatemala followed by Ecuador, Costa Rica and Honduras.

So, the next time you go to the grocery store, check the produce section. Chances are you will find bananas.

FALL/WINTER DISTRICT 2023-2024

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 2023-2024**

"Bananas"

1. The most common dessert variety of bananas is the
 - A. Gros Michel
 - B. Canary Island
 - C. Cavendish
 - D. Lady Finger

2. In ripe bananas, the total sugar content can reach at least ____ of its weight.
 - A. 16%
 - B. 28%
 - C. 12%
 - D. 80%

3. What is the measure of how quickly carbs enter your bloodstream and raise blood sugar?
 - A. carbohydrate count
 - B. glycemic index
 - C. blood sugar speed
 - D. diabetic content

4. How many milligrams of potassium does a medium sized banana usually contain?
 - A. 422
 - B. 9
 - C. 185
 - D. 575

5. A rhizome is
 - A. a stalk
 - B. an underground stem
 - C. a leafy branch
 - D. a fruit bearing flower

6. How much rain do banana plants need each year?
 - A. 20-40 inches
 - B. 40-60 inches
 - C. 60-80 inches
 - D. 80-100 inches

7. A sigatoka is a
 - A. viral disease caused by exposure to infected soil.
 - B. yellow leafed stalk caused by too much water.
 - C. spotted leaf disease caused by a fungus.
 - D. rhizome that is dying due to lack of enzymes.

8. Which country produces the most bananas in the world?
 - A. China
 - B. Guatemala
 - C. Indonesia
 - D. India

9. Why does the United States import bananas?
- A. The climate in the United States is not conducive to growing bananas.
 - B. There is not enough vacant land to have banana plantations.
 - C. It is more cost effective to import than to irrigate them here.
 - D. The US has trade agreements that prevent us from producing them here.
10. The ideal temperature for growing bananas is about _____degrees.
- A. 60
 - B. 70
 - C. 80
 - D. 90
11. Individual fingers on hands of bananas can grow up to _____ inches long.
- A. 8
 - B. 12
 - C. 14
 - D. 16
12. How did bananas make their way to the Canary Islands?
- A. Traveling Arabs brought them for trading.
 - B. Alexander the Great sent them on exploration ships.
 - C. Immigrants from Cuba brought them as a necessary food source.
 - D. Spanish explorers brought them from the African coast.
13. In what year did bananas reach New York City?
- A. 1804
 - B. 1778
 - C. 1950
 - D. 1865
14. The Lady Finger banana is usually grown in
- A. Guatemala and Costa Rica
 - B. Australia and Latin America
 - C. Africa and India
 - D. Indonesia and Spain
15. Which of the following bananas is not noted to be sweeter than the Cavendish?
- A. Canary Island
 - B. Gros Michel
 - C. Lady Finger
 - D. Lakatan
16. What is one benefit of the water-soluble resistant starch found in bananas?
- A. The bananas ripen more quickly when the pectin is activated.
 - B. The starch slows the rise of blood sugar after a meal.
 - C. The bananas resist digestion and become carbohydrates in the stomach.
 - D. As the bananas ripen, they become softer and easier to digest.
17. Which of the following nutrients is NOT found in bananas?
- A. vitamin A
 - B. vitamin B6
 - C. vitamin D
 - D. Potassium

18. What are bracts?
- A. A false trunk which can reach a height of 10 to 20 feet before dying
 - B. Clusters of bananas with 10-20 fingers that grow upward
 - C. An underground stalk that repeatedly produces stems for growing bananas
 - D. Large purple structures that protect flowers which hold developing bananas

True/False

19. At this time, fewer than one-sixth of the bananas grown in the world are exported.
20. Green bananas contain up to 80% starch, but during ripening the starch is converted into sugars and ends up being less than 1 percent when the banana is fully ripe.
21. The most common types of sugar in ripe bananas are sucrose, fructose, and glucose.
22. In the late 1950s the Gros Michel variety began to contract Panama disease which causes banana plants to wilt and die forcing farmers had to abandon the Gros Michel in favor of the hardier Canary Island banana.
23. Bananas can also help lower blood pressure, and it was found that those who consumed more potassium saw a lower systolic blood pressure numbers of at least 10 points.
24. For each acre of land on average, 150 bananas may be produced each year as long as there is proper irrigation and pruning.
25. Most of the large banana plantations and companies are located in China and Indonesia.

**UIL LISTENING CONTEST - GRADES 7/8
FALL/WINTER DISTRICT 2023-2024**

"Bananas"

Answer Key

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

UIL LISTENING CONTEST - GRADES 7/8 SPRING DISTRICT 2023-2024

“The Dust Bowl”

On a windy day in Texas, it is not unusual to see gusts of wind kicking up dirt and blowing it around fields and parking lots. The blazing sun creates dry conditions and the wind carries the dirt where it will. Sometimes in Lubbock and the Texas Panhandle, there are even huge dust storms that blow across the plains blocking out the sun and leaving a layer of dirt in their wake. But these storms, as bad as they seem, don't hold a candle to what is known as the Dust Bowl. The Dust Bowl is the name that was given to the Southern Plains region from Texas to Nebraska in the 1930s. The States most affected by the Dust Bowl were Nebraska, Kansas, Texas, Oklahoma, New Mexico, and Colorado. Let's find out why.

During the 1860's the United States was embroiled in a bitter Civil War. Remember that during this time, there were still large areas of land that were basically uninhabited and belonged to the Federal Government. Many believed in Manifest Destiny. Manifest Destiny was a belief that it was the destiny of the United States to extend from coast to coast all the way across North America. Toward the end of the war a series of federal land acts encouraged pioneers to move westward by making it profitable to set up **1:00** farms in the Great Plains. The Homestead Act of 1862 provided settlers, including freed slaves, with 160 acres of land simply for moving there and setting up a home and farming the land. The only restrictions for land ownership were that the settlers had to be a head of household, be at least 21 years of age, live on the land continuously for 5 years and then pay a small filing fee to receive title to the land.

The Homestead Act remained active for 124 years until it was repealed in 1976 and resulted in 10% of the land in the United States, or approximately 270 million acres, to be claimed and settled. The Kinkaid Act followed in 1904. The Kinkaid Act amended the Homestead Act and was applied mainly in Nebraska. Instead of receiving 160

acres, the Kinkaid Act gave the settler 640 acres. The settler had to be at least 21 years old and a current United States citizen. Although the residency requirement started with 5 years, in 1912, the government shortened the requirement to 3 years to attract more settlers. In 1909, the Enlarged Homestead Act, similar to the Kinkaid Act, **2:00** allowed for settlers in regions other than Nebraska to also have more land – up to 320 acres. These acts, while supporting the idea of Manifest Destiny, also had an adverse effect by creating a massive influx of new and inexperienced farmers across the Great Plains.

At this time, there was a superstition that said “rain follows the plow.” This meant that if land was homesteaded and planted, it would permanently affect the climate making it more conducive to farming. A series of atypically wet years also misled settlers into thinking that they could plant areas that could not be reached by irrigation because they would be watered by rain. The time period from 1910 to 1920 was known as the Great Plow Up. The promise of income from rising wheat prices caused farmers to plow up millions of acres of native grasslands and plant wheat. New technology such as the one-way plow helped farmers plow more quickly and make it possible to plow many acres in a day.

When World War I broke out in 1914, the increased demand for wheat from Europe encouraged farmers to plant more and more wheat, corn and other food crops as they **3:00** plowed up millions of acres of previously untouched grasslands. President Woodrow Wilson coined the phrase “wheat will win the war” and wheat prices continued to rise up to twice their original rate. Of course, farmers planted more wheat in order to take advantage of the increased revenue. Within 5 years, more than 11 million acres of previously untouched soil were turned into wheat fields. However, as the United States entered the Great Depression in 1929, wheat prices fell quickly instead of rising. In an effort to cut their losses, farmers plowed up and planted even more grassland. This had a devastating effect.

President Herbert Hoover promised that the crisis would be short-lived, but by 1930 over 4 million Americans were out of work. By 1931, the number had risen to 6 million. Because prices of wheat were so low, farmers continued to plant more and more wheat creating a surplus. The government tried to get farmers to reduce production through the creation of the Agricultural Marketing Act of 1929, but it was not successful. The Agricultural Marketing Act of 1929 allowed the government to buy, store, and sell products from the farmers.

In 1930, crops began to fail due to a severe drought. Crops dried up, leaving the bare soil exposed. What had once been deep-rooted prairie grasses which held the soil in place was now bare, over-plowed farmland. As the winds began to blow, eroding soil led to massive dust storms.

4:00

By 1932, the wind picked up in the middle of the day when a 200-mile-wide dirt cloud ascended from the ground. Known as a black blizzard, the topsoil tumbled over everything in its path as it blew away. Black blizzards were known to have speeds of 40-60 miles per hour. Fourteen of these black blizzards blew in 1932. There were 38 in 1933. In 1934, 110 black blizzards blew. Some of these black blizzards unleashed large amounts of static electricity, enough to knock someone to the ground or short out an engine. Some of these storms carried topsoil from Oklahoma and Texas as far east as Washington, DC and even New York City. Ships in the Atlantic Ocean reported that they were coated with dust. For days on end, billowing clouds of dust would darken the sky. Sometimes the dust drifted like snow and residents had to clear it with shovels. Dust worked its way into homes and left a coating on everything inside.

5:00

By 1934, an estimated 35 million acres of land which had been used for farming was useless without rain. Another 125 million acres, an area about $\frac{3}{4}$ the size of Texas, was rapidly losing its topsoil. The area, which had once been so fertile, was now referred to as the "Dust Bowl," a term coined by reporter Robert Geiger in 1935. The dust storms grew bigger, sending swirling, powdery dust farther and farther, affecting

more and more states. The Great Plains were becoming a desert as over 100 million acres of deeply plowed farmland lost all or most of its topsoil.

Some people developed “dust pneumonia” and experienced chest pain and difficulty breathing. This condition resulted from breathing in the dust which stayed inside the body. It’s unclear exactly how many people may have died from the condition. Estimates range from hundreds to several thousand people.

On May 11, 1934, a massive dust storm two miles high traveled 2,000 miles to the East Coast, blotting out monuments such as the Statue of Liberty and the U.S. Capitol. The worst dust storm occurred on April 14, 1935. On Sunday, April 14, 1935, a cold front moving south from Canada met a warm front from North and South Dakota. In just a few hours, the wind created a dust cloud hundreds of miles wide and thousands of feet high. This cloud began moving south towards Kansas, Oklahoma, and Texas at a speed of 65 miles per hour. The dust totally blocked out the sun turning the sky completely **6:00** black. News reports called the event Black Sunday. A wall of blowing sand and dust started in the Oklahoma Panhandle and spread east. As many as three million tons of topsoil are estimated to have blown off the Great Plains during Black Sunday.

The Dust Bowl, also known as “the Dirty Thirties” had begun and would last for about 10 years. It wasn’t until the end of 1939 that regular rainfall returned to the area bringing the Dust Bowl to a close. However, the economic effects remained for years. In an effort to help the farmers, Franklin D. Roosevelt introduced the Agriculture Adjustment Act in 1933. This act controlled the supply of seven basic crops: corn, wheat, cotton, rice, peanuts, tobacco, and milk. Farmers were offered payments in return for NOT using their land.

Congress also established the Soil Erosion Service and the Prairie States Forestry Project in 1935. These programs provided jobs for local farmers planting trees as **7:00** windbreaks on farms across the Great Plains. The Great Plains Shelterbelt was a project

that planted 20 million trees along the borders of farms and pastures. By 1940, the trees had grown into 1800 miles of windbreaks. In 1936, FDR created the Soil Conservation Service to provide education to farmers about how to conserve the soil and offered incentives to farmers who utilized these techniques when farming. Over 40,000 farmers signed up for the program and the amount of endangered land was cut by 50%.

Because of the Dust Bowl, people began to give up their farms and leave Dust Bowl States. Oklahoma alone lost 440,000 people. By 1940, 2.5 million people had moved out of the plains. Approximately 250,000 people moved to California.

The Dust Bowl was such a national disaster that it was depicted by artists, musicians and writers. John Steinbeck wrote a novel in 1936 called *The Grapes of Wrath* in which he documented the hardship and prejudice that faced the migrants that moved to California. Photographer Dorothea Lange documented the rural poverty with a series of photographs for the Farm Securities Administration, and Alexandre Hogue became famous with his Dust Bowl landscape paintings. Folk musician Woody Guthrie, who was one of the people who migrated to California, published an album, *Dust Bowl Ballads*, which told the stories of migrants who were looking for work in 1940.

8:00 Thankfully, the Dust Bowl is a thing of the past. Hopefully we have learned from the mistakes of the past and will never again completely clear the land. History is known to repeat itself when we forget. So, the next time you are outside and see dust blowing on the wind, remember the Dust Bowl and think of ways you can protect the soil where you live.

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Listening
grades 7 & 8

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

**UIL LISTENING CONTEST - GRADES 7/8
SPRING DISTRICT 2023-2024**

“The Dust Bowl”

1. The States most affected by the Dust Bowl were Nebraska, Kansas, Texas, Oklahoma, Colorado and _____.
A. New Mexico
B. Alabama
C. Utah
D. Louisiana
2. The requirements for receiving land through the Homestead Act of 1862 included all of the following except
A. live on the land for at least 3 years
B. be at least 21 years old
C. be the head of a household
D. pay a small fee to receive the title to the land
3. Who coined the term “Dust Bowl”?
A. Franklin D. Roosevelt
B. Dwight Eisenhower
C. Herbert Hoover
D. Robert Geiger
4. What other nickname did the Dust Bowl have?
A. Black Sky Days
B. Dirty Thirties
C. Roosevelt’s Ruins
D. The Great Plow-up
5. How many acres of trees were planted on the borders of farms and pastures using The Great Plains Shelterbelt?
A. 10 million
B. 15 million
C. 20 million
D. 25 million
6. What was the purpose of the Agriculture Adjustment Act in 1933?
A. Farmers would sell their crops to the government for better prices.
B. Farmers would be paid by the government not to plant fields.
C. Cows and other farm animals would be grown instead of crops.
D. Congress would set the prices for agricultural produce.
7. In what year did World War I break out?
A. 1910
B. 1914
C. 1923
D. 1939
8. What is meant by the saying “rain follows the plow”?
A. If a farmer begins plowing, rain clouds begin forming.
B. If farmers want it to rain, they need to go ahead and plant their crops.
C. If large areas of land are planted, it makes conditions that can bring rain.
D. Persistent plowing and planting will need rain to be prosperous.

9. The idea that the United States was preordained to reach from coast to coast was called
- A. Manifest Destiny
 - B. Coastal Design
 - C. Proprietary Progress
 - D. Border Expansion
10. Which state was primarily affected by the Kinkaid Act?
- A. Texas
 - B. Kansas
 - C. Colorado
 - D. Nebraska
11. In what year was the Homestead Act repealed?
- A. 1956
 - B. 1966
 - C. 1976
 - D. 1986
12. Who coined the phrase "wheat will win the war"?
- A. Woodrow Wilson
 - B. Herbert Hoover
 - C. Dwight Eisenhower
 - D. Franklin D. Roosevelt
13. Alexandre Hogue became famous because of his
- A. photographs of immigrants
 - B. books about the Dust Bowl
 - C. paintings of the Dust Bowl landscapes
 - D. songs about migration
14. In 1936, which United States President created the Soil Conservation Service to provide education to farmers about how to conserve the soil?
- A. Woodrow Wilson
 - B. Herbert Hoover
 - C. Dwight Eisenhower
 - D. Franklin D. Roosevelt
15. What condition resulted from breathing in dust which stayed inside the body causing extreme pain and difficulty breathing?
- A. dirty lung
 - B. dust pneumonia
 - C. dust bowl asthma
 - D. dust breathed bronchitis
16. What caused the terrible dust storm known as Black Sunday on Sunday, April 14, 1935?
- A. wind blowing from California created a dust cloud hundreds of miles wide
 - B. a drought caused farmland to become dry and useless
 - C. a cold front moving south from Canada met a warm front from the Dakotas
 - D. farmers from Oklahoma and Texas over-plowed their land to grow wheat
17. Who owned the land that was given away during the time of the land acts?
- A. Federal Government
 - B. Individual states
 - C. No one
 - D. Foreign countries

18. During the years 1932, 1933, and 1934, how many Black Blizzards were recorded?
- | | |
|--------|--------|
| A. 142 | C. 182 |
| B. 162 | D. 202 |

True/False

19. John Steinbeck wrote a novel in 1936 called *The Grapes of Wrath* in which he documented the hardship and prejudice that faced the migrants that moved to California.
20. Because of the Dust Bowl, by 1940, 2.5 million people had moved out of the plains.
21. On May 11, 1934, a massive dust storm two miles high traveled 2,000 miles to the West Coast, blotting out monuments such as the Statue of Liberty and the Redwood Forest.
22. By 1934, an estimated 35 million acres of land which had been used for farming was useless without rain while 125 million acres, an area about $\frac{3}{4}$ the size of Texas, was rapidly losing its topsoil.
23. The Kinkaid Act amended the Homestead Act and, as a result, instead of receiving 160 acres, the Kinkaid Act gave the settler, who had to be at least 18 years old and a current United States citizen, 320 acres.
24. The government tried to get farmers to reduce production through the creation of the Agricultural Marketing Act of 1929, which successfully allowed the government to buy, store, and sell products from the farmers creating much needed relief.
25. During Black Sunday, a wall of blowing sand and dust started in the Oklahoma Panhandle and spread east blowing off as much as three million tons of topsoil from the Great Plains.

**UIL LISTENING CONTEST - GRADES 7/8
SPRING DISTRICT 2023-2024**

"The Dust Bowl"

Answer Key

1. A

14. D

2. A

15. B

3. D

16. C

4. B

17. A

5. C

18. B

6. B

19. True

7. B

20. True

8. C

21. False

9. A

22. True

10. D

23. False

11. C

24. False

12. A

25. True

13. C

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

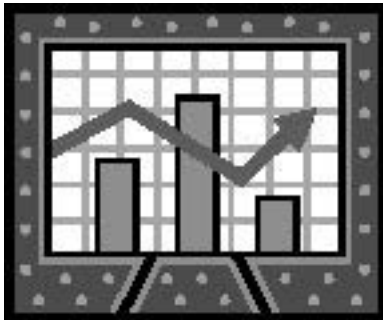
- | | | | | | | | | | | | |
|-------|---|---|---|-------|---|-------|---|-------|---|---|---|
| 1. A | B | C | D | 26. T | F | 51. A | B | C | D | | |
| 2. A | B | C | D | 27. T | F | 52. A | B | C | D | | |
| 3. A | B | C | D | 28. T | F | 53. A | B | C | D | | |
| 4. A | B | C | D | 29. T | F | 54. 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. T | F | | |
| 7. A | B | C | D | 32. A | B | C | D | 57. T | F | | |
| 8. A | B | C | D | 33. A | B | C | D | 58. T | F | | |
| 9. A | B | C | D | 34. A | B | C | D | 59. T | F | | |
| 10. A | B | C | D | 35. A | B | C | D | 60. T | F | | |
| 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 2023-2024

A+ ACADEMICS



University Interscholastic League



Maps, Graphs & Charts

grades 7 & 8

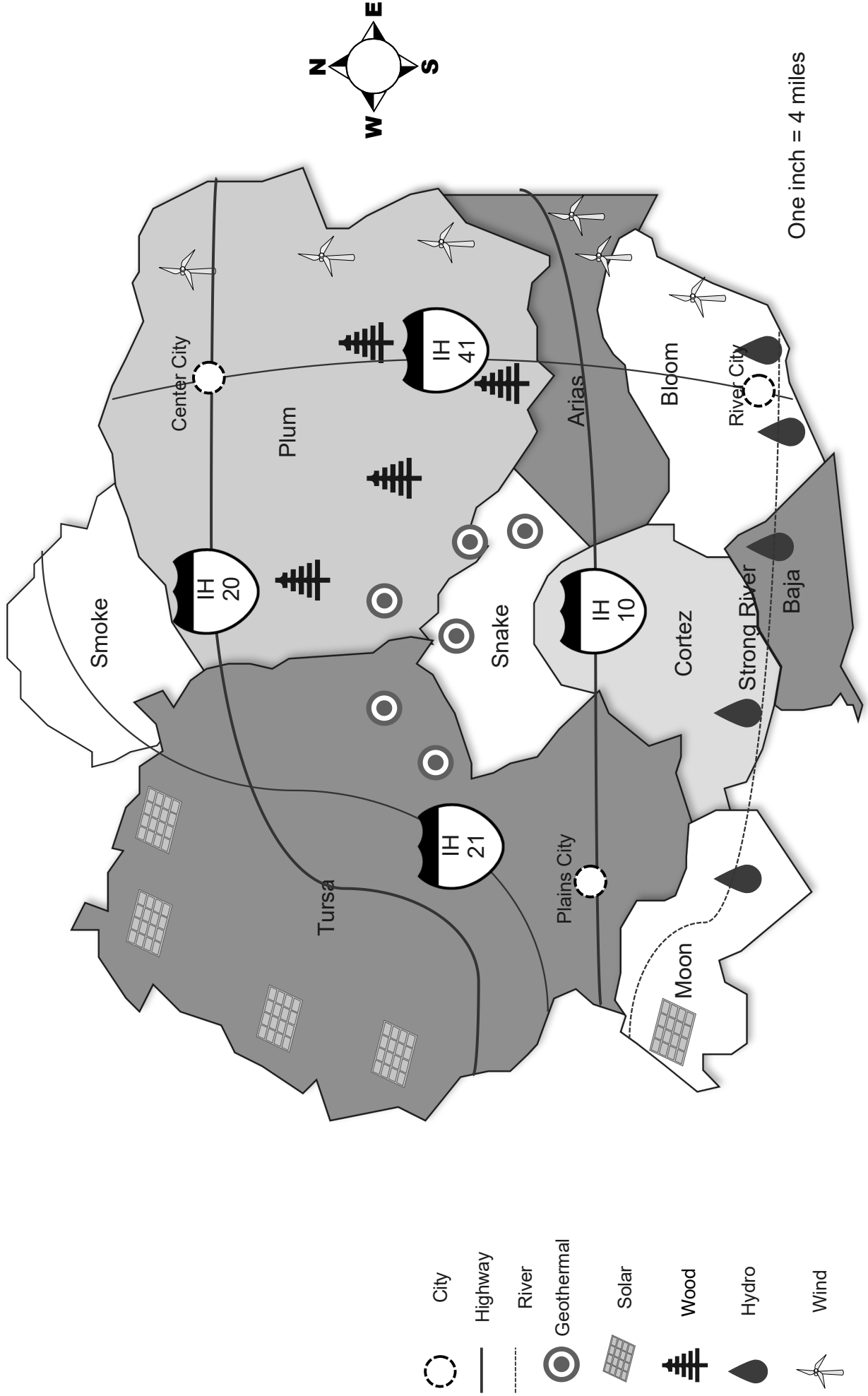
**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

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Africa

- Which country is not part of the Great Rift Valley?
 - Ethiopia
 - Uganda
 - Tanzania
 - Senegal
- The city of Casablanca is located in which country?
 - Morocco
 - Egypt
 - Algeria
 - Tunisia
- The Sahara Desert is bordered by which mountain range to the north?
 - Atlas Mountains
 - Drakensberg Mountains
 - Marrah Mountains
 - Simien Mountains
- Which country's capital is the furthest north?
 - Chad
 - Sudan
 - Kenya
 - Zambia
- Which of the following cities in Ghana has the largest population?
 - Kumasi
 - Wa
 - Tamale
 - Obuasi
- The Cape of Good Hope is off the coast of what country?
 - Somalia
 - Senegal
 - Algeria
 - South Africa
- Which of the following natural resources coincides with the Prime Meridian?
 - Coal
 - Natural Gas
 - Tin
 - Lead
- What is the elevation of Mauritania's coast?
 - Below sea level
 - 0 to 500 feet
 - 1,000 to 2,000 feet
 - 2,000 to 5,000 feet
- Tropical rain forest can be found in what country?
 - Liberia
 - Somalia
 - South Africa
 - Zimbabwe
- Which country has the highest birth rate?
 - Ethiopia
 - Niger
 - South Africa
 - The World
- The highest African peak is in what country?
 - Mali
 - Libya
 - Sudan
 - Tanzania
- Which country capital gets the most precipitation?
 - Cairo, Egypt
 - Freetown, Sierra Leone
 - Mogadishu, Somalia
 - Huambo, Angola
- How far is it from Kano, Nigeria to Abuja, Nigeria?
 - About 100 miles
 - About 200 miles
 - About 300 miles
 - About 400 miles
- What do the red lines on the elevation map indicate?
 - Elevation levels
 - Mountain ranges
 - Country borders
 - Continental borders
- How many of the world's refugees are African?
 - About 75%
 - About 50%
 - About 33%
 - About 10%

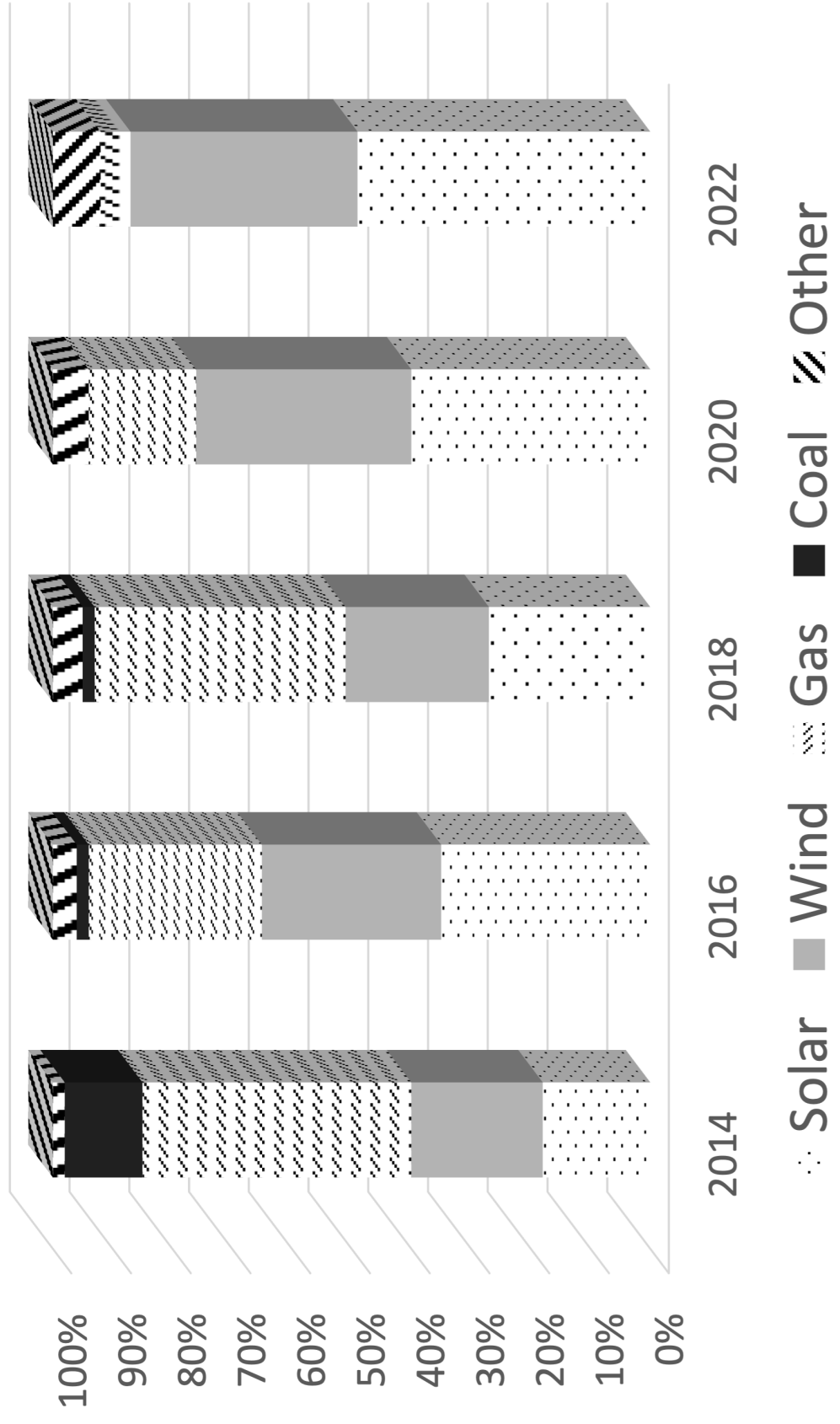
Renewable Energy Sites By County



Renewable Energy Site by County Map

16. Which of the following mainly runs north to south?
- Strong River
 - IH20
 - IH10
 - IH41
17. How far is it from Center City to River City?
- About 8 miles
 - About 16 miles
 - About 32 miles
 - Not indicated on the map
18. In what portion of the map are hydro sites located?
- Northern
 - Southern
 - Western
 - Eastern
19. How would you get from Center City to Plains City?
- Begin by heading west on IH20
 - Begin by heading east on IH20
 - Begin by heading north on IH41
 - Begin by heading south on IH41
20. How many types of renewable energy sites are indicated on the map?
- 3
 - 5
 - 8
 - 10
21. How many types of energy sites can be found south of Plains City?
- 0
 - 1
 - 3
 - 5
22. How many counties have more than one type of energy site?
- 0
 - 1
 - 2
 - 4
23. Which county has the highest total of all energy sites combined?
- Tursa County
 - Bloom County
 - Moon County
 - Plum County
24. How many wind sites are located west of IH41?
- 0
 - 3
 - 6
 - 8
25. How many counties do not have any energy sites?
- 0
 - 1
 - 2
 - 4
- TRUE/FALSE**
26. Sites of the same type tend to be clustered in the same area of the map.
27. There are more geothermal sites than any other kind of site.
28. All solar sites are on the western side of the map.
29. At least one highway runs through all counties.
30. Hydro is present in more counties than any other type of energy sites.

New Electricity-Generation Capacity Additions



New Electricity-Generation Capacity Additions

31. What is the span of time covered by the graph?
- 1 year
 - 4 years
 - 8 years
 - 10 years
32. What percentage of new builds were solar in 2014?
- 9%
 - 18%
 - 35%
 - 50%
33. Which of the following had the biggest drop in percentage of new additions between 2016 and 2018?
- Coal
 - Solar
 - Gas
 - Other
34. What does the x axis represent?
- Percentage of new capacity
 - Cost of new capacity
 - The year
 - Types of new energy capacity
35. In what year did wind have its highest share of new additions?
- 2016
 - 2018
 - 2020
 - 2022
36. In what year did wind become the energy producer with the highest percentage of new additions?
- 2014
 - 2016
 - 2018
 - None of the above

37. How many types of new additions ended up with higher percentages comparing 2014 to 2022?
- 0
 - 1
 - 2
 - 3
38. Which energy production type had the least amount of fluctuation in percentage share over the time covered by the graph?
- Solar
 - Gas
 - Wind
 - Other
39. How many different types of energy production are covered under the “other” type on the chart?
- 1
 - 4
 - 13
 - Information not available
40. What does the darkest part of the chart represent?
- 2014
 - 2018
 - Coal
 - Wind

TRUE/FALSE

41. This chart displays only new electricity generation additions.
42. Coal had no new additions after 2018.
43. Solar is the only category that increased its percentage of new additions every year.
44. Either gas or solar had the highest percentage of new additions every year.
45. The total percentage of new additions of all types remains constant in every year.

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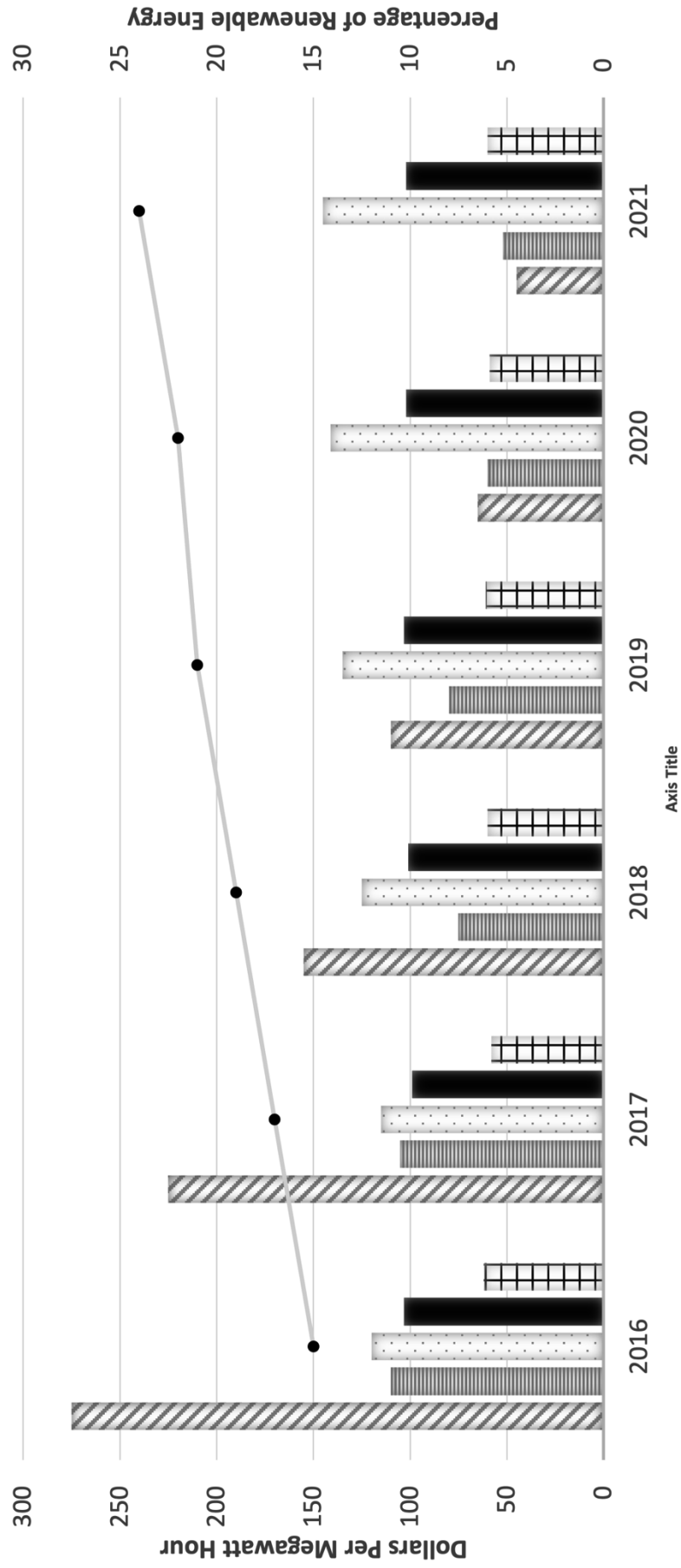
South America

46. Part of the largest island in South America is territory of what country?
- Brazil
 - Venezuela
 - Colombia
 - Chile
47. Which country is a founding member of OPEC?
- Peru
 - Venezuela
 - Suriname
 - Brazil
48. Canals can be found in what part of Argentina?
- Northern
 - Southern
 - Eastern
 - Western
49. What Brazilian city is located just northeast of Madeira Falls?
- Porto Velho
 - Maraba
 - Maceio
 - Rio Branco
50. Which country's population is composed of the highest percentage of descendants of indigenous South Americans?
- Venezuela
 - Chile
 - Bolivia
 - Peru
51. What is the predominant type of land use in Guyana?
- Commercial farming
 - Subsistence farming
 - Ranching or herding
 - Forestry
52. How long is the Amazon River?
- About 4,000 miles
 - About 6,000 miles
 - About 8,000 miles
 - About 10,000 miles
53. Which country capital is at the highest elevation?
- Montevideo, Uruguay
 - Brasilia, Brazil
 - Sucre, Bolivia
 - Cayenne, French Guiana
54. Tundra can be found in what country?
- Argentina
 - Uruguay
 - Brazil
 - All of the above
55. Which crop can be grown at the lowest altitude?
- Barley
 - Bananas
 - Coffee
 - Corn

TRUE/FALSE

56. Most of Brazil lies below the equator.
57. The Falkland Islands are a territory of Argentina.
58. The city of Cochabamba, Bolivia has a higher population than the city of Belem, Brazil.
59. Lake Titicaca is the largest lake on the continent.
60. Bolivia has two capitals.

AVERAGE COST OF ENERGY AND RENEWABLE SHARE OF ENERGY PRODUCTION



Solar
 Wind
 Nuclear
 Coal
 Gas
 Renewable Share of total energy output

Average Cost of Energy Types and Renewable Share of Energy Production

61. The percentage of renewable energy was at its highest in what year?
- 2021
 - 2019
 - 2017
 - 2016
62. What does the y-axis on the right represent?
- Percentage of renewable energy
 - Percentage of fossil fuels
 - Cost in dollars per megawatt
 - Cost in dollars per terawatt
63. Which of the following went down in cost per megawatt hour every year?
- Wind
 - Nuclear
 - Solar
 - Gas
64. Which energy type had the highest cost per megawatt hour in a single year?
- Wind
 - Nuclear
 - Coal
 - Gas
65. In what year did the cost per megawatt hour of nuclear power decrease compared to the previous year?
- 2017
 - 2018
 - 2019
 - 2020
66. Excluding gas, how many different types of energy ever cost less than \$60 per megawatt hour?
- 0
 - 1
 - 2
 - 3
67. Which of the following types of energy had the highest cost per megawatt in 2017?
- Gas
 - Coal
 - Wind
 - Nuclear
68. In how many years did solar cost more per megawatt hour than coal?
- 0
 - 1
 - 2
 - 4
69. Which two energy types' costs per megawatt hour fluctuated the least between each year covered by the graph?
- Solar and Coal
 - Wind and Nuclear
 - Coal and Gas
 - Solar and Wind
70. In what year did the cost for solar decrease the most compared to the previous year?
- 2016
 - 2017
 - 2018
 - 2019
- TRUE/FALSE**
71. Renewable energy sources increased in percentage of total energy production every year.
72. By 2021, solar had become the least expensive type of energy production.
73. Nuclear increased in cost per megawatt hour every year.
74. The total combined cost per megawatt hour of all types of energy fell every year.
75. At least 40% of energy sources were less expensive in 2021 compared to 2016.



University Interscholastic League
A+ Maps/Graphs/Charts Contest • 2023-2024
7/8 Invitational
Answer Key

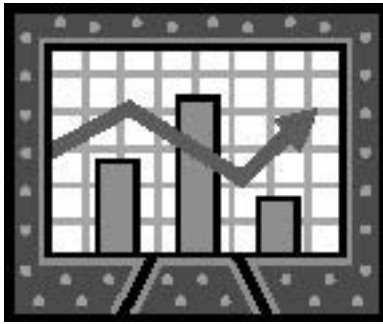
1. D	26. T	51. B
2. A	27. F	52. A
3. A	28. T	53. C
4. B	29. F	54. A
5. A	30. T	55. B
6. D	31. C	56. T
7. B	32. B	57. F
8. B	33. B	58. F
9. A	34. C	59. F
10. B	35. D	60. T
11. D	36. D	61. A
12. B	37. D	62. A
13. B	38. D	63. C
14. C	39. D	64. B
15. C	40. C	65. A
16. D	41. T	66. C
17. B	42. T	67. D
18.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

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Maps, Graphs & Charts

grades 7 & 8

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

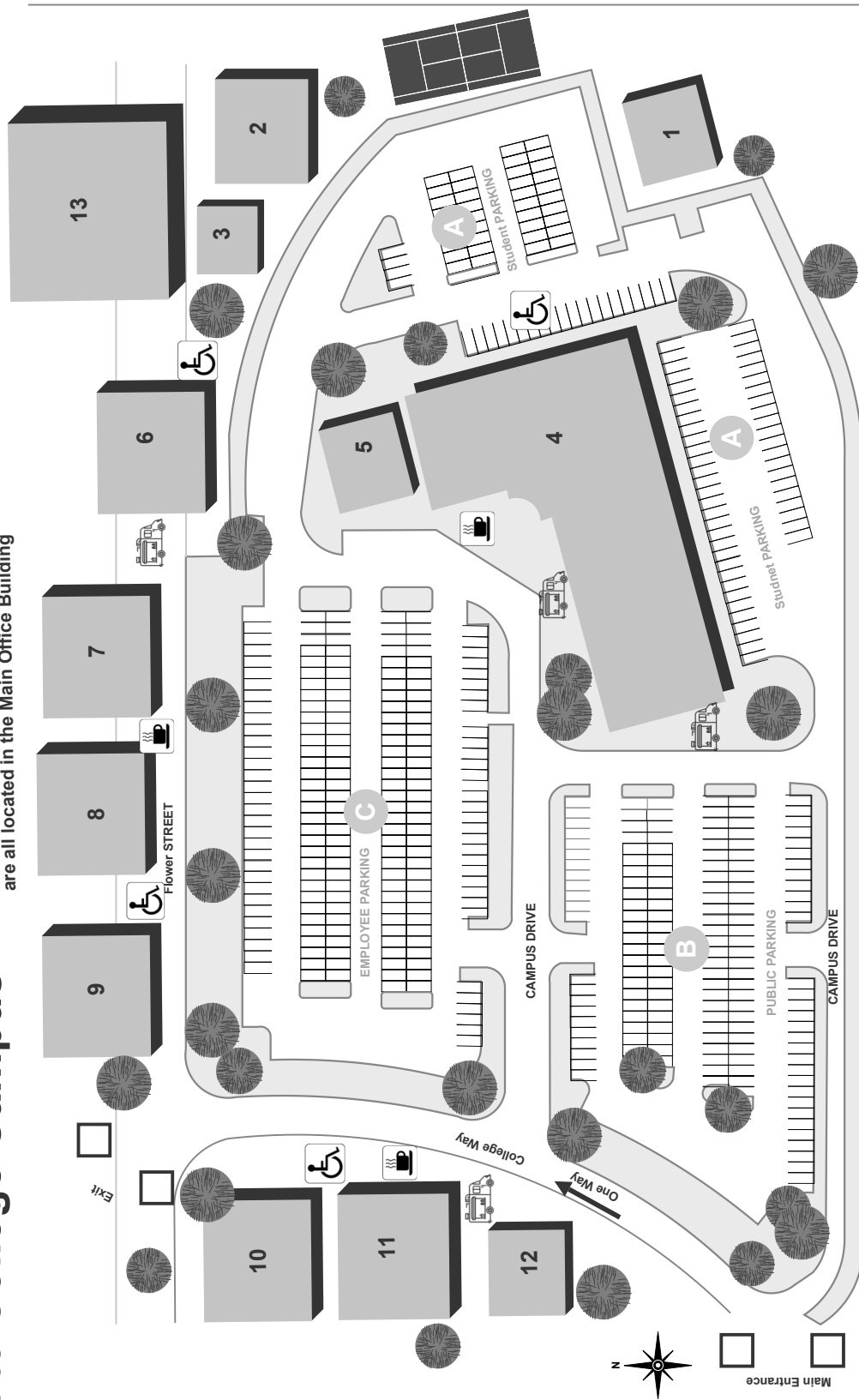
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Australia

1. How much do invasive species of plants cost Australia per year?
 - a. About \$20 million per year
 - b. About \$60 million
 - c. About \$3 billion
 - d. About \$9 billion
2. What land feature can be found near Sibiu, Borneo?
 - a. Waterfalls
 - b. Canals
 - c. Dams
 - d. Wetlands
3. Starbuck Island is part of what country?
 - a. Australia
 - b. Federated States of Micronesia
 - c. Indonesia
 - d. Kiribati
4. On the Political Relief map, what do the white dots that run through Indonesia represent?
 - a. Continental boundary
 - b. International boundary
 - c. Longitude line
 - d. International date line
5. What is the type of land use in New Zealand?
 - a. Urban
 - b. Commercial farming
 - c. Subsistence farming
 - d. Ranching or herding
6. How many urban land use zones are in Australia?
 - a. 0 or 1
 - b. 2 or 3
 - c. 4 or 5
 - d. 6 or 7
7. Which of the following nations is the least densely populated?
 - a. Papua New Guinea
 - b. Indonesia
 - c. Australia
 - d. New Zealand
8. The highest mountain peak is located in what country?
 - a. Australia
 - b. New Zealand
 - c. Indonesia
 - d. Samoa
9. How many states does Australia have?
 - a. 3
 - b. 5
 - c. 7
 - d. 9
10. Which of the following is a seasonal lake?
 - a. Lake Eyre
 - b. Lake Barlee
 - c. Lake Mackay
 - d. All of the above
11. Which country is just west of the international dateline?
 - a. Kiribati
 - b. China
 - c. Vanuatu
 - d. None of the above
12. Bora-Bora is a territory of what country?
 - a. Australia
 - b. United States
 - c. France
 - d. Indonesia
13. How far is it from Perth to Merredin?
 - a. About 150 miles
 - b. About 250 miles
 - c. About 300 miles
 - d. About 500 miles
14. Which country has the highest birth rate?
 - a. Australia
 - b. Micronesia
 - c. Papua New Guinea
 - d. The World
15. How much precipitation does Sydney receive?
 - a. 10 to 20 inches
 - b. 20 to 40 inches
 - c. 40 to 80 inches
 - d. Over 80 inches

State College Campus

Main Office Building: 123 College Way
Hours Monday through Friday: 8am to 5pm
Note: Transcripts, Admissions and Financial Aid
are all located in the Main Office Building



James Blvd.
 1/2 Mile to Miles Sports Complex

- Academics**
- 1. Art
 - 7. Liberal Arts
 - 8. Business
 - 9. Sciences
 - 10. Music
 - 12. Media Arts

- Housing**
- 2. Zappa Hall
 - 3. Primm Hall
 - 5. Mobius Hall

- Student Life**
- 4. University Union
 - 5. Student Fitness Center
 - 6. Student Dining Hall
 - 13. Library

- Offices**
- 11. Main Offices
- Note: Individual academic offices are located in their respective academic buildings.

Handicap Parking

Food Truck

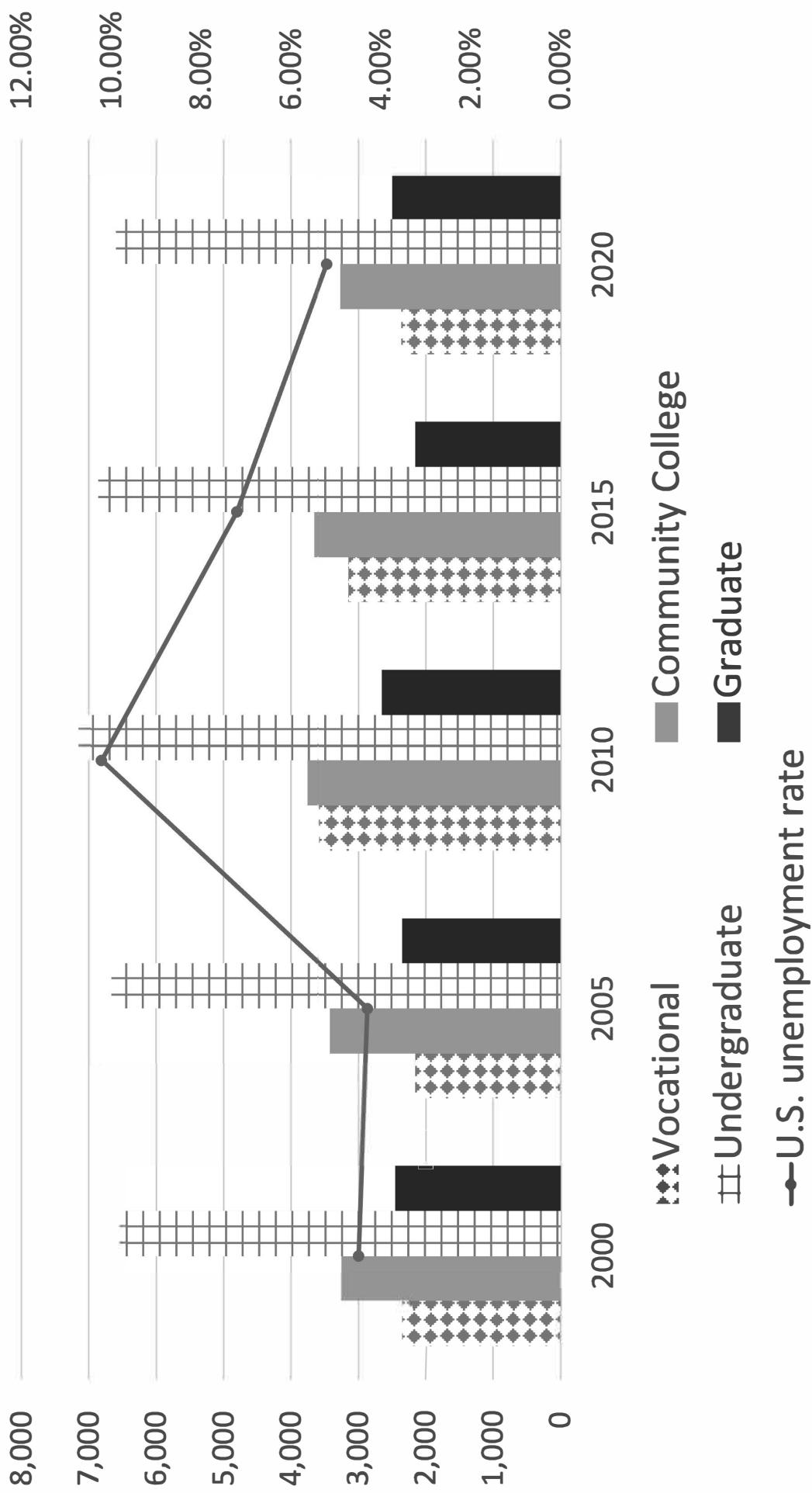
Coffee Cart

Food Trucks and Coffee Cart
 Hours: 8-6 Monday - Saturday
 *Special events may keep them open past normal operating hours.

State College Campus

16. Zappa Hall is northeast of which other Housing building?
- Mobius Hall
 - University Union
 - Primm Hall
 - Main Offices
17. Which street runs north and south along the campus' eastern border?
- Flower Street
 - James Blvd.
 - Truman Blvd.
 - College Way
18. Which academic building is located west of Campus Drive?
- Business
 - Liberal Arts
 - Media Arts
 - None of the above
19. How many coffee carts are usually open on Sundays?
- 0
 - 1
 - 2
 - 3
20. Employee Parking is located between which two buildings?
- Sciences and Media Arts
 - Music and Business
 - Art and the Library
 - Student Fitness Center and the Main Office
21. Which academic building is located closest to the entrance?
- Art
 - Music
 - Media Arts
 - Sciences
22. Which road leads to the Sports Complex?
- Flower Street
 - James Blvd.
 - Truman Blvd.
 - College Way
23. How many buildings house individual academic offices?
- 0
 - 2
 - 4
 - 6
24. How many handicap parking areas are there?
- 0
 - 2
 - 4
 - 6
25. In which direction is the library from the University Union?
- Northwest
 - Northeast
 - Southwest
 - Southeast
- TRUE/FALSE**
26. Most academic buildings are on the north side of campus.
27. James Blvd. is the only one-way street indicated on the map.
28. The hours listed for the library are the same as the main building.
29. Food trucks are never available after 6p.m.
30. College Way only runs south to north.

Post High School Education Enrollment and Unemployment Rate



Post High School Education Enrollment and Unemployment Rate

31. Which of the following had the lowest enrollment in 2010?
- Vocational
 - Community College
 - Undergraduate
 - Graduate
32. What year did unemployment peak?
- 2000
 - 2005
 - 2010
 - 2015
33. How many different types of postsecondary education are included on the graph?
- 0
 - 3
 - 4
 - 5
34. What year had the highest combined enrollment for all types of postsecondary education?
- 2000
 - 2005
 - 2010
 - 2015
35. Which year saw the highest number of school graduates?
- 2000
 - 2005
 - 2010
 - Not indicated on this graph
36. What span of time is covered by this graph?
- 5 years
 - 10 years
 - 15 years
 - 20 years
37. Compared to the previous year, what year did graduate enrollment drop the most?
- 2005
 - 2010
 - 2015
 - 2020
38. What does the right side of the y axis represent?
- Enrollment numbers
 - Enrollment percentage
 - The year
 - Unemployment rate
39. In how many years did total enrollment for all types of postsecondary education exceed 20,000?
- 0
 - 1
 - 3
 - 4
40. Which category had an enrollment of about 3,400 in 2005?
- Vocational
 - Community College
 - Undergraduate
 - Graduate
- TRUE/FALSE**
41. Total combined enrollment increased from 2000 to 2005.
42. Enrollment at the graduate level decreased each year from 2010 to 2020.
43. Undergraduate enrollment never fell below 6,000.
44. After peaking, unemployment kept falling.
45. Enrollment in every category peaked the same year unemployment was at its highest.

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Europe

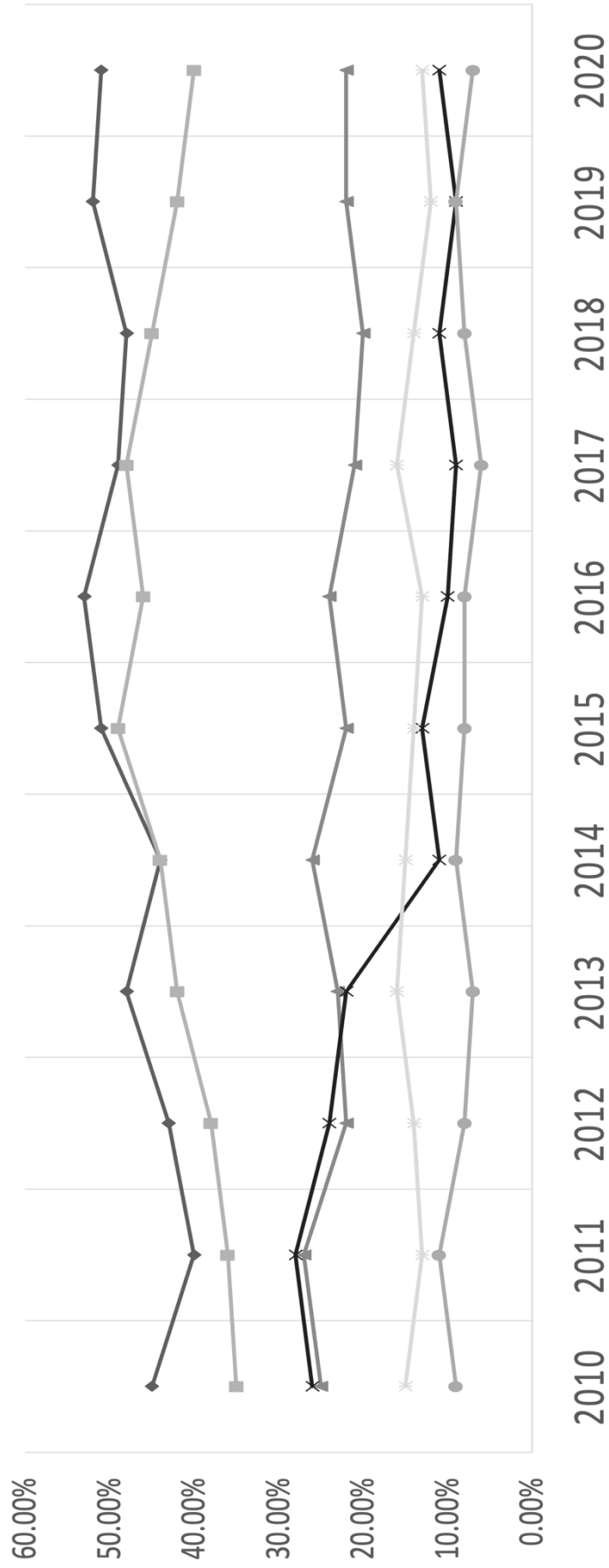
46. What percentage of the Netherlands is below sea level?
- About 25%
 - About 50%
 - About 75%
 - Information not available
47. The Caucasus Mountains separate Russia from what other country?
- Finland
 - Ukraine
 - Georgia
 - Kazakhstan
48. Which of the following is the capital of Estonia?
- Helsinki
 - Minsk
 - Tallinn
 - Belarus
49. What is the climate type of Sardinia?
- Steppe
 - Mediterranean
 - Marine
 - Cool summer
50. Which of the following is not part of the European Union?
- Spain
 - Turkey
 - Sweden
 - Greece
51. Germany gets most of its electricity from what source?
- Hydroelectricity
 - Fossil Fuels
 - Nuclear Power
 - Other
52. Which country's capital is closest to the arctic circle?
- Finland
 - Sweden
 - Norway
 - Russian
53. Which of the following French cities is located on the shores of the Loire River?
- Paris
 - Orleans
 - Nancy
 - Metz
54. Which of the following Russian cities has the largest population?
- Kotlas
 - Pechora
 - Tver
 - Perm
55. The Gota canal is located in what country?
- Sweden
 - Finland
 - Norway
 - Latvia

TRUE/FALSE

56. The North Atlantic Drift flows in a northeastern direction.
57. Russia is the largest country in Europe by area and population.
58. The island of Crete is a territory of Italy.
59. The Central Russian Upland is located in both Europe and Asia.
60. Uranium can be found in Spain.

COLLEGE ACCEPTANCE RATES

- ◆ Central College - Public
- ◆ State College - Public
- ◆ Port College - Public
- ◆ Moore University - Private
- ◆ Southside University - Private
- ◆ Sung University - Private
- ◆ Moore University - Private



College Acceptance Rates

61. What does y axis represent?
- The number of students enrolled
 - The number of students accepted
 - Percentage of students accepted
 - None of the above
62. What year did acceptance rates fall the most at Southside University?
- 2010
 - 2012
 - 2014
 - 2016
63. Which of the following institutions had the highest admission rate in 2019?
- Port College
 - Southside University
 - Sung University
 - Moore University
64. Which of the following are private institutions?
- Moore University
 - Sung University
 - Southside University
 - All of the above
65. In how many years were admission percentages at Sung University higher than percentages at Port College?
- 0
 - 1
 - 2
 - 4
66. Which of the following institutions did not have the same rank in terms of acceptance rate in 2010 and 2020?
- State College
 - More University
 - Central College
 - Southside University
67. Which institution saw the biggest increase in admit rates from 2014 to 2015
- Central College
 - State College
 - Port College
 - Southside University
68. In how many years did Southside University have the highest admission rate among private institutions?
- 0
 - 2
 - 4
 - 6
69. In 2016, an applicant had the lowest chance to get into which of the following institutions?
- Moore University
 - Sung University
 - Southside University
 - Port College
70. Which of the following institutions' acceptance rate increased the most times between each year?
- Central College
 - Southside University
 - State College
 - Sung University

TRUE/FALSE

71. The private institutions tend to have lower admission rates than the public institutions.
72. Admit rates dropped for all private institutions in 2014.
73. Port College's admit rate in 2015 was higher compared to 2010.
74. In this information set, all institutions designated as "universities" are public.
75. Four institutions had a higher admit rate in 2020 compared to 2019.



University Interscholastic League
A+ Maps/Graphs/Charts Contest • 2023-2024
7/8 Fall
Answer Key

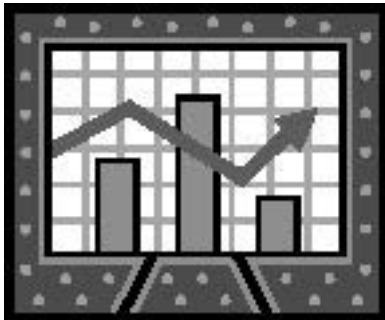
1. C	26. T	51. B
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4. A	29. F	54. D
5. D	30. T	55. A
6. C	31. D	56. T
7. C	32. C	57. T
8. C	33. C	58. F
9. C	34. C	59. F
10. D	35. D	60. T
11. A	36. D	61. C
12. C	37. C	62. C
13. A	38. D	63. A
14. C	39. A	64. D
15. C	40. B	65. A
16. A	41. F	66. D
17.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

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Maps, Graphs & Charts

grades 7 & 8

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

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North America

1. What state's capital is located on the shores of the Cumberland River?
 - a. Oregon
 - b. Florida
 - c. Tennessee
 - d. Vermont
2. Which of the following countries has the largest area of mainly indigenous people in areas with high population density?
 - a. Nicaragua
 - b. Panama
 - c. Guatemala
 - d. Costa Rica
3. Which country gets the most precipitation on average?
 - a. Mexico
 - b. Guatemala
 - c. Haiti
 - d. Costa Rica
4. Martinique is a territory of what country?
 - a. Mexico
 - b. United States
 - c. Greenland
 - d. France
5. I90 runs through which of the following states?
 - a. Wyoming
 - b. Washington
 - c. Montana
 - d. All of the above
6. What is the elevation level of Troy, Alabama?
 - a. Below sea level
 - b. 0 to 500 feet
 - c. 500 to 1,000 feet
 - d. 1,000 to 2,000 feet
7. Prince Albert National Park is located in what Canadian territory?
 - a. Saskatchewan
 - b. British Columbia
 - c. Ontario
 - d. Nunavut
8. Which country's capital is closest to the equator?
 - a. Dominican Republic
 - b. Panama
 - c. Mexico
 - d. Cuba
9. Which country is the least densely populated?
 - a. Canada
 - b. United States
 - c. Greenland
 - d. Costa Rica
10. Which Canadian city's airport has the most passengers per year?
 - a. Edmonton
 - b. Vancouver
 - c. Halifax
 - d. Toronto
11. What city is the territorial capital of Ontario?
 - a. Ottawa
 - b. Quebec
 - c. Mississauga
 - d. Toronto
12. How far is it from Oil City, Pennsylvania to Syracuse, New York?
 - a. About 100 miles
 - b. About 200 miles
 - c. About 300 miles
 - d. About 400 miles
13. Wetlands can mainly be found where in the United States?
 - a. Northwest
 - b. Southwest
 - c. Southeast
 - d. Central
14. The highest peak in North America is located in what state?
 - a. Colorado
 - b. Alaska
 - c. New Mexico
 - d. None of the above
15. Which crop does Canada export the most of?
 - a. Wheat
 - b. Canola
 - c. Corn
 - d. Barley

County Fair



Weekends starting March 1st through the end of the month.
 Grounds Open: Fridays: 4pm to 10pm
 Saturday/Sunday: 12pm to 10pm

- Ticket Booth
- Entrance
- Stage
- Restrooms
- Rides Area
- Playground
- Picnic Area

- Coffee Shop
 - 1. Joe's Coffee
 - 7. High Plains Coffee
- Snacks and Treats
 - 2. Cotton Candy
 - 3. Popcorn
 - 4. Candy
 - 5. Fried Pickles
 - 6. Funnel Cakes
 - 8. Churros
 - 18. Donuts
 - 19. Caramel Apples

- Restaurants
 - 20. Hamburger Hut
 - 21. Hot Dog Heaven
 - 22. Catfish Corner
 - 23. Turkey Legs Lodge
 - 24. Gyro Genius
 - 25. Pizza Time
 - 26. Shawarma King
 - 27. Veggie Delights

- Merchandise Vendors
 - 09. Top Notch T-shirts
 - 10. Judy's Jewelry
 - 11. Burt's Books
 - 12. Beads and Strings
 - 13. Toy Box
 - 14. Comics and Games
 - 15. Flower Shop
 - 16. Sun's Dresses
 - 17. Shoe Shop
 - 28. Electronics
 - 29. Sunglasses Inc.
 - 30. Caps Caps Caps

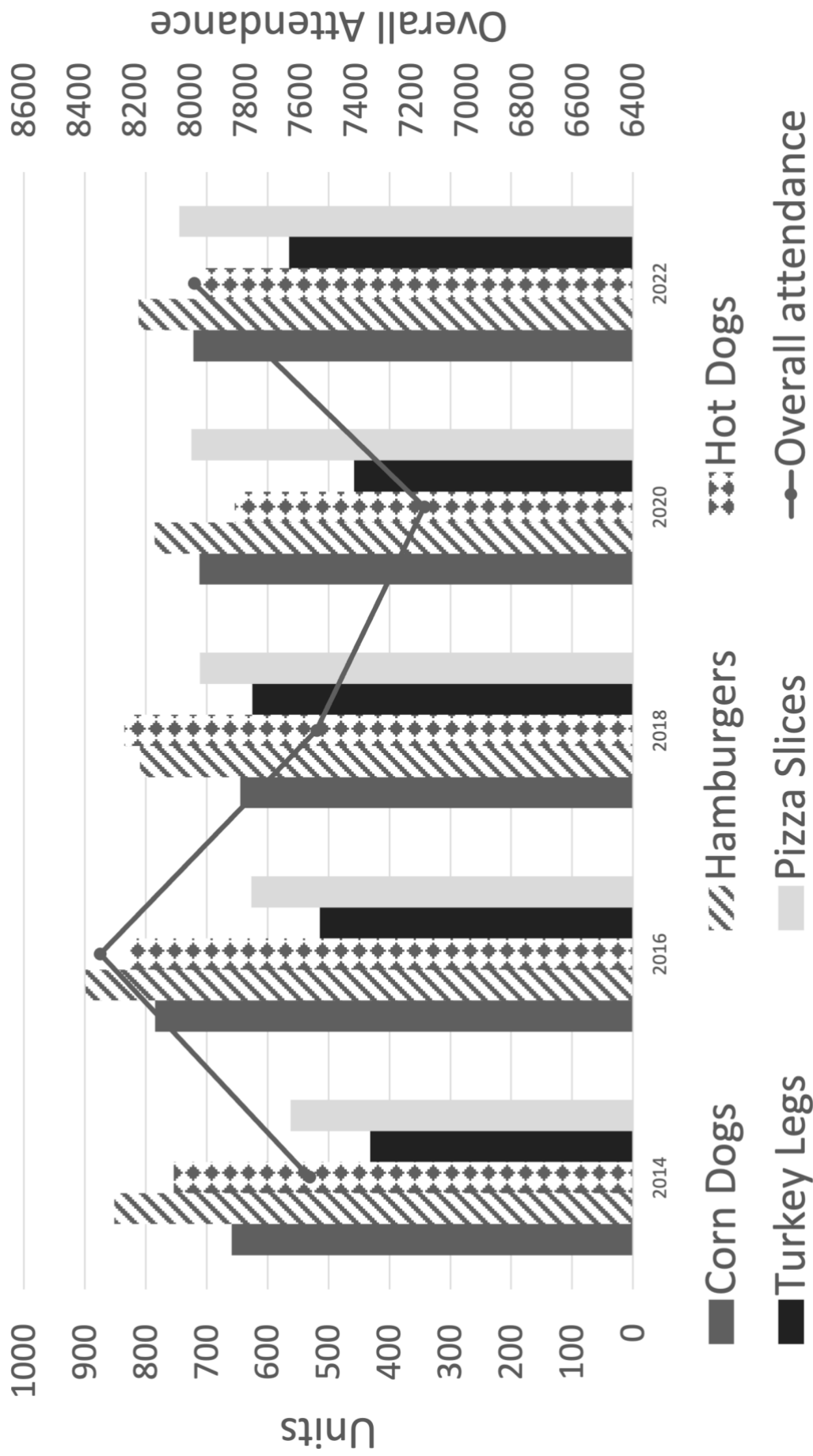
Stage Schedule:
 Live Bands: 6pm to 10pm nightly

Admission:
 Adults: \$5
 17 and under: \$3
 Children 5 and under: Free

County Fair

16. In what area of the fairgrounds is the stage located?
- North
 - South
 - East
 - West
17. Which merchandise vendor is closest to the rides area?
- Caramel Apples
 - Gyro Genius
 - Shoe Shop
 - Judy's Jewelry
18. How many streets on the map run both north and south?
- 0
 - 1
 - 2
 - 4
19. How many restaurants are located next to 1st street?
- 0
 - 1
 - 3
 - 4
20. Once the grounds open on Friday, how long before the live music starts?
- 0 hours
 - 2 hours
 - 6 hours
 - There is no live music that day
21. Which restaurant is the furthest west?
- Hamburger Hut
 - Catfish Corner
 - Shawarma King
 - None, they are equally situated on the west end of the map.
22. How do visitors get to the parking lot from 1st street?
- East on 1st then west on Moog Street
 - South on 1st then east on Moog Street
 - South on 1st then west on Moog Street
 - North on 1st then west on Moog Street
23. How many picnic areas are indicated on the map?
- 0.
 - 1
 - 3
 - 5
24. How much would it cost 5 children (age 5) to enter the fair?
- \$5
 - \$15
 - \$25
 - No charge
25. How many two way streets are on the map?
- 0
 - 1
 - 2
 - 3
- TRUE/FALSE**
26. There are more snack and treat vendors than restaurants.
27. Joe's Coffee shop is further south than any other coffee shop.
28. One of the two playgrounds is located in southeast corner of the map.
29. The fair closes at the same time every night.
30. All restaurants are located on the western half of the map.

Fair Food Sales



Fair Food Sales

31. What does the y-axis on the right represent?
- The year
 - The number of individual food items sold
 - Attendance per year
 - None of the above
32. What year had the highest number of attendees?
- 2014
 - 2016
 - 2018
 - 2022
33. What does the darkest column represent?
- 2016
 - 2022
 - Hamburgers
 - Turkey Legs
34. In how many years did overall attendance exceed 900?
- 0
 - 2
 - 4
 - 5
35. Which food group sold the most in a single year?
- Corn Dogs
 - Hamburgers
 - Hot Dogs
 - Pizza Slices
36. Turkey Leg sales peaked in what year?
- 2016
 - 2018
 - 2020
 - 2022
37. What item sold the most in 2017?
- Corn Dogs
 - Hamburgers
 - Pizza Slices
 - Information not available
38. What year did attendance fall the most compared to the previous year on the graph?
- 2014
 - 2016
 - 2018
 - 2022
39. Which item had higher sales every year compared to the previous year?
- Corn Dogs
 - Hamburgers
 - Hog Dogs
 - Pizza Slices
40. How many times did pizza slices outsell hamburgers?
- 0
 - 1
 - 2
 - 3

TRUE/FALSE

41. Attendance rose every year after 2018.
42. Only one item sold more than 900 units in a single year.
43. Four of the five items had their highest sales in 2016.
44. Hamburgers sold the most every year.
45. The year attendance was the lowest, was the year hot dogs had their lowest sales.

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ASIA

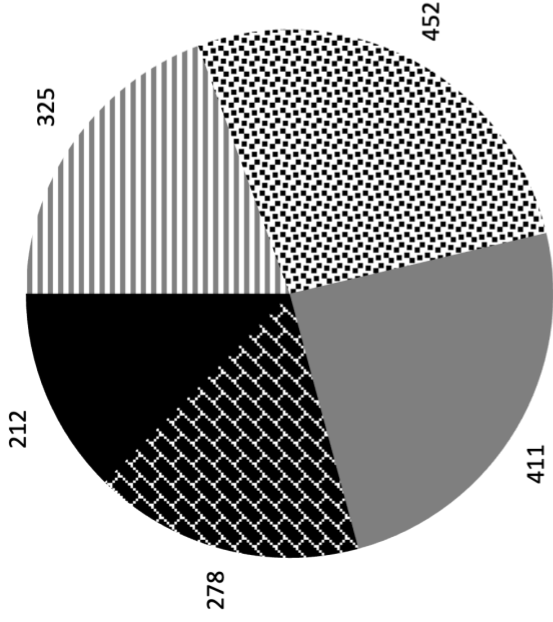
46. What is the highest elevation on the Plateau of Tibet?
- 2,000 to 5,000 feet
 - 5,000 to 10,000 feet
 - 10,000 to 20,000 feet
 - Over 20,000 feet
47. Which country does not have a working oil field?
- Egypt
 - Moldova
 - Bulgaria
 - Kazakhstan
48. Natuna Besar Island is a territory of what country?
- India
 - Indonesia
 - China
 - Russia
49. India has a disputed border with what country?
- Bangladesh
 - Sri Lanka
 - China
 - Nepal
50. Which of the following countries have coastlines on the Caspian Sea?
- Iran
 - Russia
 - Turkmenistan
 - All of the above
51. The deepest lake on the continent is located in what country?
- Russia
 - China
 - India
 - Kazakhstan
52. Which city in China has the highest population?
- Kunming
 - Shanghai
 - Changchun
 - Harbin
53. Which of the following is a natural barrier between Russia and China?
- Black Sea
 - Terek River
 - Caspian Sea
 - Argun River
54. Wetlands can be found in what country?
- Vietnam
 - Yemen
 - Japan
 - None of the above
55. What is the predominant religious belief in Myanmar?
- Judaism
 - Christianity
 - Islam
 - Buddhism

TRUE/FALSE

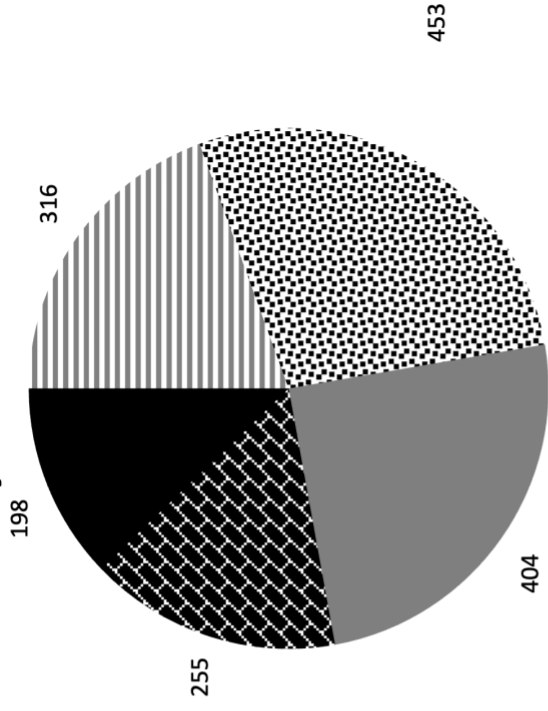
56. India has a higher GDP than South Korea.
57. Lake Van is located in western Turkey.
58. Summer monsoon winds approach Asia from the south.
59. Hokkaido is a large island of north Japan.
60. The lowest land on earth is located on the shores of the Black Sea.

First Week Fair Attendance

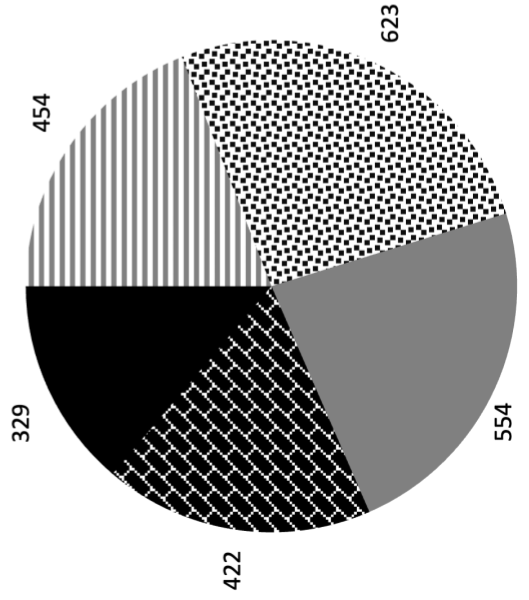
Thursday



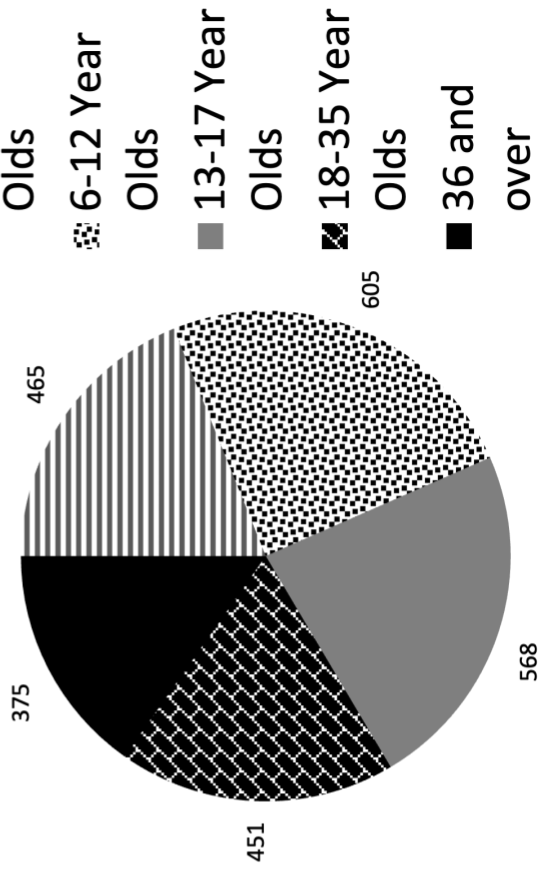
Friday



Saturday



Sunday



- ▨ 0-5 Year Olds
- ▩ 6-12 Year Olds
- 13-17 Year Olds
- ▨ 18-35 Year Olds
- 36 and over

First Week Fair Attendance

61. How much time is covered by the graph?
- One day
 - Four days
 - Four weeks
 - One month
62. What does the top left pie chart represent?
- 0-5 year olds
 - 6-12 year olds
 - Thursday
 - The first week of the fair
63. Which group had the highest attendance on Friday?
- 0-5 year olds
 - 6-12 year olds
 - 13-17 year olds
 - 18-35 year olds
64. In how many days did the 36 and over group have the lowest attendance?
- 1
 - 2
 - 3
 - 4
65. How many times were there more 13-17 year old attendees than 6-12 year old attendees?
- 0
 - 1
 - 3
 - 4
66. What day had the most attendees?
- Thursday
 - Friday
 - Saturday
 - Sunday
67. Which group had the highest attendance in a single day?
- 0-5 year olds
 - 6-12 year olds
 - 13-17 year olds
 - 18-35 year olds
68. What day did the 18-35 year old group have the lowest attendance?
- Thursday
 - Friday
 - Saturday
 - Sunday
69. In how many groups did attendance increase every day?
- 0
 - 1
 - 2
 - 3
70. What group had the highest increase in attendance from Thursday compared to Sunday?
- 6-12 year olds
 - 13-17 year olds
 - 18-35 year olds
 - 36 and over

TRUE/FALSE

71. Attendance for the two older groups is higher Saturday and Sunday.
72. Peak attendance for all groups was on Saturday.
73. Total attendance never fell below 1,500 in a single day.
74. Attendance on Friday fell for most groups compared to Thursday.
75. Each separate pie chart shows 100% of the attendance for each day.



University Interscholastic League
A+ Maps/Graphs/Charts Contest • 2023-2024
7/8 Spring
Answer Key

- | | | |
|-------|-------|-------|
| 1. C | 26. F | 51. A |
| 2. C | 27. T | 52. B |
| 3. D | 28. F | 53. D |
| 4. D | 29. T | 54. A |
| 5. D | 30. T | 55. D |
| 6. B | 31. C | 56. T |
| 7. A | 32. B | 57. F |
| 8. B | 33. D | 58. T |
| 9. C | 34. D | 59. T |
| 10. D | 35. B | 60. F |
| 11. D | 36. B | 61. B |
| 12. B | 37. D | 62. C |
| 13. C | 38. C | 63. B |
| 14. B | 39. D | 64. D |
| 15. A | 40. A | 65. A |
| 16. A | 41. F | 66. D |
| 17. C | 42. F | 67. B |
| 18. A | 43. F | 68. B |
| 19. A | 44. F | 69. A |
| 20. B | 45. T | 70. C |
| 21. D | 46. D | 71. T |
| 22. C | 47. B | 72. F |
| 23. D | 48. B | 73. T |
| 24. D | 49. C | 74. T |
| 25. B | 50. D | 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 2023-2024

A+ ACADEMICS



University Interscholastic League



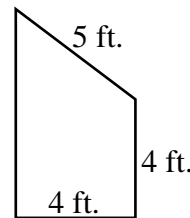
Mathematics

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

2023 – 2024 University Interscholastic League JH/MS Mathematics Contest A

- (1) Evaluate: $8 + 24 \div 2^3$
 A) 12 B) 4 C) 14 D) 11 E) $6\frac{1}{3}$
- (2) Two straight lines cross each other, forming four angles. If one angle is 28° , the other largest angle is
 A) 28° B) 62° C) 152° D) 332° E) None of These
- (3) A turtle had a journey 240 feet to crawl. In the first hour it crawled $\frac{1}{2}$ the total distance. The turtle stopped and rested and then crawled $\frac{1}{3}$ the remaining distance. Again, the turtle stopped and rested. Next the turtle crawled $\frac{1}{4}$ of the remaining distance and stopped to rest. How much distance was left for the turtle to crawl?
 A) 60 feet B) 120 feet C) 10 feet D) 20 feet E) 40 feet
- (4) Susan can bicycle 5 feet/second while Mario can bicycle 4 feet/second. If they are racing side by side initially, how far apart will they be after Susan bicycles 100 yards?
 A) 100 feet B) 75 feet C) 60 feet D) 30 feet E) 15 feet
- (5) A chessboard is comprised of 8 by 8 identical size squares. If a nickel is placed on each square what is the total amount of money placed on the chessboard?
 A) \$64.00 B) \$3.20 C) \$32 D) \$6.40 E) 64¢
- (6) What is the largest prime number less than 100?
 A) 99 B) 95 C) 91 D) 89 E) None of These
- (7) $1001 \times 87 =$
 A) 8,787 B) 80,887 C) 87,807 D) 87,870 E) 87,087
- (8) What is the total area of the figure to the right?
 A) 25 sq. ft. D) 22 sq. ft.
 B) 36 sq. ft. E) 28 sq. ft.
 C) 20 sq. ft.

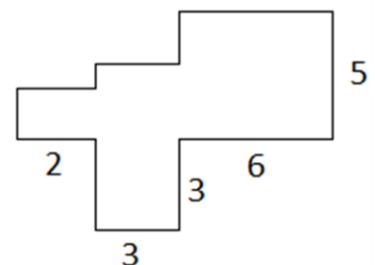
Problem
8



- (9) If there are $16\frac{1}{2}$ feet in a rod, how many rods are in one mile?
 A) 320 rods B) 5,280 rods C) 1,760 rods D) 440 rods E) 160 rods
- (10) Armando pours 2 gallons of grape juice into a container and 3 quarts of water into the same container. Later he pours out 6 pints of the liquid in the container. How much liquid is left in the container?
 A) 12 quarts B) $2\frac{1}{2}$ gallons D) 22 pints D) $2\frac{3}{4}$ gallons E) 8 quarts
- (11) Black-Jack, one of Goldie's kittens, was born on March 18th. How old was Back-Jack at the end of the day on May 18th?
 A) 59 days B) 60 days C) 61 days D) 62 days E) None of These

- (12) Susie is twice as old as Tina. Five years ago, Tina was two years younger than Penelope. If Penelope is twelve, how many years old is Susie?
 A) 16 years B) 18 years C) 20 years D) 22 years E) 24 years
- (13) Wesley has taken 5 reading quizzes and has scored an average of 80 on the quizzes. If he scored 70, 80, 85, and 95 on four of the quizzes, what did he score on the other quiz?
 A) 60 B) 68 C) 70 D) 72 E) 80
- (14) Matt and Mike are running in opposite directions around a circular track with a circumference of 960 m. Matt runs at a speed of 50 m/s and Mike runs at a speed of 70 m/s. If they start at the same point, after how many seconds will they meet?
 A) 48 seconds B) 45 seconds C) $19\frac{1}{5}$ seconds D) $13\frac{5}{7}$ seconds E) 8 seconds
- (15) Points A , B , C , and D lie on a line in alphabetical order. If $BC = CD$, $AB = 10$ and $AD = 38$, what is the value of BC ?
 A) 14 B) 12 C) 16 D) 24 E) 28
- (16) Albert is shoveling snow from his 20-foot by 50-foot driveway. If one foot of snow has fallen on the ground, what volume of snow will he have to shovel, in cubic feet?
 A) 70 ft^3 B) 100 ft^3 C) 140 ft^3 D) $10,000 \text{ ft}^3$ E) None of These
- (17) An equilateral triangle and a square have the same perimeter. If the square has an area of 36 square centimeters (cm^2), what is the area of the triangle in square centimeters?
 A) 16 cm^2 B) $16\sqrt{3} \text{ cm}^2$ C) $12\sqrt{3} \text{ cm}^2$ D) 36 cm^2 E) $9\sqrt{3} \text{ cm}^2$
- (18) Li and James each have identical pumpkin pies. Li eats $\frac{2}{3}$ of his pie and James eats $\frac{3}{4}$ of his pie. If they put the remainder of their pies together, what fraction of a whole pie do they have left?
 A) $\frac{1}{4}$ B) $\frac{5}{12}$ C) $\frac{5}{6}$ D) $\frac{7}{12}$ E) $\frac{3}{4}$
- (19) What is the smallest positive integer with only 4 positive divisors?
 A) 24 B) 20 C) 8 D) 6 E) 4
- (20) What is the product of the least common multiple and the greatest common factor of 16 and 25?
 A) 100 B) 180 C) 200 D) 320 E) 400
- (21) Eighteen is 30% of what number?
 A) 6 B) 21 C) 36 D) 54 E) None of These
- (22) In the figure below, all angles are right angles and side lengths are as labeled. What is the perimeter of the figure?

Problem
22



- A) 36
 B) 38
 C) 40
 D) 42
 E) 44

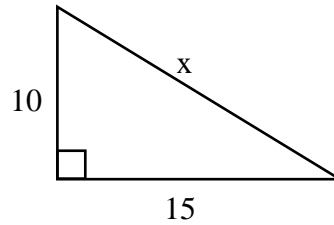
- (23) A local thrift store is holding its annual “buy 2 get 1 free” sale on shirts. If one shirt usually costs \$15, how many dollars would you save by getting a total of 6 shirts?
 A) \$90 B) \$60 C) \$30 D) \$15 E) None of These

- (24) If $0 < a, b, c < 1$, which of the following inequalities must be true?
 A) $a^2 + b^2 + c^2 < 0$ B) $a + b + c > 0$ C) $-1 < abc < 0$ D) $(abc)^2 > 1$ E) $abc < 0$

- (25) Given the right triangle below, what integer is closest to the value of x ?

- A) 18
 B) 19
 C) 20
 D) 25
 E) 325

Problem # 25



- (26) I have a bag of beans. There are four coffee beans, six java beans, three string beans, three pinto beans, and four black beans. I draw a bean from the bag randomly. If each bean is the same size, what is the probability that I get a java bean?

- A) $\frac{1}{5}$ B) $\frac{3}{5}$ C) $\frac{3}{10}$ D) $\frac{1}{4}$ E) $\frac{1}{6}$

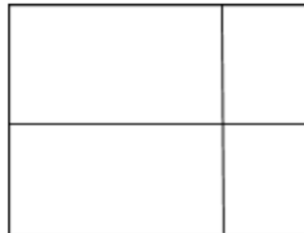
- (27) If $5x + 2 = 11x - 34$, what does the variable x equal?

- A) 6 B) 32 C) 33 D) 66 E) 76

- (28) How many rectangles of any size are in the image below?

- A) 12
 B) 10
 C) 9
 D) 6
 E) 4

Problem #28



- (29) How many ways are there to arrange the letters “B”, “U”, “R”, and “T”?

- A) 4 B) 8 C) 12 D) 16 E) 24

- (30) There are 24 students in Ms. Woodall’s class. One-half of the students are boys and one-third of the boys have brown hair. What is the number of boys in Ms. Woodall’s class who have brown hair?

- A) 4 B) 6 C) 8 D) 12 E) 20

- (31) Which of the following numbers has a value that is between 10% and $\frac{1}{9}$?

- A) 0.019 B) 0.108 C) 0.112 D) 0.151 E) None of These

- (32) What is the value of the expression: $|-5| - |-12|$?

- A) -17 B) 17 C) 7 D) -7 E) -60

- (33) What is the ninth triangular number?

- A) 9 B) 10 C) 18 D) 45 E) 81

The table below shows the scores Analisa and Luke earned on four science projects. Analisa and Luke worked on a fifth science project together. They each earned the same score on the project. When the fifth score is included in the table, Analisa’s mean score does not change. Please use this table to answer questions 34 – 38.

Science Project Scores

Project	Analisa	Luke
1	95	90
2	81	84
3	76	95
4	88	91
5	?	?

- (34) What was the score on Analisa’s fifth project?
 A) 82 B) 83 C) 85 D) 86 E) 88
- (35) Which of the following statements describes how Luke’s mean score changes when his fifth score is included in the table?
 A) increases by 1 B) decreases by 1 C) increases by 1.5 D) decreases by 2.5 E) increases by 2.5
- (36) Including the fifth project score, what is the range of scores for Analisa?
 A) 13 B) 16 C) 19 D) 14 E) 11
- (37) Including the fifth project score, what is the median of scores for Luke?
 A) $84\frac{1}{5}$ B) 88 C) $88\frac{1}{5}$ D) 89 E) 90
- (38) Including all five project scores, what is the positive difference in the mean and median scores for Analisa?
 A) 0 B) 1 C) 1.5 D) 2 E) 2.5
- (39) Liz took five ping-pong balls and labeled them {1, 3, 4, 5, 6}. Genny took five different ping-pong balls and labeled them {2, 4, 6, 8, 9}. If all the balls were placed in a black bag and Andy pulled one ball out randomly, what is the probability the ball has an even number on it?
 A) $\frac{1}{2}$ B) $\frac{3}{5}$ C) $\frac{2}{5}$ D) $\frac{7}{10}$ E) $\frac{3}{4}$
- (40) Mike is 6 feet tall and casts a shadow that is 8 feet long. If Paige is 5 feet 3 inches tall, how long is her shadow?
 A) $6\frac{1}{3}$ feet B) $6\frac{1}{2}$ feet C) 7 feet D) 8 feet E) $8\frac{1}{2}$ feet
- (41) $12 \times 1.1666 \dots =$
 A) 9 B) 10 C) 13 D) 14 E) 15

2023 – 2024 University Interscholastic League JH/MS Mathematics Contest A – Key

- (1) D
- (2) C
- (3) A
- (4) C
- (5) B
- (6) E (97)
- (7) E
- (8) D
- (9) A
- (10) E
- (11) C
- (12) C
- (13) C
- (14) E
- (15) A
- (16) E (1000)
- (17) B
- (18) D
- (19) D
- (20) E
- (21) E (60)
- (22) B
- (23) C
- (24) B
- (25) A

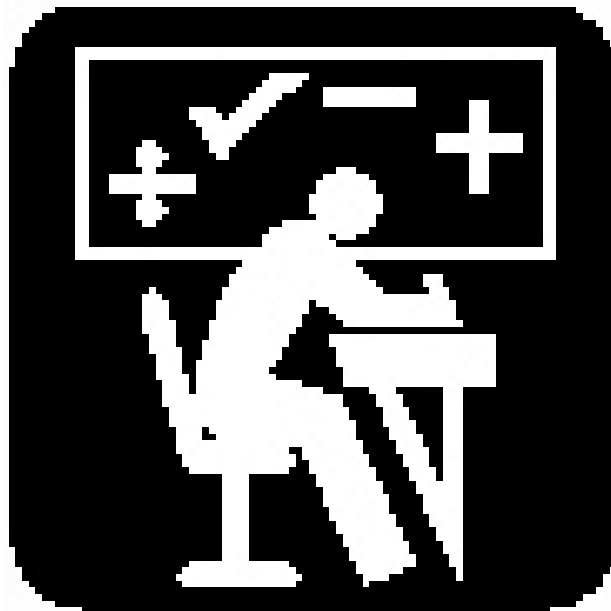
- (26) C
- (27) A
- (28) C
- (29) E
- (30) A
- (31) B
- (32) D
- (33) D
- (34) C
- (35) B
- (36) C
- (37) E
- (38) A
- (39) B
- (40) C
- (41) D
- (42) C
- (43) D
- (44) E
- (45) A
- (46) C
- (47) C
- (48) D
- (49) D
- (50) A

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



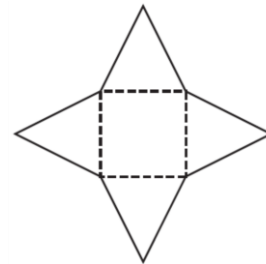
Mathematics

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

2023 – 2024 University Interscholastic League JH/MS Mathematics Contest B

- (1) Evaluate: $12 + 18 \div 6 - 4$
 A) 1 B) 9 C) 11 D) 15 E) $-\frac{2}{3}$
- (2) $1 + 3 + 5 + \dots + 49 =$
 A) 625 B) 576 C) 256 D) 125 E) None of These
- (3) Wes was driving a go-kart 12 mph at a local park. He drove for 20 minutes, how far did he travel?
 A) 1.2 miles B) 2.4 miles C) 4 miles D) 6 miles E) 12 miles
- (4) Ben rotated each of the letters below 180° about its center and drew the resulting image. Which letter would have a resulting image that is unchanged from the original letter?
 A) Z B) R C) K D) T E) L
- (5) Ribbon costs 30 cents per foot. What is the total cost of three pieces measuring $1\frac{1}{2}$ ft., 2 ft., and 15 inches?
 A) 55¢ B) 80¢ C) \$1.43 D) \$1.45 E) \$5.55
- (6) Which of the following is the prime factorization of 72?
 A) $8^1 \times 9^1$ B) $3^2 \times 2^3$ C) $2^8 \times 3^9$ D) $2^3 \times 3^2$ E) $2^8 \times 9^1$
- (7) $143 \times 210 =$
 A) 30,003 B) 30,030 C) 33,030 D) 3,003 E) 33,003
- (8) Which three-dimensional shape could be made by folding the following net below on the dashed lines?
 A) Square Prism
 B) Square Pyramid
 C) Triangular Prism
 D) Triangular Pyramid
 E) Equilateral Triangular Pyramid

Problem
8

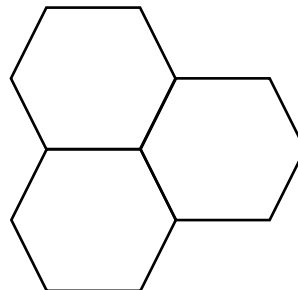


- (9) If a furlong in horse racing is 220 yards, how many furlongs are in one mile?
 A) 7 furlongs B) $7\frac{5}{11}$ furlongs C) 8 furlongs D) $8\frac{1}{2}$ furlongs E) 110 furlongs
- (10) Terry needs 12 quarts of juice to have enough for 6 batches of fruit punch. How many gallons of juice will he need?
 A) 2 gallons B) 3 gallons C) 4 gallons D) 5 gallons E) 6 quarts
- (11) Honey, one of Goldie's kittens, was born on March 18th. How old was Honey at the end of the day on June 8th?
 A) 61 days B) 69 days C) 74 days D) 82 days E) None of These
- (12) On a triangle, Side B is twice as long as Side A. Side C is 1 centimeter shorter than Side B. If the perimeter of the triangle is 11.5 centimeters, how long is Side B?
 A) 2 centimeters B) 2.5 centimeters C) 4.2 centimeters D) 6 centimeters E) None of These

- (13) Mackenzie knows that she will have five tests this grading period and that she must have at least an 80% average to play on the school's golf team. Her mean for the first four tests is 77%. What is the least score she can get on the last test and still qualify to play golf?
 A) 94 B) 92 C) 90 D) 89 E) 85
- (14) Jo and Jen live 56 kilometers apart. They are both going to leave at 10:00 am riding bikes toward each other. Jo's average speed is 6 km per hour. Jen's average speed is 8 km per hour. If they take no breaks, what time will they meet?
 A) 2:00 PM B) 3:30 PM C) 4:20 PM D) 5:05 PM E) 6:10 PM
- (15) What is the sum of the mean, median, and mode of the numbers {2, 3, 0, 3, 1, 4, 0, 3} ?
 A) $6\frac{1}{2}$ B) 7 C) $7\frac{1}{2}$ D) $8\frac{1}{2}$ E) 9
- (16) Which of the following statements is true for the equation $8x - 2y + 10 = 0$?
 A) The graph of the equation is a straight line parallel to the y-axis.
 B) The graph of the equation is the straight line with slope negative 4.
 C) The graph of the equation is a straight line crossing the y-axis at (0, 5).
 D) The graph of the equation is a straight line crossing the y-axis at the origin.
 E) The graph of the equation is a parabola crossing the x-axis at (5, 0) and (-5,0).
- (17) An isosceles triangle has sides of 10-in., 10 in., and 16 in. What is the area of this triangle?
 A) 48 in^2 B) 96 in^2 C) $96\sqrt{2} \text{ in}^2$ D) 80 in^2 E) $48\sqrt{2} \text{ in}^2$
- (18) A rectangle has an area of 12 square yards and a perimeter of 16 yards. What is the length of the longer side of the rectangle?
 A) 4 yards B) 6 yards C) 5 yards D) 3 yards E) 2 yards
- (19) If Clara doubles a number and then adds 3, the result is 23. What is the original number?
 A) 10 B) 13 C) 17 D) 20 E) 49
- (20) $3\frac{1}{2}\%$ of 12 is equal to what percent of 7?
 A) 42 B) 36 C) 6 D) 14 E) 421
- (21) Lisa charges \$7 for travel costs and then \$10 per hour for babysitting. Which expression always represents the number of dollars that she charges for y hours of babysitting?
 A) $y + 7$ B) $17y$ C) $10y - 7$ D) $10y + 7$ E) $17y - 7$
- (22) In the figure below, there are three congruent hexagons. If each side measures 4-cm, what is the perimeter of the figure?

- A) 72 cm
 B) 66 cm
 C) 60 cm
 D) 48 cm
 E) 44 cm

Problem
 # 22



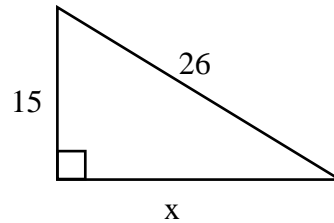
- (23) If I spent \$4.65, which includes 25 cents tax, for soft drinks which cost 40 cents each, how many soft drinks did I buy?
 A) 9 B) 10 C) 11 D) 12 E) None of These

- (24) If a , b , and c are integers and $ac = bc$ then which of the following is true?
 A) $a = b$ B) $a - b = c$ C) $a + b = c$ D) $ab = c$ E) $a = b$ or $c = 0$

- (25) Given the right triangle below, what integer is closest to the value of x ?

- A) 18
 B) 19
 C) 20
 D) 21
 E) 451

Problem # 25



- (26) One ball is drawn randomly from a bag containing 4 blue balls, 6 yellow balls, and 5 red balls. What is the probability that the ball that is drawn is not red?

- A) $\frac{2}{3}$ B) $\frac{3}{5}$ C) $\frac{2}{5}$ D) $\frac{1}{3}$ E) $\frac{3}{4}$

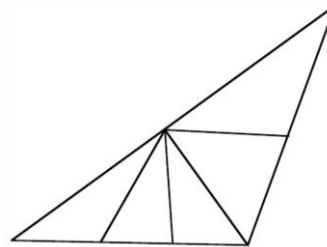
- (27) What is the value of y that satisfies the equation $5y - 100 = 125$?

- A) 100 B) 45 C) 25 D) -5 E) -25

- (28) How many triangles of any size are in the image below?

- A) 8
 B) 10
 C) 12
 D) 15
 E) 17

Problem #28



- (29) Andy has purchased five trees of different varieties to plant along the front of his lawn. How many different arrangements of the trees are possible after the spots for planting have been selected?

- A) 5 B) 25 C) 120 D) 125 E) 3,125

- (30) At the sandwich shop, you have a choice of four meats, three breads, five kinds of chips, and three different beverages. How many different meals (one each of meat, bread, chips, and drink) are possible?

- A) 15 B) 20 C) 27 D) 60 E) 180

- (31) If today were Sunday, what day of the week would it be 500 days from today? (Note: tomorrow is one day from today.)

- A) Saturday B) Monday C) Thursday D) Tuesday E) None of These

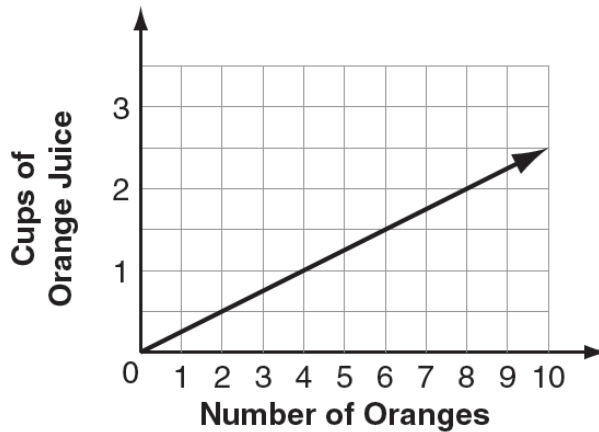
- (32) Find the least common multiple for the following set of numbers: $\{4, 9, 12\}$.

- A) 1 B) 12 C) 24 D) 36 E) 72

- (33) What is the sum of the tenth and eleventh triangular numbers?

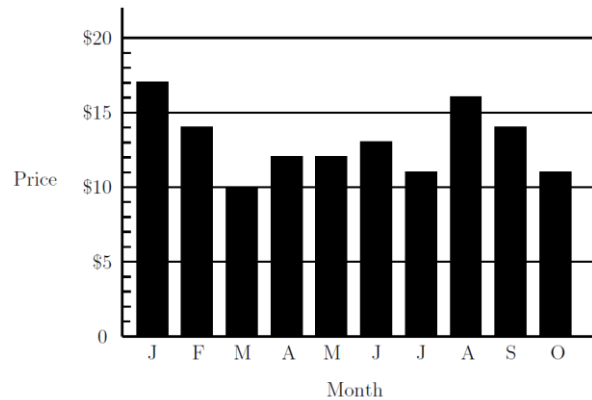
- A) 55 B) 66 C) 121 D) 132 E) 242

The graph below shows the number of cups of orange juice that can be made from different numbers of oranges. Please use this graph to answer questions 34 – 38.



- (34) How many cups of orange juice can be made from 4 oranges?
 A) 16 cups B) 8 cups C) 4 cups D) 2 cups E) 1 cup
- (35) If you had a dozen oranges, how much orange juice can you make?
 A) 12 cups B) 8 cups C) 6 cups D) 3 cups E) 2 cups
- (36) How many oranges would you need to make 8 ounces of orange juice?
 A) 1 B) 2 C) 3 D) 4 E) 16
- (37) If oranges cost 25¢ each, how much should 12 ounces of orange juice cost?
 A) \$1.25 B) \$1.50 C) \$2.25 D) \$3.00 E) \$2.50
- (38) What is the slope of the graph?
 A) $\frac{1}{2}$ B) $\frac{1}{4}$ C) $\frac{2}{1}$ D) $\frac{4}{1}$ E) $\frac{3}{4}$
- (39) One ounce of baked potato chips has 80% less fat than one ounce of “classic” potato chips. How many ounces of baked potato chips would you have to eat to get the same amount of fat as in two ounces of “classic” chips?
 A) 5 ounces B) 8 ounces C) 10 ounces D) 20 ounces E) 80 ounces
- (40) The ratio of the number of girls to the number of boys in a class of 24 students is 3 to 5. How many fewer girls than boys are in the class?
 A) 2 B) 4 C) 5 D) 6 E) 8
- (41) How many prime numbers are there between 10 and 30?
 A) 3 B) 4 C) 5 D) 6 E) 7

- (42) The graph below shows the price of five gallons of gasoline during the first ten months of the year. By what percent is the highest price more than the lowest price?



- A) 50% B) 62% C) 70% D) 89% E) 100%
- (43) 10111011 (base 2) = _____ (base 8)
 A) 308 B) 273 C) 307 D) 282 E) 7,032
- (44) A certain large ranch in Texas is 12 square miles. How many acres does this represent?
 A) 144 acres B) 1,440 acres C) 2,440 acres D) 7,680 acres E) 12,000 acres
- (45) What is the probability of drawing, at random, a red queen from a standard deck of 52 cards?
 A) $\frac{1}{26}$ B) $\frac{1}{13}$ C) $\frac{2}{13}$ D) $\frac{1}{52}$ E) $\frac{1}{4}$
- (46) A trapezoid has bases of 8 meters and 15 meters, and a height of 6 meters. What is the area of the trapezoid?
 A) 53 m^2 B) 69 m^2 C) 80 m^2 D) 84 m^2 E) 138 m^2
- (47) Matt advertises that every item in his store is sold at 25% off the regular price. If he wishes to sell a coat for \$135, what price should he mark as the regular price?
 A) \$180 B) \$97.50 C) \$205 D) \$100 E) \$500
- (48) There are six cards that spell out **C H A N C E**. Suppose you choose one card at random. What is the probability that you do not draw a vowel?
 A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) $\frac{2}{3}$ D) $\frac{3}{5}$ E) $\frac{1}{6}$
- (49) The coordinates of one endpoint of a line segment are (3, -3). The coordinates of the midpoint are (7, 5). What are the coordinates of the other endpoint?
 A) (5, 1) B) (7, 17) C) (17, 7) D) (13, 11) E) (11, 13)
- (50) A jar contains five different colors of candies: 30% are blue, 20% are brown, 15% are red, 10% are yellow, and the other 30 candies are green. If half of the blue candies are replaced by brown candies, how many of the candies will be brown?
 A) 35 B) 36 C) 42 D) 48 E) 64

2023 – 2024 University Interscholastic League JH/MS Mathematics Contest B – Key

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

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

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



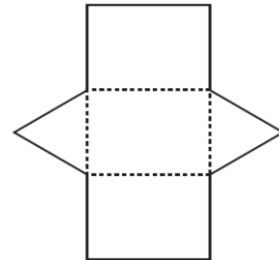
Mathematics

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

2023 – 2024 University Interscholastic League JH/MS Mathematics Contest C

- (1) Evaluate: $8 + 12 \div 6 - 3$
 A) $\frac{1}{3}$ B) 7 C) 8 D) 12 E) $-\frac{1}{3}$
- (2) $2 + 4 + 6 + \dots + 50 =$
 A) 5,050 B) 2,550 C) 1,275 D) 650 E) None of These
- (3) Wes was driving a go-kart 12 mph at a local park. If he drove for 15 minutes, how far did he travel?
 A) 18 miles B) 6 miles C) 4.25 miles D) 3.75 miles E) 3 miles
- (4) Ben rotated each of the letters below 180° about its center and drew the resulting image. Which letter would have a resulting image that is unchanged from the original letter?
 A) R B) I C) K D) T E) L
- (5) Ribbon costs 25 cents per foot. What is the total cost of three pieces measuring $1\frac{1}{2}$ ft., 2 ft., and 18 inches?
 A) 50¢ B) 75¢ C) \$3.75 D) \$4.25 E) \$1.25
- (6) Which of the following is the prime factorization of 60?
 A) $2^2 \times 3^1 \times 5^1$ B) $3^2 \times 10^1$ C) $2^6 \times 3^{10}$ D) $2^3 \times 3^2 \times 5^2$ E) $2^3 \times 3^2 \times 5^1$
- (7) $143 \times 77 =$
 A) 11,110 B) 1,111 C) 10,111 D) 11,011 E) None of These
- (8) Which three-dimensional shape could be made by folding the net below on the dashed lines?
 A) Triangular Prism
 B) Hexagonal Pyramid
 C) Rectangular Prism
 D) Parallelogram Prism
 E) Equilateral Pyramid

Problem
8

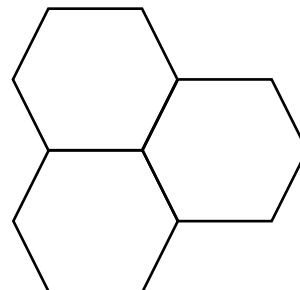


- (9) If a furlong in horse racing is 220 yards, how many furlongs are in one-half mile?
 A) 4 furlongs B) $4\frac{5}{11}$ furlongs C) 8 furlongs D) $8\frac{1}{2}$ furlongs E) 110 furlongs
- (10) Noah needs 8 quarts of juice to have enough for 12 batches of fruit punch. How many gallons of juice will he need?
 A) 2 gallons B) 3 gallons C) 4 gallons D) 5 gallons E) 6 quarts
- (11) Blackjack, one of Faisy's kittens, was born on March 11th. How old was Blackjack at the end of the day on July 4th?
 A) 91 days B) 95 days C) 111 days D) 114 days E) None of These
- (12) On a triangle, Side B is twice as long as Side A. Side C is 1 centimeter shorter than Side B. If the perimeter of the triangle is 9 centimeters, how long is Side B?
 A) 2 centimeters B) 2.5 centimeters C) 4 centimeters D) 6 centimeters E) None of These

- (13) Mackenzie knows that she will have five tests this grading period and that she must have at least an 80% average to play on the school's golf team. Her mean for the first four tests is 78%. What is the least score she can get on the last test and still qualify to play golf?
 A) 92 B) 91 C) 90 D) 89 E) 88
- (14) Jose and Juan live 42 kilometers apart. They are both going to leave at 10:00 am riding bikes toward each other. Jose's average speed is 6 km per hour. Juan's average speed is 8 km per hour. If they take no breaks, what time will they meet?
 A) 1:00 PM B) 1:30 PM C) 2:00 PM D) 2:30 PM E) 3:00 PM
- (15) What is the sum of the mean, median, and mode of the numbers {1, 2, 1, 3, 1, 4, 0, 4} ?
 A) $2\frac{1}{2}$ B) 4 C) $4\frac{1}{2}$ D) 8 E) $8\frac{1}{2}$
- (16) Which of the following statements is true for the equation $6x - 2y - 8 = 0$?
 A) The graph of the equation is a straight line parallel to the x-axis.
 B) The graph of the equation is the straight line with slope negative $\frac{1}{3}$.
 C) The graph of the equation is a straight line crossing the y-axis at (0, -4).
 D) The graph of the equation is a straight line crossing the y-axis at the origin.
 E) The graph of the equation is a parabola crossing the x-axis at (5, 0) and (0, -5).
- (17) An isosceles triangle has sides of 5 in., 5 in., and 8 in. What is the area of this triangle?
 A) 100 in^2 B) 20 in^2 C) $20\sqrt{2} \text{ in}^2$ D) 12 in^2 E) $8\sqrt{2} \text{ in}^2$
- (18) A rectangle has an area of 12 square yards and a perimeter of 14 yards. What is the length of the longer side of the rectangle?
 A) 4 yards B) 6 yards C) 7 yards D) 3 yards E) 2 yards
- (19) If Genny doubles a number and then subtracts 5, the result is 11. What is the original number?
 A) 4 B) 5 C) 7 D) 8 E) 16
- (20) $7\frac{1}{2}\%$ of 18 is equal to what percent of 15?
 A) 30 B) 24 C) 16 D) 12 E) 9
- (21) Lisa charges \$8 for travel costs and then \$15 per hour for pet-sitting. Which expression always represents the number of dollars that she charges for y hours of pet-sitting?
 A) $15y + 8$ B) $15y$ C) $15y - 8$ D) $8y + 15$ E) $23y$
- (22) In the figure below, there are three congruent hexagons. If perimeter of the figure is 132-m, what is the length of each side?

- A) 10 m
 B) 11 m
 C) 12 m
 D) 13 m
 E) 14 m

Problem
 # 22



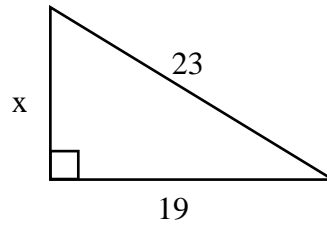
- (23) If I spent \$6.49, which includes 49 cents tax, for soft drinks which cost 50 cents each, how many soft drinks did I buy?
 A) 9 B) 10 C) 11 D) 12 E) None of These

- (24) If a , b , and c are integers and $a + c = b + c$ then which of the following is true?
 A) $a = b$ B) $a - b = c$ C) $a + b = c$ D) $ab = c$ E) $a = b$ or $c = 0$

- (25) Given the right triangle below, what integer is closest to the value of x ?

- A) 13
 B) 14
 C) 15
 D) 30
 E) 168

Problem # 25



- (26) One ball is drawn randomly from a bag containing 4 blue balls, 6 yellow balls, and 5 red balls. What is the probability that the ball that is drawn is not yellow?

- A) $\frac{2}{3}$ B) $\frac{3}{5}$ C) $\frac{2}{5}$ D) $\frac{1}{3}$ E) $\frac{3}{4}$

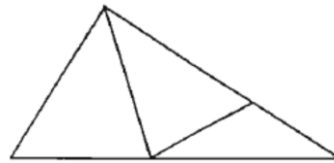
- (27) What is the value of y that satisfies the equation $4y - 100 = 120$?

- A) 5 B) 45 C) 55 D) -5 E) 220

- (28) How many triangles of any size are in the image below?

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

Problem #28



- (29) Andy has purchased four bushes of different varieties to plant along the front of his lawn. How many different arrangements of the bushes are possible after the spots for planting have been selected?

- A) 4 B) 8 C) 12 D) 16 E) 24

- (30) At the sandwich shop, you have a choice of five meats, four breads, five kinds of chips, and three different beverages. How many different meals (one each of meat, bread, chips, and drink) are possible?

- A) 17 B) 20 C) 35 D) 100 E) 300

- (31) If today were Monday, what day of the week would it be 500 days from today? (Note: tomorrow is one day from today.)

- A) Saturday B) Monday C) Thursday D) Tuesday E) None of These

- (32) Find the least common multiple for the following set of numbers: {4, 8, 12}.

- A) 2 B) 12 C) 24 D) 48 E) 72

- (33) What is the sum of the sixth and seventh triangular numbers?

- A) 42 B) 49 C) 84 D) 168 E) 242

Juan organizes the stamps in his collection by country and by the decade in which they were issued. The prices he paid for them at a stamp shop were: Brazil and France, 6¢ each; Peru 4¢ each; and Spain 5¢ each. (Brazil and Peru are South American countries and France and Spain are in Europe.) Please use the table below to answer questions 34 – 38.

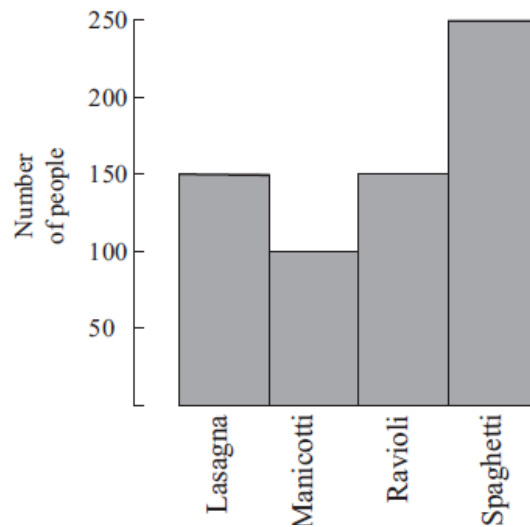
Number of Stamps by Decade

Country	'50s	'60s	'70s	'80s
Brazil	4	7	12	8
France	8	4	12	15
Peru	6	4	6	10
Spain	3	9	13	9

Juan's Stamp Collection

- (34) How much did his South American stamps issued before the '70s cost him?
 A) 40¢ B) \$1.06 C) \$1.80 D) \$2.38 E) \$2.64
- (35) How many of his European stamps were issued in the '80s?
 A) 9 stamps B) 15 stamps C) 18 stamps D) 24 stamps E) 42 stamps
- (36) What is the total cost of his '70s stamps?
 A) \$1.44 B) \$2.09 C) \$2.33 D) \$2.67 E) \$2.75
- (37) How much more or less did he pay for his '80s French stamps versus his '80s Spanish stamps?
 A) 1¢ less B) 1¢ more C) 72¢ less D) 65¢ less E) 45¢ more
- (38) What is the closest average cost of his '70s stamps?
 A) $5\frac{1}{2}$ ¢ B) 6¢ C) 4¢ D) $7\frac{1}{2}$ ¢ E) $3\frac{1}{2}$ ¢
- (39) One ounce of baked potato chips has 80% less fat than one ounce of "classic" potato chips. How many ounces of baked potato chips would you have to eat to get the same amount of fat as in four ounces of "classic" chips?
 A) 5 ounces B) 8 ounces C) 10 ounces D) 20 ounces E) 80 ounces
- (40) The ratio of the number of girls to the number of boys in a class of 32 students is 3 to 5. How many fewer girls than boys are in the class?
 A) 2 B) 4 C) 5 D) 6 E) 8
- (41) How many prime numbers are there between 0 and 20?
 A) 6 B) 7 C) 8 D) 9 E) 10
- (42) What is the probability of drawing, at random, a black-Jack from a standard deck of 52 cards?
 A) $\frac{1}{13}$ B) $\frac{1}{26}$ C) $\frac{2}{13}$ D) $\frac{1}{52}$ E) $\frac{1}{4}$

- (43) Six-hundred fifty students were surveyed about their pasta preferences. The choices were lasagna, manicotti, ravioli, and spaghetti. The results of the survey are displayed in the bar graph. What is the ratio of the number of students who preferred spaghetti to the number of students who preferred manicotti?



- A) $\frac{2}{5}$ B) $\frac{1}{2}$ C) $\frac{5}{2}$ D) $\frac{5}{3}$ E) $\frac{5}{4}$
- (44) 11011011 (base 2) = _____ (base 8)
 A) 222 B) 273 C) 282 D) 303 E) 333
- (45) A certain large ranch in Texas is 15 square miles. How many acres does this represent?
 A) 9,600 acres B) 2,225 acres C) 2,250 acres D) 22,500 acres E) 225,000 acres
- (46) A trapezoid has bases of 18 meters and 20 meters, and a height of 12 meters. What is the area of the trapezoid?
 A) 114 m^2 B) 180 m^2 C) 224 m^2 D) 228 m^2 E) $4,320 \text{ m}^2$
- (47) Matt advertises that every item in his store is sold at 25% off the regular price. If he wishes to sell a coat for \$126, what price should he mark as the regular price?
 A) \$94.50 B) \$97.50 C) \$152 D) \$156 E) \$168
- (48) There are six cards that spell out **C H A N C E**. Suppose you choose one card at random. What is the probability that you draw a vowel?
 A) $\frac{1}{3}$ B) $\frac{1}{2}$ C) $\frac{2}{3}$ D) $\frac{3}{5}$ E) $\frac{1}{6}$
- (49) The coordinates of one endpoint of a line segment are (3, -3). The coordinates of the midpoint are (-2, 3). What are the coordinates of the other endpoint?
 A) (-7, 12) B) (-7, 9) C) (10, 0) D) (-10, 12) E) (-1, 10)
- (50) A jar contains five different colors of candies: 30% are blue, 20% are brown, 15% are red, 10% are yellow, and the other 30 candies are green. If half of the red candies are replaced by brown candies, how many of the candies will be brown?
 A) 30 B) 33 C) 36 D) 42 E) 48

2023 – 2024 University Interscholastic League JH/MS Mathematics Contest C – Key

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

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

University Interscholastic League
2023 – 2024 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!

- | | |
|--|--|
| <p>(1) $413 + 51 =$ _____</p> <p>(2) $5 \times 16 =$ _____</p> <p>(3) $88 - 49 =$ _____</p> <p>(4) $111 \div 3 =$ _____</p> <p>(5) $\frac{11}{16} - \frac{1}{4} =$ _____</p> <p>(6) $12 \div 0.4 =$ _____</p> <p>(7) $45 \times 11 =$ _____</p> <p>(8) $14^2 =$ _____</p> <p>(9) $24 - 16 \div 4 =$ _____</p> <p>*(10) $2023 \times 99 + 2024 =$ _____</p> <p>(11) $18 \times 22 =$ _____</p> <p>(12) If the arithmetic mean of 8, x, and 20 is 15, $x =$ _____</p> <p>(13) Which is larger: $\frac{5}{11}$ or $\frac{6}{13}$? _____</p> <p>(14) $15 \times 35 + 5 \times 35 =$ _____</p> <p>(15) $48 \times 68 =$ _____</p> <p>(16) $100 - 32 - 18 =$ _____</p> <p>(17) $33^2 =$ _____</p> <p>(18) $28 + 32 + 36 + 40 =$ _____</p> <p>(19) MMDXL = _____ (Arabic Numeral)</p> | <p>*(20) $18.75 \times 320 =$ _____</p> <p>(21) $18 \times 22 + 4 =$ _____</p> <p>(22) $101 \times 567 =$ _____</p> <p>(23) If $f(x) = -2x^2 - 15$ then $f(-4) =$ _____</p> <p>(24) $5\frac{1}{11} \times 6\frac{1}{11} =$ _____ (mixed number)</p> <p>(25) $4\frac{11}{12} + 6\frac{5}{6} =$ _____</p> <p>(26) $31 - 31^2 =$ _____</p> <p>(27) The positive square root of 625 is _____</p> <p>(28) If n is to 6 as 8 is to 3, then $n =$ _____</p> <p>(29) If $20 + 4x$ is 44, then $x =$ _____</p> <p>*(30) $229^2 =$ _____</p> <p>(31) $82 \times 88 =$ _____</p> <p>(32) The sum of the prime numbers less than 20 but greater than 11 is _____</p> <p>(33) If $1.75 + 0.5 = n$, the $n^{-1} =$ _____</p> <p>(34) 24 is divisible by how many whole numbers? _____</p> <p>(35) 3 square yards = _____ square feet</p> <p>(36) 6 percent = _____ (common fraction)</p> <p>(37) If the sales tax is $8\frac{1}{2}\%$, what is the amount of sales tax on an item that costs \$50? \$ _____</p> |
|--|--|

- (38) The LCM (24, 15) \times GCF (24, 15) = _____
- (39) The area of an equilateral triangle with a side of 8-cm is $a\sqrt{3}$ and a = _____ cm²
- *(40) $1111\sqrt{9801}$ = _____
- (41) 63 (base 10) = _____ (base 5)
- (42) $5^4 + 5^3$ = _____
- (43) 649×111 = _____
- (44) What is the area of a rhombus with diagonals 120 and 100? _____
- (45) 32 (base 5) $- 4$ (base 5) = _____ (base 5)
- (46) If $30 \div 3 = n^2 + 1$, and $n > 0$, then n = _____
- (47) If $\mathbf{A} = \{2, 3, 4, 5\}$, $\mathbf{B} = \{1, 2, 4, 6\}$ and $\mathbf{C} = \{2, 4, 6\}$, how many elements are in $\mathbf{A} \cap \mathbf{C} \cap \mathbf{B}$? _____
- (48) 18 pints = _____ quarts
- (49) The surface area of a rectangular solid that measures 8 by 5 by 2 is _____
- *(50) 625×160 = _____
- (51) In the sequence: 1, 4, a , 16, 25, b , 49, . . .
 $(a - b)^2$ = _____
- (52) What is the 6th term in the sequence: 1, 4, 9, . . .? _____
- (53) The sum of the interior angles for a square is _____ $^\circ$
- (54) What is the area of a parallelogram with opposite sides each 16 and altitude between them 25? _____
- (55) What is the area of a rectangle with a perimeter of 24 and length 8? _____
- (56) What is the radius of a circle with a circumference of 100π ? _____
- (57) The hypotenuse for a triangle with sides 8, 15 is _____
- (58) $(15^2 + 8 \times 6) \div 4$ has a remainder of _____
- (59) The surface area for a cube with edge 5 is _____
- *(60) $15^4 \times 111 \div 5^3$ = _____
- (61) $(25^{-1} \times 10^2)^{-1}$ = _____
- (62) 440 yards = _____ feet
- (63) 36 km/hr = _____ meters/sec
- (64) $8\frac{1}{3}\%$ + $33\frac{1}{3}\%$ = _____ (common fraction)
- (65) $25^3 \div 7$ has a remainder of _____
- (66) $\frac{1+2+3+\dots+7}{1+3+5+\dots+9}$ = _____
- (67) The sum of the positive divisors of 20 is _____
- (68) $4!$ = _____
- (69) $5\frac{1}{4} \div \frac{3}{8}$ = _____
- *(70) 15 miles = _____ yards
- (71) $11^2 + 33^2$ = _____
- (72) $55\frac{5}{9}\%$ = _____ (common fraction)
- (73) $0.1333\dots$ = _____ (common fraction)
- (74) The surface area of a sphere with a radius of 11 is $k\pi$ and k = _____
- (75) What are the odds of randomly picking a red ball from a bag of 12 red and 18 blue balls? _____
- (76) $24^2 \times 25$ = _____
- (77) If the shortest distance between the points (0, 7) and (x, 0) is 25, what is x? _____
- (78) $12 + \frac{5!}{3!}$ = _____
- (79) $(9.5)^2 - (5.5)^2$ = _____
- *(80) 360 days = _____ hours

2023 – 2024 University Interscholastic League Junior High Number Sense Test A – Key

(1) 464	*(20) 5700 – 6300	(38) 360	(59) 150
(2) 80	(21) 400	(39) 16	*(60) 42708 – 47202
(3) 39	(22) 57267	*(40) 104490 – 115488	(61) $\frac{1}{4}$; .25
(4) 37	(23) -47	(41) 223	(62) 1320
(5) $\frac{7}{16}$; .4375	(24) $31\frac{1}{121}$	(42) 750	(63) 10
(6) 30	(25) $11\frac{3}{4}$; 11.75; $\frac{47}{4}$	(43) 72039	(64) $\frac{5}{12}$
(7) 495	(26) -930	(44) 6000	(65) 1
(8) 196	(27) 25	(45) 23	(66) $\frac{28}{25}$; $1\frac{3}{25}$; 1.12
(9) 20	(28) 16	(46) 3	(67) 42
*(10) 192186 – 212416	(29) 6	(47) 2	(68) 24
(11) 396	*(30) 49819 – 55063	(48) 9	(69) 14
(12) 17	(31) 7216	(49) 132	*(70) 25080 – 27720
(13) $\frac{6}{13}$	(32) 49	*(50) 95000 – 105000	(71) 1210
(14) 700	(33) $\frac{4}{9}$	(51) 729	(72) $\frac{5}{9}$
(15) 3264	(34) 8	(52) 36	(73) $\frac{2}{15}$
(16) 50	(35) 27	(53) 360	(74) 484
(17) 1089	(36) $\frac{3}{50}$	(54) 400	(75) $\frac{2}{3}$
(18) 136	(37) 4.25	(55) 32	(76) 14400
(19) 2540		(56) 50	(77) 24
		(57) 17	(78) 32
		(58) 1	(79) 60
			*(80) 8208 – 9072

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
2023 – 2024 Junior High Number Sense Test B

Contestant's Number _____

Final		
2 nd		
1 st		
Score	Initials	

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The person conducting this contest should explain these directions to the contestants.
Stop – Wait for Signal!

- | | |
|---|---|
| <p>(1) $23 + 102 =$ _____</p> <p>(2) $14 \times 4 =$ _____</p> <p>(3) $74 - 31 =$ _____</p> <p>(4) $248 \div 4 =$ _____</p> <p>(5) $\frac{7}{9} - \frac{2}{3} =$ _____</p> <p>(6) $10 \div 0.5 =$ _____</p> <p>(7) $11 \times 33 =$ _____</p> <p>(8) $11^2 =$ _____</p> <p>(9) $12 + 12 \div 6 =$ _____</p> <p>* (10) $223 + 2023 + 2024 =$ _____</p> <p>(11) $31 \times 29 =$ _____</p> <p>(12) If the arithmetic mean of x, 12 and 20 is 11, $x =$ _____</p> <p>(13) Which is smaller: $\frac{5}{12}$ or $\frac{3}{7}$? _____</p> <p>(14) $9 \times 15 - 5 \times 15 =$ _____</p> <p>(15) $24 \times 84 =$ _____</p> <p>(16) $59 - 16 - 14 =$ _____</p> <p>(17) $44^2 =$ _____</p> <p>(18) $11 + 15 + 19 + 23 =$ _____</p> <p>(19) MMXXIII = _____ (Arabic Numeral)</p> | <p>* (20) $187.5 \times 160 =$ _____</p> <p>(21) $39 \times 41 + 1 =$ _____</p> <p>(22) $234 \times 101 =$ _____</p> <p>(23) If $f(x) = -2x^2 + 10$ then $f(-1) =$ _____</p> <p>(24) $8\frac{1}{10} \times 2\frac{1}{10} =$ _____ (mixed number)</p> <p>(25) $2\frac{5}{6} + 3\frac{2}{3} =$ _____</p> <p>(26) $15 - 15^2 =$ _____</p> <p>(27) The negative square root of 361 is _____</p> <p>(28) If n is to 12 as 5 is to 6, then $n =$ _____</p> <p>(29) If $11 + 5x$ is 36, then $x =$ _____</p> <p>* (30) $310^2 =$ _____</p> <p>(31) $52 \times 58 =$ _____</p> <p>(32) The sum of the prime numbers greater than 0 but less than 11 is _____</p> <p>(33) If $2.25 - 0.5 = n$, the $n^{-1} =$ _____</p> <p>(34) 18 is divisible by how many whole numbers? _____</p> <p>(35) 2 square feet = _____ square inches</p> <p>(36) 8 percent = _____ (common fraction)</p> <p>(37) If the sales tax is $8\frac{1}{2}\%$, what is the amount of sales tax on an item that costs \$20? \$ _____</p> |
|---|---|

- (38) The LCM (12, 16) \times GCF (12, 16) = _____
- (39) The area of an equilateral triangle with a side of 2-cm is $a\sqrt{3}$ and a = _____ cm²
- *(40) $111\sqrt{19600}$ = _____
- (41) 34 (base 5) = _____ (base 10)
- (42) $4^3 - 3^2$ = _____
- (43) 58×111 = _____
- (44) What is the area of a rhombus with diagonals 64 and 60? _____
- (45) 42 (base 6) $- 5$ (base 6) = _____ (base 6)
- (46) If $24 \div 6 = n^2 - 12$, and $n > 0$, then n = _____
- (47) If $\mathbf{A} = \{1, 2, 3, 4\}$, $\mathbf{B} = \{0, 1, 2, 3\}$ and $\mathbf{C} = \{4, 2, 0\}$, how many elements are in $\mathbf{A} \cap \mathbf{C} \cap \mathbf{B}$? _____
- (48) 24 pints = _____ quarts
- (49) The surface area of a rectangular solid that measures 6 by 1 by 4 is _____
- *(50) 240×624 = _____
- (51) In the sequence: 2, 4, a , 8, 10, b , 14, . . .
 $(b - a)^2$ = _____
- (52) What is the 6th term in the sequence: 1, 3, 5, . . .? _____
- (53) Each exterior angle for a square is _____ $^\circ$
- (54) What is the area of a parallelogram with opposite sides each 10 and altitude between them 25? _____
- (55) What is the area of a rectangle with a perimeter of 30 and length 9? _____
- (56) What is the radius of a circle with a circumference of 64π ? _____
- (57) The hypotenuse for a triangle with sides 10, 24 is _____
- (58) $(23^2 + 15 \times 4) \div 5$ has a remainder of _____
- (59) If the surface area for a cube is 216, its edge is _____
- *(60) $24^4 \times 101 \div 4^3$ = _____
- (61) $(5^{-1} \times 5^2)^{-1}$ = _____
- (62) 366 feet = _____ yards
- (63) 18 km/hr = _____ meters/sec
- (64) $16\frac{2}{3}\%$ + $44\frac{4}{9}\%$ = _____ (common fraction)
- (65) $15^3 \div 6$ has a remainder of _____
- (66) $\frac{1+2+3+\dots+6}{2+4+6+\dots+10}$ = _____
- (67) The sum of the positive divisors of 12 is _____
- (68) $5!$ = _____
- (69) $4\frac{1}{2} \div \frac{3}{8}$ = _____
- *(70) 11 miles = _____ yards
- (71) $12^2 + 24^2$ = _____
- (72) $45\frac{5}{11}\%$ = _____ (common fraction)
- (73) $0.0333\dots$ = _____ (common fraction)
- (74) The volume of a sphere with a diameter of 6 is $k\pi$ and k = _____
- (75) What are the odds of randomly picking a blue ball from a bag of 20 red and 18 blue balls? _____
- (76) $12^2 \times 25$ = _____
- (77) If the shortest distance between the points (15, 0) and (0, x) is 17, what is x ? _____
- (78) $11 \times \frac{6!}{4!}$ = _____
- (79) $(3.5)^2 - (7.5)^2$ = _____
- *(80) 750 hours = _____ minutes

2023 – 2024 University Interscholastic League Junior High Number Sense Test B – Key

(1) 125	*(20) 28500 – 31500	(38) 192	(59) 6
(2) 56	(21) 1600	(39) 1	*(60) 497405 – 549763
(3) 43	(22) 23634	*(40) 14763 – 16317	(61) $\frac{1}{5}; .2$
(4) 62	(23) 8	(41) 19	(62) 122
(5) $\frac{1}{9}$	(24) $17\frac{1}{100}$	(42) 55	(63) 5
(6) 20	(25) $6\frac{1}{2}; 6.5; \frac{13}{2}$	(43) 6438	(64) $\frac{11}{18}$
(7) 363	(26) -210	(44) 1920	(65) 3
(8) 121	(27) -19	(45) 33	(66) $\frac{7}{10}; .7$
(9) 14	(28) 10	(46) 4	(67) 28
*(10) 4057 – 4483	(29) 5	(47) 1	(68) 120
(11) 899	*(30) 91295 – 100905	(48) 12	(69) 12
(12) 1	(31) 3016	(49) 68	*(70) 18392 – 20328
(13) $\frac{5}{12}$	(32) 17	*(50) 142272 – 157248	(71) 720
(14) 60	(33) $\frac{4}{7}$	(51) 36	(72) $\frac{5}{11}$
(15) 2016	(34) 6	(52) 11	(73) $\frac{1}{30}$
(16) 29	(35) 288	(53) 270	(74) 36
(17) 1936	(36) $\frac{2}{25}$	(54) 250	(75) $\frac{9}{10}; .9$
(18) 68	(37) 1.70	(55) 54	(76) 3600
(19) 2023		(56) 32	(77) 8
		(57) 26	(78) 330
		(58) 4	(79) -44
			*(80) 42750 – 47250

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
2023 – 2024 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) $34 + 105 =$ _____</p> <p>(2) $13 \times 4 =$ _____</p> <p>(3) $95 - 42 =$ _____</p> <p>(4) $336 \div 3 =$ _____</p> <p>(5) $\frac{7}{8} - \frac{1}{4} =$ _____</p> <p>(6) $20 \div 0.5 =$ _____</p> <p>(7) $11 \times 44 =$ _____</p> <p>(8) $12^2 =$ _____</p> <p>(9) $8 + 8 \div 4 =$ _____</p> <p>*(10) $224 + 2024 + 2042 =$ _____</p> <p>(11) $41 \times 39 =$ _____</p> <p>(12) If the arithmetic mean of x, 10 and 9 is 13, $x =$ _____</p> <p>(13) Which is smaller: $\frac{6}{13}$ or $\frac{1}{2}$? _____</p> <p>(14) $8 \times 11 - 3 \times 11 =$ _____</p> <p>(15) $26 \times 86 =$ _____</p> <p>(16) $100 - 22 - 18 =$ _____</p> <p>(17) $55^2 =$ _____</p> <p>(18) $9 + 14 + 19 + 24 =$ _____</p> <p>(19) MMXXIV = _____ (Arabic Numeral)</p> | <p>*(20) $187.5 \times 480 =$ _____</p> <p>(21) $29 \times 31 + 1 =$ _____</p> <p>(22) $123 \times 101 =$ _____</p> <p>(23) If $f(x) = -2x^2 + 10$ then $f(-2) =$ _____</p> <p>(24) $6\frac{1}{10} \times 4\frac{1}{10} =$ _____ (mixed number)</p> <p>(25) $3\frac{7}{8} + 4\frac{3}{4} =$ _____</p> <p>(26) $13 - 13^2 =$ _____</p> <p>(27) The negative square root of 529 is _____</p> <p>(28) If n is to 8 as 3 is to 6, then $n =$ _____</p> <p>(29) If $12 + 5x$ is 42, then $x =$ _____</p> <p>*(30) $190^2 =$ _____</p> <p>(31) $42 \times 48 =$ _____</p> <p>(32) The sum of the prime numbers greater than 5 but less than 15 is _____</p> <p>(33) If $3.5 - 0.75 = n$, the $n^{-1} =$ _____</p> <p>(34) 12 is divisible by how many whole numbers? _____</p> <p>(35) 10 square feet = _____ square inches</p> <p>(36) 2 percent = _____ (common fraction)</p> <p>(37) If the sales tax is $8\frac{1}{2}\%$, what is the amount of sales tax on an item that costs \$100? \$ _____</p> |
|--|--|

- (38) The LCM (18, 16) \times GCF (18, 16) = _____
- (39) The area of an equilateral triangle with a side of 4-cm is $a\sqrt{3}$ and a = _____ cm²
- *(40) $111\sqrt{28900}$ = _____
- (41) 43 (base 6) = _____ (base 10)
- (42) $2^4 - 3^2$ = _____
- (43) 47×111 = _____
- (44) What is the area of a rhombus with diagonals 58 and 60? _____
- (45) 43 (base 6) $- 5$ (base 6) = _____ (base 6)
- (46) If $36 \div 9 = n^2 - 21$, and $n > 0$, then n = _____
- (47) If $\mathbf{A} = \{0, 1, 2, 3\}$, $\mathbf{B} = \{1, 2, 3, 4\}$ and $\mathbf{C} = \{2, 4, 0\}$, how many elements are in $\mathbf{A} \cap \mathbf{C} \cap \mathbf{B}$? _____
- (48) 32 pints = _____ quarts
- (49) The surface area of a rectangular solid that measures 4 by 2 by 3 is _____
- *(50) 320×624 = _____
- (51) In the sequence: 2, 4, a , 8, 10, b , 14, . . .
 $(b + a)^2$ = _____
- (52) What is the 6th term in the sequence: 2, 4, 6, . . .? _____
- (53) Each exterior exterior angle for a equilateral triangle is _____ $^\circ$
- (54) What is the area of a parallelogram with opposite sides each 20 and altitude between them 15? _____
- (55) What is the area of a rectangle with a perimeter of 24 and length 9? _____
- (56) What is the radius of a circle with a circumference of 36π ? _____
- (57) The hypotenuse for a triangle with sides 12, 9 is _____
- (58) $(23^2 + 18 \times 4) \div 6$ has a remainder of _____
- (59) If the surface area for a cube is 54, its edge is _____
- *(60) $12^4 \times 101 \div 4^3$ = _____
- (61) $(4^{-1} \times 2^3)^{-1}$ = _____
- (62) 126 feet = _____ yards
- (63) 54 km/hr = _____ meters/sec
- (64) $25\% + 62\frac{1}{2}\%$ = _____ (common fraction)
- (65) $23^3 \div 6$ has a remainder of _____
- (66) $\frac{1+2+3+\dots+5}{2+4+6+\dots+10}$ = _____
- (67) The sum of the positive divisors of 15 is _____
- (68) $3!$ = _____
- (69) $2\frac{1}{4} \div \frac{3}{8}$ = _____
- *(70) 25 miles = _____ yards
- (71) $13^2 + 26^2$ = _____
- (72) $54\frac{6}{11}\%$ = _____ (common fraction)
- (73) $0.2333\dots$ = _____ (common fraction)
- (74) The volume of a sphere with a radius of 3 is $k\pi$ and k = _____
- (75) What are the odds of randomly picking a blue ball from a bag of 30 red and 24 blue balls? _____
- (76) $20^2 \times 25$ = _____
- (77) If the shortest distance between the points (12, 0) and (0, x) is 15, what is x ? _____
- (78) $11 \times \frac{5!}{3!}$ = _____
- (79) $(2.5)^2 - (3.5)^2$ = _____
- *(80) 24 hours = _____ seconds

2023 – 2024 University Interscholastic League Junior High Number Sense Test C – Key

(1) 139	*(20) 85500 – 94500	(38) 288	(59) 3
(2) 52	(21) 900	(39) 4	*(60) 31088 – 34360
(3) 53	(22) 12423	*(40) 17927 – 19813	(61) $\frac{1}{2}$; .5
(4) 112	(23) 2	(41) 27	(62) 42
(5) $\frac{5}{8}$; .625	(24) $25\frac{1}{100}$	(42) 7	(63) 15
(6) 40	(25) $8\frac{5}{8}$; 8.625; $\frac{69}{8}$	(43) 5217	(64) $\frac{7}{8}$
(7) 484	(26) -156	(44) 1740	(65) 5
(8) 144	(27) -23	(45) 34	(66) $\frac{1}{2}$; .5
(9) 10	(28) 4	(46) 5	(67) 24
*(10) 4076 – 4504	(29) 6	(47) 1	(68) 6
(11) 1599	(30) 34295 – 37905	(48) 16	(69) 6
(12) 20	(31) 2016	(49) 52	*(70) 41800 – 46200
(13) $\frac{6}{13}$	(32) 31	*(50) 189696 – 209664	(71) 845
(14) 55	(33) $\frac{4}{11}$	(51) 324	(72) $\frac{6}{11}$
(15) 2236	(34) 6	(52) 12	(73) $\frac{7}{30}$
(16) 60	(35) 1440	(53) 300	(74) 36
(17) 3025	(36) $\frac{1}{50}$	(54) 300	(75) $\frac{4}{5}$; .8
(18) 66	(37) 8.50	(55) 27	(76) 10000
(19) 2024		(56) 18	(77) 9
		(57) 15	(78) 220
		(58) 1	(79) -6
			*(80) 82080 – 90720

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 a clear idea or ideas and contributes to an understanding of the prompt.

	<u>POOR</u>	<u>FAIR</u>	<u>GOOD</u>	<u>EXCELLENT</u>
Student answers prompt consistently <i>(either through supporting details, thesis, and/or plot points and character development)</i>	_____/3	_____/7	_____/11	_____/14
Well-developed paragraphs, focused on an idea or ideas	_____/3	_____/7	_____/11	_____/14
Transition	_____/3	_____/7	_____/11	_____/14
Support for student's response to prompt	_____/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 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 _____



2023-24 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: *My Goals*

Think about some of the goals you have for yourself. Write an essay explaining some of your goals and how you plan to achieve them.

Topic: *Your Brilliance*

Inspirational speaker Iyanla Vanzant said, "Accept and acknowledge your own brilliance. Stop waiting for others to tell you how great you are! Believe it for yourself and about yourself." What does Vanzant's quote mean, and how can you apply it to your life?



2023-24 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 GRADES

Topic: *Half Empty or
Half Full*

In your opinion, is the glass usually half empty or half full? Write an essay explaining reasons for your perspective.

Topic: *Opportunistic Failure*

Henry Ford said, "Failure is the opportunity to begin again more intelligently." In an essay, explain what this quote means and apply it to your own life in some way.



2023-24 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: *My Inspiration*

Think about what inspires you such as a person or activity. Write an essay explaining this inspiration and how it impacts your life.

Topic: *Racing Heart*

Write a creative story that begins with the sentence: Mark could feel his heart racing as he stood in front of the mirror....

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 grade level below.

Circle Grade Level:

6th grade

7th grade

8th grade

1. _____

18. _____

35. _____

2. _____

19. _____

36. _____

3. _____

20. _____

37. _____

4. _____

21. _____

38. _____

5. _____

22. _____

39. _____

6. _____

23. _____

40. _____

7. _____

24. _____

41. _____

8. _____

25. _____

42. _____

9. _____

26. _____

43. _____

10. _____

27. _____

44. _____

11. _____

28. _____

45. _____

12. _____

29. _____

46. _____

13. _____

30. _____

47. _____

14. _____

31. _____

48. _____

15. _____

32. _____

49. _____

16. _____

33. _____

50. _____

17. _____

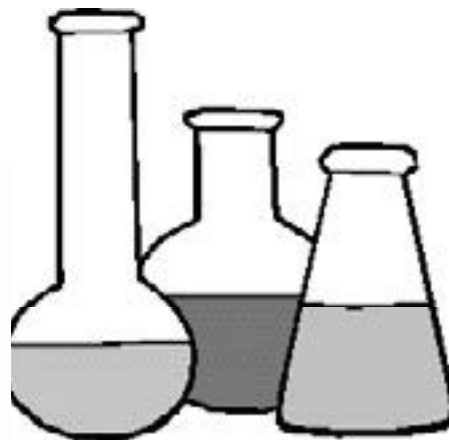
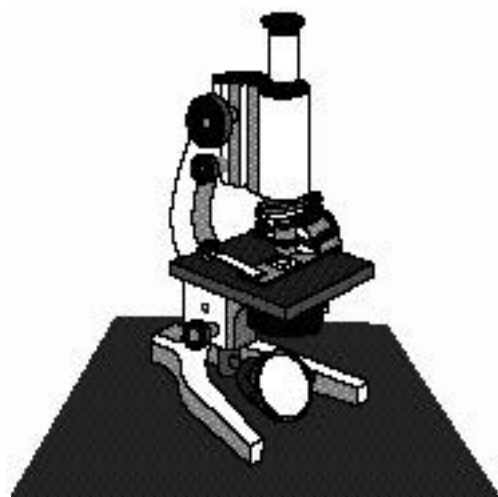
34. _____

INVITATIONAL 2023-2024

A+ ACADEMICS



University Interscholastic League

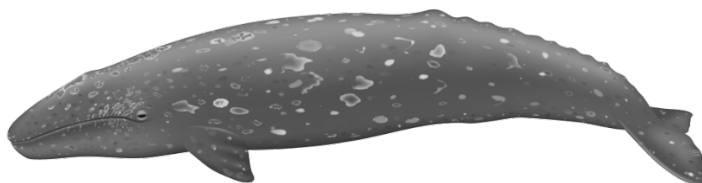


Science

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

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2022-2023 SCIENCE
INVITATIONAL TEST**

1. Use the image and the Dichotomous key to correctly identify the whale shown.



1a. Mouth with baleen (no teeth).....	6
1b. Mouth with teeth (no baleen).....	2
2a. Large melon (head)	Sperm Whale
2b. Small rounded head.....	3
3a. Distinct black and white markings on body.....	Orca
3b. Body mostly gray	4
4a. Has defined beak or “snout”	Bottlenose Dolphin
4b. No beak, rounded “snout”	6
5a. Speckled markings on sides.....	Harbor Porpoise
5b. Body all gray, usually cover with scratches.....	Risso’s Dolphin
6a. Long pectoral fin/flippers with knobs on fins & head.....	Humpback Whale
6b. Shorter pectoral fin/flippers, smooth fins and head.....	7
7a. White band on pectoral fin/flipper	Minke Whale
7b. No white band on pectoral fin/flipper.....	8
8a. Body covered in barnacles, no dorsal fin, has dorsal knuckles.....	Gray Whale
8b. No barnacle growth on body, dorsal fin present.....	9
9a. Body solid blue color	Blue Whale
9b. Body with gray and white patterns	Fin Whale

- A. Orca
- B. Gray Whale

- C. Fin Whale
- D. Minke Whale

2. Which of the following is not an element?

- A. Sodium
- B. Oxygen

- C. Chlorine
- D. Water

3. A student finds a solid, reflective material laying on the ground. After experimenting with the material, it is determined that it is not a good conductor of electricity and it is not ductile. The material is most likely –

A. Metal
B. Metalloid
C. Non metal
D. New state of matter

4. An industry needs a metal with a density of 3.6 g/cm^3 . Which sample was selected based on the data shown?

	Mass	Volume
Metal 1	5	2.5
Metal 2	8	1.2
Metal 3	3	6
Metal 4	9	2.5

A. Metal 1
B. Metal 2
C. Metal 3
D. Metal 4

5. Which energy transformation produces electricity without causing pollution?

A. Using a natural gas heart during the winter
B. Using coal in a power plant
C. Using wind to turn a windmill
D. Using gas to power a generator while camping

6. When a truck hydroplanes on water, it is difficult to control the motion of the truck. Which statement best explains this?

A. An applied force pushes the car in the opposite way
B. The input force exceeds the output force
C. The water supplies an unbalanced force to the tires
D. The water doesn't supply enough friction to the tires

7. Many common objects are simple machines or compound machines. Which of the following uses a pulley system?

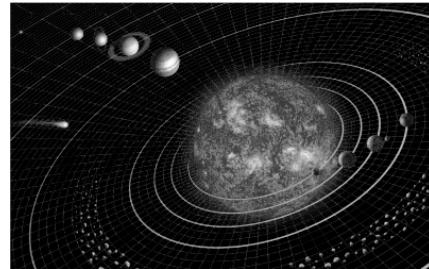
A. Flag pole
B. See saw
C. Wheelbarrow
D. Yo-yo

8. What type of heat transfer is responsible for a radiator heating the room in a house during the winter?

A. Thermal energy
B. Convection
C. Conduction
D. Radiation

9. Which best defines the type of rock that completely melts and then cools?
 A. Metamorphic
 B. Igneous
 C. Basalt
 D. Sedimentary
10. Which of the following is not caused by the movement of the crustal plates?
 A. Volcanic eruption
 B. Hurricanes
 C. Mountain formation
 D. Seismic activity

11. Based on the order of the planets in the milky way galaxy; which planet will have the shortest year?
 A. Mars
 B. Earth
 C. Mercury
 D. Venus



12. Blue Origin is a company that intends on sending humans to space. Which of the following would not a concern for this company?
 A. The position of Earth in its revolution around the Sun
 B. The weather conditions at the time of the launch
 C. Angle of reentry to the atmosphere
 D. Resources needed for the entire mission

13. What basic characteristic divides the organisms in Kingdom A and B?

Kingdom A	Kingdom B
Oats	Cat
Sunflower	Tick
Tree	Worm

- A. A is multicellular and B is unicellular
 B. A is unicellular and B is multicellular
 C. A is autotrophic and B is heterotrophic
 D. A is heterotrophic and B is autotrophic
14. Thinking of *Homo sapiens*, at which classification level would you be able to determine if the organism is living?
 A. Domain
 B. Kingdom
 C. Class
 D. Phylum
15. Which of the following elements does not make up a significant part of sea water?
 A. Cl
 B. P
 C. Mg
 D. S



16. Yuccas are a dominant vegetation in Big Bend National Park. All the yuccas collectively make up the –

- A. Community
- B. Ecosystem
- C. Population
- D. Niche

17.



Based on the equation provided, why is it necessary to have radiant energy?

- A. Sunlight uses carbon dioxide and water to make glucose
- B. The arrow represents the flow of energy in the system
- C. The process cannot occur without sunlight
- D. The arrow shows the direction of the sunlight

18. What provides the body with the energy it needs for growth, movement, and repair?

- A. Fiber
- B. Glucose
- C. Nucleic acids
- D. Water

19. Which of the following items needs to switch places?

Physical Changes	Chemical Changes
1. Stirring hot chocolate with a spoon	4. Precipitate formation
2. Freezing a liquid	5. Eggs cooking
3. Bubbles releasing during a reaction	

- A. 1
- B. 2
- C. 3
- D. 5

20. Gazelles are prey for lions in the savannah. A drought would most likely cause a herd of gazelles to –

- A. Migrate a farther distance
- B. Become more deer like in nature
- C. Begin to hunt predators like lions
- D. Produce a larger herd

21. In 2018, NASA released that one of Jupiter's moons might be a good place to look for possible life. Why would this be a possible place to look for life based on our current understanding?

- A. The moon has an iron core similar to Earth
- B. The moon is a comparable size to Earth
- C. The moon has a liquid ocean
- D. The moon is within the habitable zone

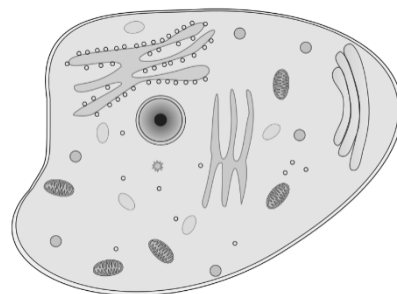
22. If a natural disaster occurred killing many organisms in a small aquatic environment. Which would most likely restore the biodiversity of this aquatic environment?
- A. Introduce an invasive species to the environment
 - B. Reintroduce native species to the environment
 - C. Survey the aquatic organisms
 - D. Limit fishing in the environment
23. Frogs communicate by croaking. If a frog can't make this sound, they are less likely to find a mate to be able to reproduce. If the frog can't make a sound this would be an example of which of the following –
- A. Learned behavior
 - B. Genetic replication
 - C. Natural selection
 - D. Succession
24. Plants do not have a circulatory system. What have they developed instead to transport carbohydrates instead?
- A. Cork cells
 - B. Chlorophyll
 - C. Xylem
 - D. Phloem
25. The nucleus is the control center of the cell and directs all cellular activities. Which human body system is most like this?
- A. Central nervous system
 - B. Digestive system
 - C. Excretory system
 - D. Integumentary system
26. Humans need to maintain a relatively constant internal body temperature. Which way would the body most likely respond when suddenly placed in a frigid environment?
- A. Begin to sweat and increase in metabolism
 - B. Begin to shiver and increase in metabolism
 - C. Begin to sweat and decrease in metabolism
 - D. Begin to shiver and decrease in metabolism
27. A student hypothesizes that the color red in flowers is dominant and white is recessive. Which would disprove this hypothesis?
- A. Two white flowers produce offspring with red flowers
 - B. Two red flowers produce offspring with red flowers
 - C. Two red flowers produce offspring with white flowers
 - D. Two white flowers produce offspring with white flowers



28. The respiratory system and the circulatory systems both move oxygen in the human body. Which best explains why there are two body systems to move oxygen in the human body?
- A. One transports oxygen into the body and one transports oxygen out of the body
 - B. One transports oxygen into the torso and one transports oxygen into the legs
 - C. One transports oxygen into the body and one transports oxygen inside of the body
 - D. One transports oxygen while in motion and one transports oxygen while stationary

29. When a river is dammed, it will change the sediment flow in the area. Which change of sediment would be a result a result of a dam being built?
- A. Increase in sediment down river
 - B. Increase in sediment just after the dam
 - C. No change in sediment deposition
 - D. Increase in sediment in the lake

30. Based on the image, which organelle will only be found in plant cells?
- A. Nucleus
 - B. Cytoplasm
 - C. Cell wall
 - D. Vacuole



31. In a neutrally charged atom, protons, neutrons, and electrons have the same mass. This incorrect description was provided by a student. Which statement best supports why this is incorrect?
- A. The mass number is determined by adding the number of protons and electrons
 - B. Protons and neutrons have atomic mass units of one while electrons are much smaller
 - C. The number of protons is equal to the number of neutrons in the atom
 - D. Protons and electrons are subatomic particle inside the nucleus

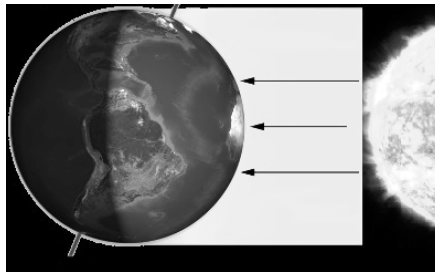
32. An unknown element is tested and is found to have properties similar to tin and germanium. Which element could the unknown be?
- A. Silicon
 - B. Arsenic
 - C. Selenium
 - D. Gallium

33. Which of the following does not show a chemical reaction?
- A. Burning wood
 - B. Lighting a firework
 - C. Opening a carbonated drink
 - D. Baking cookies

34. On a speed-time graph, how does the slope of the line show that an object is slowing down?
- A. A straight line
 - B. A positive slope in a diagonal line
 - C. A slope of zero
 - D. A negative slope in a diagonal line
35. Four different carts each with the same mass were pushed by students during a race. The time it took for the students to complete the race is listed in the data table. Which student pushed the cart with the least amount of force?

	Time (s)
Cart A	12
Cart B	8
Cart C	17
Cart D	14

- A. 12 seconds
 - B. 8 seconds
 - C. 17 seconds
 - D. 14 seconds
36. The diagram shows winter in North America. How would the diagram be different if it was summer in North America?

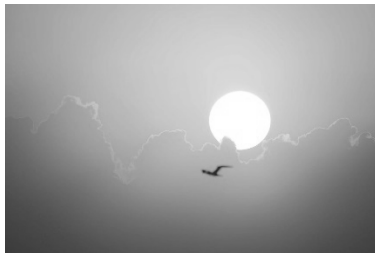


- A. It would be tilted towards the sun
 - B. It would be tilted away from the sun
 - C. The tilt would be fluctuating
 - D. There is no tilt
37. As our sun nears the end of its life cycle, it will become a red giant and eventually a –
- A. Super nova
 - B. Black hole
 - C. Super giant
 - D. White dwarf

38. Since 1990, this telescope has been most useful for scientist studying how stars are formed.

- A. Webster Telescope
- B. Spritzer Space Telescope
- C. Hubble Space Telescope
- D. Chandra

39. A radiator and the sun are similar in the way heat energy is transferred.



- A. Heat energy from both cause air molecules to increase in density, contract, and sink
- B. Heat energy from both cause air molecules to increase in density, expand, and rise
- C. Heat energy from both cause air molecules to decrease in density, contract, and sink
- D. Heat energy from both cause air molecules to decrease in density, expand, and rise

40. Which best explains how the oceans effect the range of daily temperature fluctuations on Earth?

- A. Ocean currents carry water from cold to warm areas
- B. Ocean currents carry water which absorbs heat during the day and releases it at night
- C. Ocean currents carry water contracts when heated and expands when cooled
- D. Ocean currents carry water evaporates during the day and condenses at night

41. Which relationship is similar to a dog and a tick?

- A. Clown fish and anemone
- B. Malaria in humans
- C. Cow and grass
- D. Bee and flowers

42. Since telescopes on Earth can only observe waves that can penetrate the atmosphere, which waves would not be observed using a telescope on the surface of Earth?

- A. Infrared
- B. Radio
- C. Ultraviolet
- D. Visible light

43. A student makes a model of a plate boundary as shown.



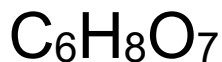
Which crustal feature would be most likely to be found at this location?

- A. Seafloor spreading
- B. Mid ocean ridge
- C. Fault line
- D. Mountains

44. What happens to an air mass moving from the south pole towards the equator based on the spin of the Earth?

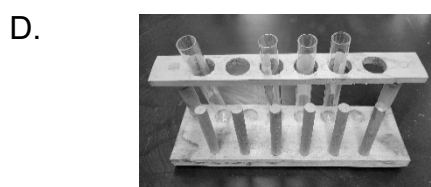
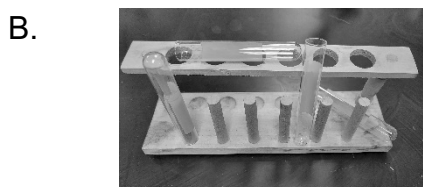
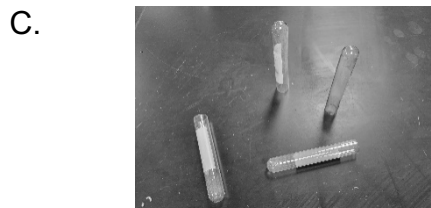
- A. It would move eastward
- B. It would move westward
- C. It moves back to the South
- D. It moves to the nearest body of water

45. Which statement best describes the chemical formula shown?



- A. 8 oxygen atoms
- B. 20 total atoms
- C. 3 different elements
- D. Doesn't contain organic elements

46. Which picture best shows the way to properly store test tubes during an laboratory experiment?



47. To make a map of a local swimming hole, students measure the depth of water at different locations by using a weighted rope to determine the measure to the bottom of the hole. What other data is needed to make the best complete map of this area?
- A. Water temperature
 - B. Water pressure
 - C. Position relative to the shore
 - D. Depth of sunlight
48. Scientists believe that atomic interactions depend on the valence electrons in each atom. This theory is best supported by similar reactions among elements –
- A. With similar atomic numbers
 - B. With similar atomic masses
 - C. In the same period
 - D. In the same group
49. Which scientist listed is most famous for their work with atoms?
- A. Darwin
 - B. Einstein
 - C. Rutherford
 - D. Mendeleev
50. A biology class does a field experiment to observe the creek that is located on school grounds. Which tool should not be used to analyze the sample mentioned?
- A. Insect net
 - B. Specimen jar
 - C. Thermometer
 - D. pH paper

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-2024 SCIENCE
INVITATIONAL TEST**

Answer Key

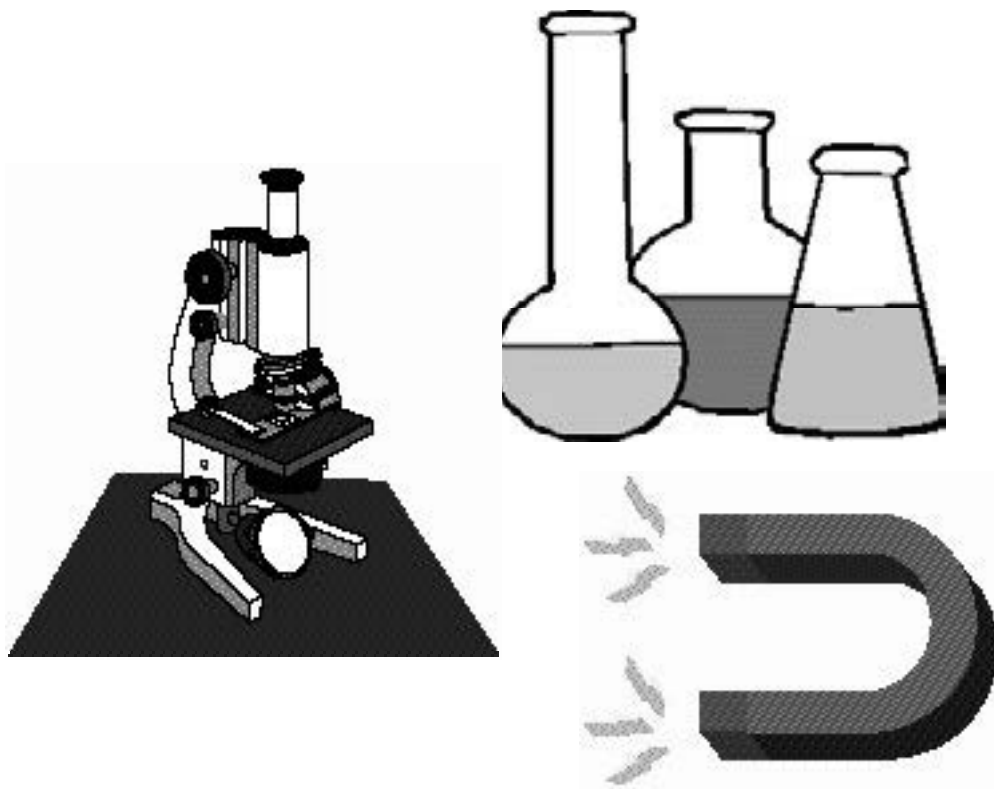
1. B	18. B	35. C
2. D	19. C	36. A
3. B	20. A	37. D
4. D	21. C	38. C
5. C	22. B	39. D
6. D	23. C	40. B
7. A	24. D	41. B
8. B	25. A	42. A
9. A	26. B	43. D
10. B	27. A	44. A
11. C	28. C	45. C
12. A	29. D	46. D
13. C	30. C	47. C
14. A	31. B	48. D
15. B	32. A	49. C
16. C	33. C	50. A
17. C	34. D	

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League

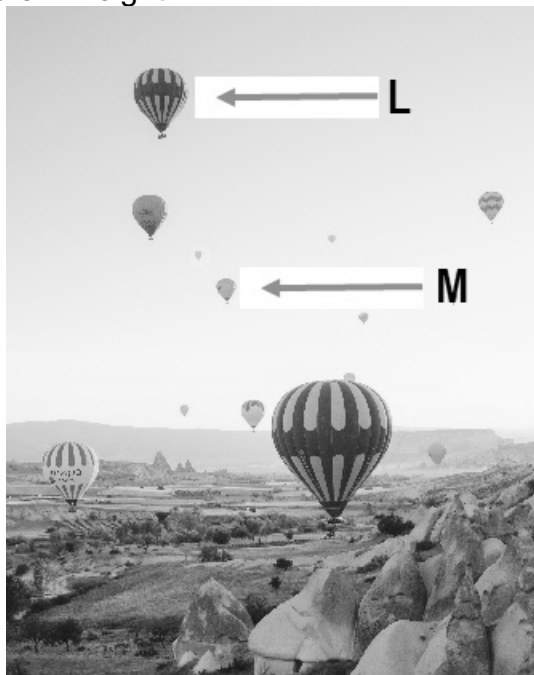


Science

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

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-2024 SCIENCE
FALL/WINTER TEST**

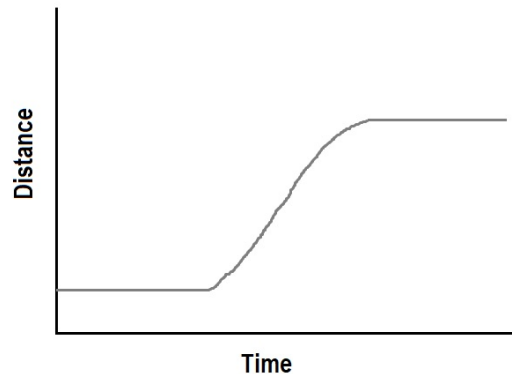
1. In order to best represent an element a teacher gathers the following materials: a box and a pack of marbles. Which of the following would be represent an element given the materials listed?
 - A. Fill the box randomly with two different colors of marbles
 - B. Fill the box with two different colors of marbles arranged in two columns
 - C. Fill the box with one color of marbles arranged in two rows
 - D. Fill the box with three different colors of marbles arranged in three columns
2. Diamonds are ranked a ten on the Mohs harness scale. Which other mineral is also at the top of this same scale?
 - A. Fluorite
 - B. Quartz
 - C. Calcite
 - D. Corundum
3. The graphic shoes two identical hot air balloons traveling at the same speed but separated by 75 meters in height.



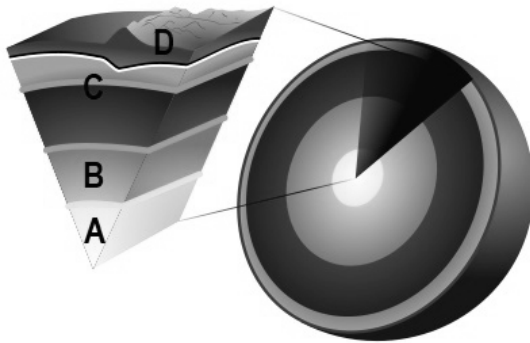
Which of the following states applies the most?

- A. L has a higher kinetic energy
- B. Both have the same gravitational potential energy but different kinetic energy
- C. L has a higher gravitational potential energy
- D. Both have the same kinetic energy but different gravitational potential energy

4. The motion of a car on a straight section of road is recorded and graphed as shown.



- Which best describes the motion that is represented?
- A. The speed increases then slows down
 - B. The speed decreases then the car moves backwards
 - C. It starts at rest and then moves at a constant speed; slows down and then stops
 - D. It starts at a constant speed; increases speed; stops, and then moves forward
5. What best describe what happens to the motion of particles in the air as the air temperature drops below 0° Celsius?
- A. The speed of the particles decreases
 - B. The speed of the particle's vibration increases
 - C. The speed of the particles increases
 - D. The particles move randomly
6. Which of the following does not occur during an energy transformation?
- A. Energy is not created
 - B. Energy changes form
 - C. Matter is created from energy
 - D. Energy is not destroyed
7. Which tectonic plates is located primarily in the Northern Hemisphere?
- A. Nazca
 - B. Juande Fuca
 - C. Indo – Australian
 - D. Pacific Plate
8. Which of the following celestial object has the most gravity?
- A. Sun
 - B. Jupiter
 - C. Earth
 - D. Mercury

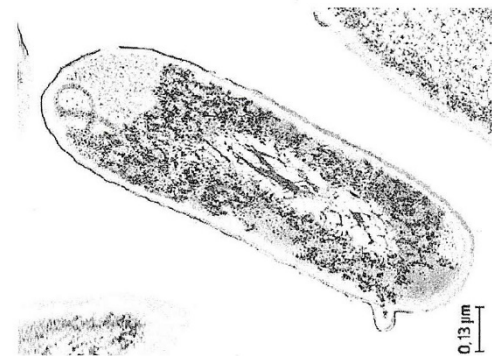


9. Using the illustration shown, what layer is best represented in C?

- A. Crust
- B. Outer core
- C. Inner core
- D. Mantle

10. Bacteria cells are best matched to which type of cell?

- A. Fungal
- B. Eukaryote
- C. Prokaryote
- D. Virus



11. Which of the following best represents an abiotic change?

- A. Cloud covered sky during the day keeps the temperature lower
- B. Elephants consuming 8 kg of hay
- C. Increase in coyote population followed by a reduction in deer populations
- D. Decline in flowers due to decrease in natural pollinators

12. Plans for a new subdivision are being developed. The city council wants it to run on “green” energy, meaning the energy must not come from fossil fuels. Based on your understanding of energy resources, which of the following would be most practical for the new subdivision?

- A. Use a coal burning plant to generate electricity
- B. Only use wind energy to generate electricity
- C. Use mostly solar energy to generate electricity
- D. Use a nuclear power plant to generate electricity

13. What is the speed of a vehicle that travels for thirty minutes and is displaced fifteen miles?

- A. .5 mph
- B. 30 mph
- C. 2 mph
- D. 450 mph

14. Some trucks require gasoline to be put into the tank to burn in order for it to operate and move. The battery provides the energy for other functions of the vehicle. Which type of energy is not used in the description provided?

- A. Chemical
- B. Electrical
- C. Kinetic
- D. Nuclear

15. Based on the following descriptions, which type of plate boundary does it most likely refer to?

- Quakes shaking the ground
- Creation of a fault line
- Plates sliding past one another

- A. Convergent
- B. Transform
- C. Divergent

16. What part of a seedling demonstrates a negative response to a gravitational force?

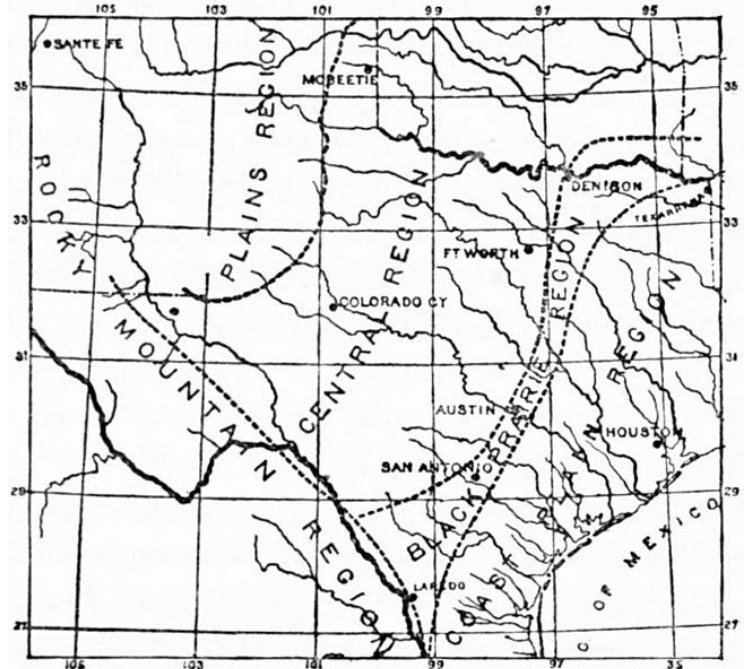
- A. Stem
- B. Leaves
- C. Roots
- D. Shoot

17. When space crafts reenter the atmosphere, the kinetic energy is transformed into thermal energy to aide in slowing down the space craft. Which of the following will allow the craft to survive the heat experienced during reentry?

- A. Guidance system
- B. Heat shield
- C. Parachute
- D. Air conditioner

18. Dallas and Fort Worth are both in the same drainage basin. What is the most likely reason the water in the Trinity River is dirtier in Houston as opposed to in the DFW metroplex?

- A. Pollutants from the coastal line enter the river
- B. Cross contamination from other pollutants
- C. Increased pollutants from humans
- D. Decreased pollutants from wildlife



19. Which plants would most likely be found in a deciduous forest?

Biome 1 Description	Most of the trees are broadleaf trees such as oak, maple, beech, hickory and chestnut. There are also several different kinds of plants like mountain laurel, azaleas and mosses that live on the shady forest floor.
Biome 2 Description	It is known for its dense canopies of vegetation that form three different layers. The top layer or canopy contains giant trees that grow to heights of 75 m (about 250 ft) or more. This layer of vegetation prevents much of the sunlight from reaching the ground. Thick, woody vines are also found in the canopy. They climb trees in the canopy to reach for sunlight. The middle layer, or understory, is made up of vines, smaller trees, ferns, and palms. The bottom layer or floor of the rainforest is covered with wet leaves and leaf litter.
Biome 3 Description	The shrublands are made up of shrubs or short trees. Many shrubs thrive on steep, rocky slopes. There is usually not enough rain to support tall trees. Shrublands are usually fairly open so grasses and other short plants grow between the shrubs.
Biome 4 Description	Consist mostly of conifers, which are trees that grow needles instead of leaves and cones instead of flowers. Conifers tend to be evergreen—they bear needles all year long. These adaptations help conifers survive in areas that are very cold or dry. Some of the more common conifers are spruces, pines, and firs.

- A. Biome 1
- B. Biome 2
- C. Biome 3
- D. Biome 4

20. Some species of flowers have markings that are visible only to organisms with the ability to see in the ultraviolet light part of the electromagnetic spectrum.

These marks help the plant to:

- A. Avoid predation
- B. Attract pollinators
- C. Obtain nutrients
- D. Create pungent smells

21. Which human body system performs a function most similar to that of the vascular system of a plant?

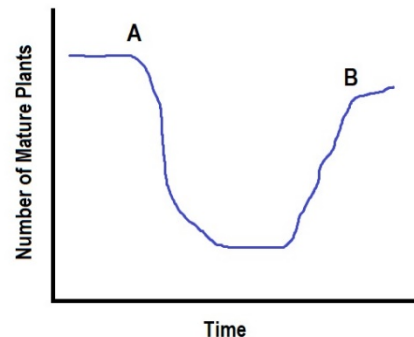
- A. Immune
- B. Circulatory
- C. Digestive
- D. Respiratory

22. On the first day of track practice, the coach made everyone run 800 meters to warm up. When finished, most everyone was breathing heavily and sweating. Which of these doesn't explain why this occurred?

- A. Running requires increases oxygen; it also produces increased carbon dioxide waste
- B. Running requires energy, burning more stored energy, which generates increased body heat
- C. Breathing brings in more carbon dioxide and removes excess oxygen from the body
- D. Perspiration cools the body by evaporating water from the sweat glands

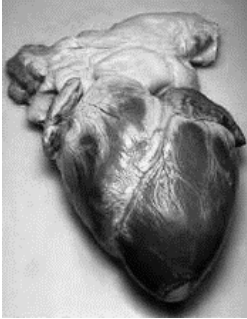
23. Which of the following best explains what most likely occurred during the time from A to B shown in the graph?

- A. At "A" a natural disaster, such as a fire, occurred and succession is taking place between time A & B.
- B. At "A" clear cutting for a parking lot occurred and grass begins to grow between time A and B
- C. At "B" a natural disaster, such as a fire, occurred and succession is taking place between time A & B.
- D. At "B" clear cutting for a parking lot occurred and grass begins to grow between time A and B



24. Which is an advantage of sexual reproduction over asexual reproduction?

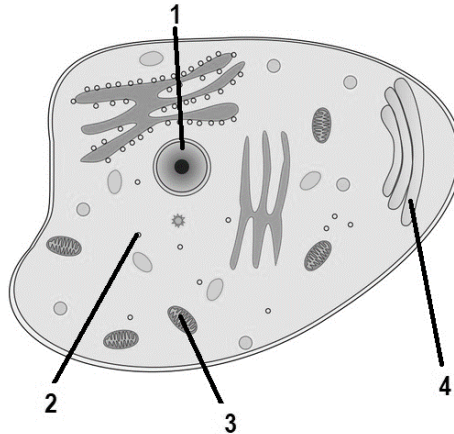
- A. Allows offspring to look just like the parent
- B. Ensures all offspring survive a natural disaster
- C. Allows the species to adapt to environmental changes
- D. Transfers genetic information from only one parent to the offspring



25. This image best represents which part of the cell theory?
- A. All cells come from preexisting cells
 - B. All organisms are composed of one or more cells
 - C. A cell is the basic unit of structure and function
 - D. All cells have the ability to adapt

26. Which part of a cell determines the sex of the organisms?

- A. 1
- B. 2
- C. 3
- D. 4



27. Which of the following converts light energy to chemical energy?

- A. Light bulb in a lamp
- B. Battery of a portable gaming device
- C. Solar panels
- D. Leaf on a tree

28. An example of an organism that breaks down organic material could be called —

- A. Autotroph
- B. Decomposer
- C. Predator
- D. Scavenger

29. A cube of sugar is placed in a pot of water. Initially, the sugar is at the bottom of the pot but once gradually heated it disappears. Which statement best explains what type of change occurred?

- A. chemical, irreversible change
- B. physical, irreversible change
- C. physical, reversible change
- D. chemical, reversible change

30. Which of the following is an example of a physical change?

- A. Milk going sour
- B. Mixing together several ingredients to make cookies
- C. Cooking breakfast
- D. Digestive system breaking down food

31. Based on the periodic table which elements are highly reactive?

The periodic table shows the following elements circled: Li (Group 1, Period 2), Be (Group 2, Period 2), Al (Group 13, Period 3), Si (Group 14, Period 3), P (Group 15, Period 3), S (Group 16, Period 3), Cl (Group 17, Period 3), Ar (Group 18, Period 3), and Pb (Group 14, Period 6).

- A. Li & Al
 B. Cl & Li
 C. Al & Pb
 D. Ne & Cl

32. Which of the following lists all the elements that are present in a molecule of sulfuric acid, H_2SO_4 ?

- A. Oxygen & Sulfur
 B. Hydrogen & Sulfate
 C. Hydrogen, Selenium, Oxide
 D. Hydrogen, Sulfur, Oxygen

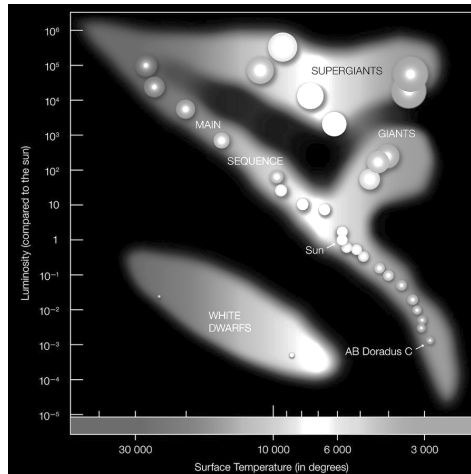
33. Stanley was running a on a jogging trail near his house. He generally runs at a pace of 4 m/s. While he was running, he realized he was going to have to pass the person that was running in front of him. To do this, Stanley had to run at a pace of 8 m/s for about 2 seconds. What was the acceleration during this time?

- A. .25 m/s
 B. 2 m/s
 C. 4 m/s
 D. 16 m/s

34. In 1687, Isaac Newton published a book discussing the three laws of motion. The third law of motion is known as the law of action-reaction. Which of the following situations is an example of Newton's third law of motion?

- A. A person pushes on the water with a roar while the roar pushes back on the person's hand.
 B. A skater pushes on the skates while the wheels of the skates push on the ground.
 C. A tennis racket pushes on a ball while the ball pushes back on the racket.
 D. A gymnast pushes down on a balance beam with her feet and the balance beam pushes down on the ground.

35. Since the rotational period and revolutionary period of the moon are identical lengths, which of the following statements best applies?
- This is why we only see stars at night
 - This is how the moon creates tides
 - This is why the moon appears all one color
 - This is why we see only one side of the moon from earth



36. A star with a temperature of 15,000 K and a luminosity of .8 is most likely which classification of stars?
- Main sequence
 - Giant
 - White dwarf
 - Super giant
37. The theory of plate tectonics does not explain which of the following:
- Karst topography
 - Volcanic activity
 - Earthquakes
 - Mountain formation
38. Which of the following crustal features is not formed at convergent boundaries?
- Island
 - Volcano
 - Hill
 - Rift Valley
39. On a summer day in July, a person stepped barefoot off a beach towel onto the hot sand and then proceeded to walk to the ocean. Why did the sand seem so much warmer?
- The sand has a lower specific heat and heats up rapidly.
 - The water has a lower specific heat and heats up slowly.
 - The sand has a higher specific heat and heats up slowly.
 - The water has a higher specific heat and heats up rapidly.

40. A scientist learns about two currents in an ocean that move in opposite parallel directions to each other. This information would be most likely to help in which of the following scenarios?

- A. Building faster boats
- B. Preventing tropical storms
- C. Predicting storms
- D. Decreasing pollution

41. Which of the following statements most accurately describes the competition that occurs between organisms within an ecosystem?

- A. Competition between organisms is a result of limited resources.
- B. Organisms only compete for the biotic factors in an ecosystem.
- C. Competition between organisms is a result of unlimited resources.
- D. Organisms only compete for the abiotic factors in an ecosystem.

42. A small amount of liquid is applied between a dog's shoulder blades each month. The liquid is supposed to help prevent insects from bothering the dog. Lately, the liquid does not keep fleas off the dog. What is most likely cause of this change?

- A. Giving the dog a bath after applying the liquid makes it where the liquid not able to work correctly.
- B. The fleas that survived exposure to the liquid and have produced offspring that are resistant to the liquid.
- C. The weather conditions have changed.
- D. The liquid has changed the dog's fur over time.

43. Which scientific law are decomposers modeling when they break down organic material and release carbon dioxide into the atmosphere and nitrogen into the soil?

- A. Newton's First Law of Inertia
- B. Newton's Third Law Action and Reaction
- C. Law of Conservation of Mass and Energy
- D. Law of Universal Gravitation



44. Students were traveling south with their class from Dallas to San Antonio. Students were told it would take about 4.5 hours to travel the 270 miles. What would the velocity of the vehicle have to be in order to cover that distance in that amount of time?

- A. 60 mi/hr^2
- B. 60 mi/hr
- C. 60 mi/hr^2 south
- D. 60 mi/hr south

45. Scientists believe that the universe is expanding because of a phenomenon known as

- A. Gravitation waves
- B. Red shift
- C. Blue shift
- D. Gamma radiation

46. The SDS for a chemical says possible effects included irritation to respiratory tract as well as gastrointestinal tract. An individual handling this chemical so most likely –
- A. Wear latex gloves
 - B. Submerge the chemical in distilled water
 - C. Wear a face mask
 - D. Have a fire blanket readily available

47. Which sound can be heard from the farthest distance based on the decibel level?

Normal breathing	10 dB
Lawnmower	85 dB
Whisper	30 dB
Washing machine	70 dB

- A. Normal breathing
 - B. Lawnmower
 - C. Whisper
 - D. Washing machine
48. Students cut one inch strips of several different paper towels to see the absorbency of each. To create a graph, the students will need to put which variable on the x axis?
- A. Brand of paper towel
 - B. Size of paper towel
 - C. Temperature of water
 - D. Time
49. Students were shown a lava lamp. The wax was heated and it rose up in the liquid, and then drifted back down after a period of time. This model most likely represents which of the following concepts?
- A. Conduction
 - B. Convection
 - C. Electrical transmission
 - D. Radiation

50. For a lab, students see the following:



In the event of an accident, the students should know the location of which of the following?

- A. Fume hood
- B. Emergency shut off
- C. Fire blanket
- D. Safety shower

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-2024 SCIENCE
FALL/WINTER TEST**

ANSWER KEY

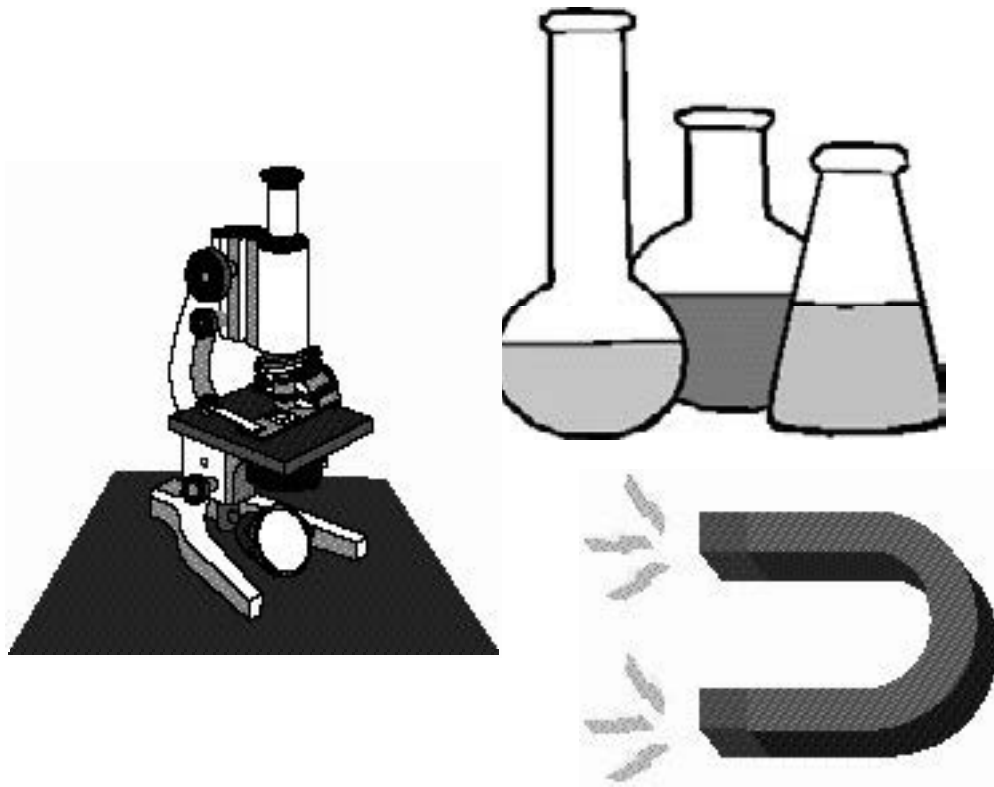
1. C	18. C	35. D
2. D	19. A	36. C
3. D	20. B	37. A
4. C	21. B	38. D
5. A	22. C	39. A
6. C	23. A	40. C
7. B	24. C	41. A
8. A	25. B	42. B
9. D	26. A	43. C
10. C	27. D	44. D
11. A	28. B	45. B
12. C	29. C	46. C
13. B	30. B	47. B
14. D	31. B	48. A
15. B	32. D	49. B
16. C	33. B	50. D
17. B	34. C	

SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Science

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

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-2024 SCIENCE
SPRING TEST**

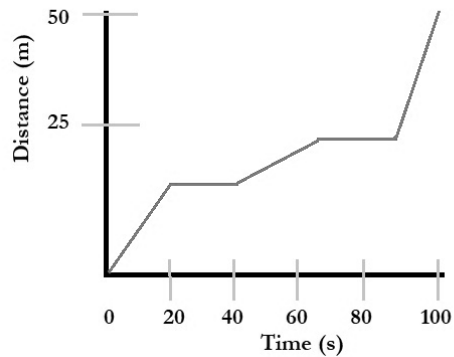
1. Students collect data on the following samples. Which of the following are most likely elements?

Sample Number	Substance	Observations
1	Na	Has a strong metallic luster. In color, it is very analogous to silver. It is soft at common temperatures that it can be shaped by the pressure of the fingers.
2	H ₂	It is a gas with no color and odor and has the lowest density of all gases.
3	N ₂ O ₄	Red-brown liquid with a sharp, unpleasant chemical odor. It also has a low boiling point.
4	Ag	It is a white, soft, lustrous, very ductile, and malleable metal. It is a very good conductor of electricity and heat.
5	NaCl	Crystals or white crystalline powder. Transparent and colorless in crystalline form.

- A. Na, H₂, and Ag
B. Na, N₂O₄, and NaCl
C. N₂O₄ and NaCl
D. N₂O₄, Ag, and Na
2. All of the following are examples of an inclined plane except –
A. Mobility ramp
B. Inflatable slide
C. Screw
D. Seesaw
3. A glass of lemonade is sitting on a picnic table outside. The energy from the sun will heat up the glass through which of the following processes?
A. Convection
B. Conduction
C. Radiation

4. Using the graph, what is the average speed of the object during the period shown?

- A. .5 m/s
- B. .75 m/s
- C. 2 m/s
- D. 5000 m/s



5. Which best shows that thermal energy will move from a hotter area to a cooler area until an equilibrium is reached?

- A. A person sitting directly under a fan feels cooler than someone sitting away from the fan
- B. A refrigerator without power
- C. A pot of water boiling after 10 minutes on a stove
- D. Salt placed on an ice cube to increase its melting

6. When a car is on a road covered with water it can be difficult to control the motion of the car. Which force is most likely responsible for this type of motion?

- A. Balanced
- B. Equal
- C. Unbalanced
- D. Gravitational

7. The inner core of the earth is a solid metal, while the outer core of the earth is made of molten metal. Which of the following best explains why this occurs?

- A. The temperature of the inner core is higher than the outer core
- B. The temperature of the inner core is lower than the outer core
- C. The pressure of the inner core is lower than the outer core
- D. The pressure of the inner core is higher than the outer core

8. Which celestial body is composed of only rocks and minerals?

- A. Sun
- B. Asteroid
- C. Comet
- D. Black hole

9. Earth's surface is made up of many different types of rocks. Rocks that were primarily formed by melted rock deep within the earth would be an example of which of the following:

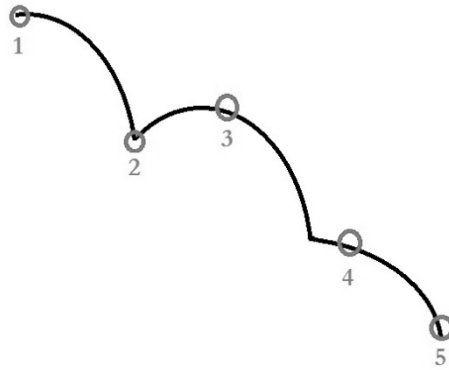
- A. Igneous
- B. Metamorphic
- C. Sedimentary

10. Which of the following is the smallest tectonic plate?

- A. Pacific
- B. North American
- C. Antarctic
- D. Indo-Australian

11. At which position in the path of this falling object does it have the greatest potential energy?

- A. 3
- B. 2
- C. 5
- D. 4



12. Which of the following countries were the leaders in the world for space exploration during the 1960s?

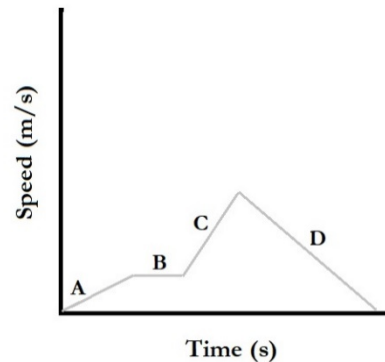
- A. United States and China
- B. Soviet Union and United States
- C. China and Germany
- D. Japan and Soviet Union

13. Which celestial body in our solar system has the greatest gravitational pull?

- A. Sun
- B. Jupiter
- C. Ceres
- D. Earth

14. Identify the locations from the speed time graph where an increase in speed can be observed?

- A. A & B
- B. B & D
- C. A & C
- D. C & D



15. Which of the following represents a biotic change?

- A. Cloudy sky during the day keeps temperatures cooler
- B. Flash flooding causes high humidity in a region
- C. Salinity of local pond changes after a thunderstorm
- D. Increase in coyote population will cause a reduction in the deer population

16. In which of these boxes would be best for a student to place a picture of a deer?

- A. 1
- B. 2
- C. 4
- D. 6

17. An 18-wheeler moves forward with 220 N of force as it is traveling down the highway. friction opposed the motion of the 18-wheeler with a force of 30 N. What is the net force?

- A. 30 N
- B. 190 N
- C. 220 N
- D. 6,600 N

18. What always happens when a chemical reaction occurs?

- A. New substances are formed
- B. Light is given off
- C. There are changes in the size and shape of the object
- D. Mass is destroyed

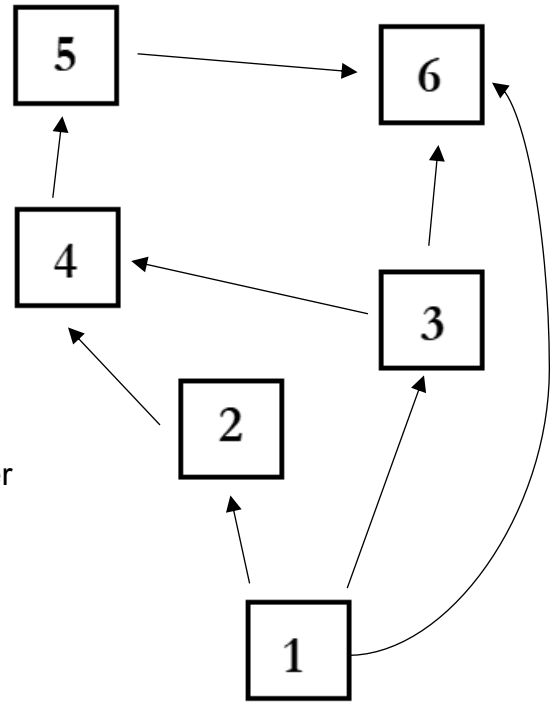
19. Students are completing a lab using a metal slinky. One of the students stretched the slinky too far and accidentally twisted the slinky. This would be an example of which of the following?

- A. Physical change because the change is irreversible
- B. Chemical change because the change is irreversible
- C. Physical change because the change is reversible
- D. Chemical change because the change is reversible

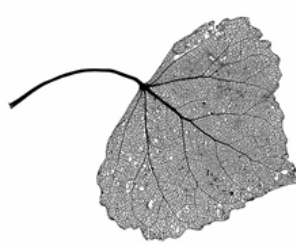
20. Which of the following best relates to both of the statements provided?

- *This can stimulate the growth of bones*
- *It can also be counteracted in the circulatory system by structures in the veins*

- A. Friction
- B. Homeostasis
- C. Calcium
- D. Gravity



21. Use the dichotomous key to identify the type of leaf pictured.



1. Leaves are needlelike or very small and scalelike	Go to 2.
1. Leaves are broad	Go to 5.
2. Leaves are long and needlelike.	Go to 3.
2. Leaves are small and scalelike.	CEDAR
3. Two needles to a bundle	SHORTLEAF
3. Three needles to a bundle	Go to 4.
4. Adult needles are 4-6 inches.	LOBLOLLY
4. Adult needles are 6-12.	LONGLEAF PINE
5. Leaves are broad and heart-shaped.	Go to 6.
5. Leaves are not heart-shaped.	Go to 7.
6. Leaf edge is saw-toothed.	COTTONWOOD
6. Leaf edge is smooth.	REDBUD.
7. Leaves grow oppositely of the branch.	Go to 8.
7. Leaves grow alternately.	Go to 11
8. Leaves are simple and lobed.	Go to 9.
8. Leaves are simple and not lobed.	Go to 10.
9. Leaves are moderately lobed.	RED MAPLE
9. Leaves are deeply lobed (almost to the mid-rib)	SILVER MAPLE

- A. Cedar
- B. Loblolly

- C. Cottonwood
- D. Silver Maple

22. Sand for beaches comes from rocks in the area that are weathered down, and the sediment is deposited in the beaches. A beach erodes because the supply of sand to the beach cannot keep up with the loss of sand to the water. If rocks were to stop weathering, how would the beach change?

- A. The beach would gain sediment because sand would still be deposited and not weathered away.
- B. The beach would lose sediment because sand would still erode, and there is no new sediment being deposited.
- C. The beach would stay the same because the beach could not change if it could not be weathered.
- D. The beach would lose sediment because the sand would still weather, moving sediment onto the land.

23. Who was the first woman to orbit Earth?
- A. Sally Ride
 - B. Svetlana Savitskaya
 - C. Valentina Tereshkova
 - D. Kayla Barron

24. This picture was taken during the middle of summer during a drought. Based on this, which of the following statements most likely identifies why the organisms are at the top of the fence posts?
- A. The snails are going to higher ground to reach cooler air.
 - B. The snails are going to higher ground to mate.
 - C. The snails are going to higher ground to avoid a flash flood.
 - D. The snails are going to higher ground to avoid predators.



25. A local gardener wants to increase the sustainability of their garden in their backyard. Which of the following will most likely result in greater sustainability?
- A. Decrease the unique types of plants in the garden.
 - B. Add worms to the garden soil.
 - C. Have more mature versions of species that are already in the garden.
 - D. Grow only one type of plant in the garden.
26. Bears in most areas have either a black or brown coat. A polar bear has a white coat in winter. How does the polar bear's white color help it survive in the arctic?
- A. It makes the animal warmer during the summer
 - B. It helps the animal blend into its background
 - C. It makes the animal appear larger to prey
 - D. It helps the animal stay cooler during the winter
27. Which cell organelle has the function of taking in nutrients, breaking them down, and creating energy for the cell?
- A. Mitochondria
 - B. Ribosome
 - C. Endoplasmic reticulum
 - D. Golgi apparatus
28. A person with an infection may begin to feel hot and run a fever. This response most likely helps the body fight infection by doing which of the following —
- A. Forcing the bacteria to exit the body
 - B. Trapping harmful bacteria within the body
 - C. Keeping additional bacteria from entering the body
 - D. Making it difficult for additional bacteria to grow in the body

29. During asexual reproduction, a single cell becomes two new cells. The genetic material in each of the daughter cells is usually —

- A. Half the number of genes
- B. Completely different from the parent cell
- C. Exact same number of genes
- D. Twice the number of genes

30. Can a tattoo be inherited through sexual reproduction? Why?

- A. Yes, it is an inheritable trait
- B. Yes, it is an acquired trait
- C. No, it is an inheritable trait
- D. No, it is an acquired trait

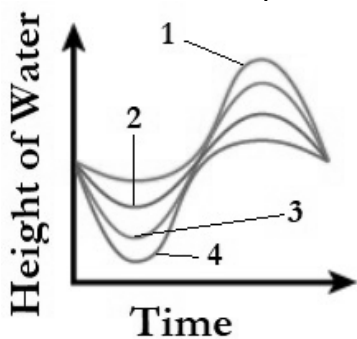
31. Which element will have similar chemical reactivity to Tellurium (Te), located in group 16 on the periodic table?

- A. Fluorine
- B. Sulfur
- C. Bromine
- D. Neon

32. Which of the following are examples of unbalanced forces?

- A. A girl sitting on a swing
- B. A bucket full of sand
- C. A child jumping rope
- D. A boy floating on the water

33. Which lines best represents a spring tide?



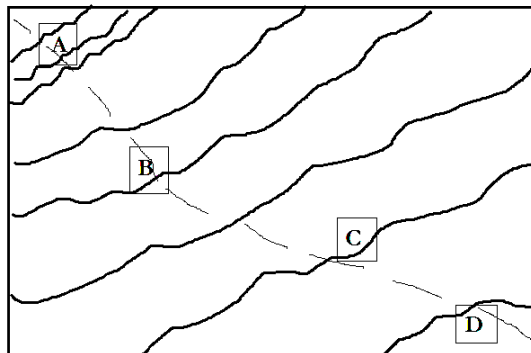
- A. Line 1
- B. Line 2
- C. Line 3
- D. Line 4

34. Looking up at the night sky we see numerous stars that started their life journey many years ago. A star's life cycle is determined by its characteristics. Which statements correctly describe the stars throughout their life cycle?

- A. A star's life cycle begins with a nebula
- B. As a supergiant continues throughout its life cycle, it will become a planetary nebula
- C. A white dwarf is a small-sized star that does not go through a change in its life cycle
- D. Every star's life cycle will end with a black hole or neutron star

35. This is a topographic map of a canyon. Which point is the steepest?

- A. A
- B. B
- C. C
- D. D



36. On a normal summer day at the beach, the temperature over the land is warmer than the temperature over the

water. The warmer air will rise and the cooler air moves over the land, producing sea breezes. This most likely shows that —

- A. Soil warms up more slowly than water
- B. Water has a higher specific heat than land
- C. The air above the land becomes cool and rises
- D. The land has a higher specific heat than water

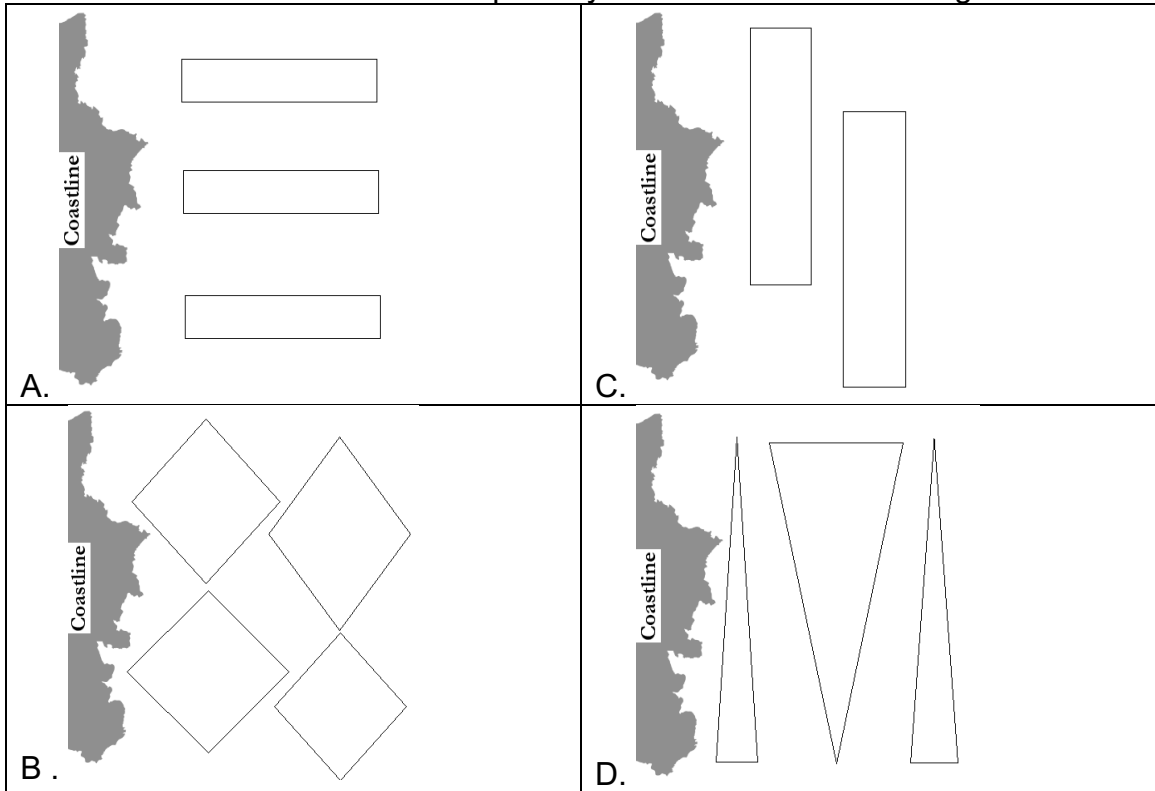
37. Similar to a water lily, a watershield has a unique set of traits to live in an aquatic environment. To survive on land, the watershield would need to develop an adaptation to perform which of the following functions?

- A. Structures to obtain radiant energy
- B. Structures to obtain nutrients
- C. Produce flowers
- D. Structures to provide support

38. A scientist mixes two solutions, planning to produce methane. Which of the following is the BEST evidence that a chemical reaction is producing methane?

- A. Change in color
- B. Formation of a precipitate
- C. Change in temperature
- D. Formation of bubbles

39. If an artificial reef is built, what shape and direction would need to be designed to allow the most amount of water to pass by the reef as the tide changes?



40. A runner is four miles east of another runner, who is four miles east of a school. Where is the first runner with respect to the school?

- A. 4 miles east of the school
- B. At the school
- C. 8 miles east of the school
- D. 4 miles west of the school

41. Daily weather of an area is largely impacted by the type of air that is moving in. If the air is moving in off the ocean, the air will normally carry a larger amount of moisture. As compared to an air mass that is moving over a continent, would be more likely to be dry.

Which type of air mass would most likely generate a warm, wet environment?

- A. Continental Polar Air Pressure
- B. Maritime Polar Air Pressure
- C. Continental Tropical Air Pressure
- D. Maritime Tropical Air Pressure

42. Which is most likely to cause a decrease in a predator population?
- A. Decrease in prey population
 - B. Reduction in competition
 - C. More autotrophs
 - D. Population size remaining constant
43. Many galaxies have no disks, no spiral arms, and almost no dust or gas. These galaxies can range from small dwarfs to huge giants. Which classification best describes this?
- A. Spiral
 - B. Elliptical
 - C. Barred
 - D. Irregular
44. Based on the periodic table, which of the following element most readily accepts electrons?
- A. Fluorine
 - B. Nitrogen
 - C. Aluminum
 - D. Helium
45. Which best describes the scenario?

A rocket launching off headed northwest at 10,000 km/hr.

- A. Example of speed
- B. Example of acceleration
- C. Example of speed and acceleration
- D. Example of velocity and acceleration

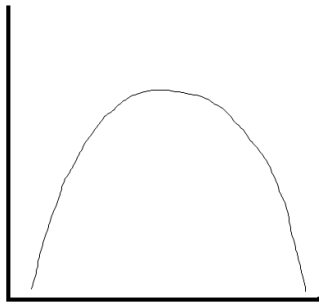
46. A quadrat, is used by scientists to observe and collect data, as shown. The length of one of the smaller cells would most likely be –
- A. 20 cm
 - B. 25 cm
 - C. 20 mm
 - D. 25 mm



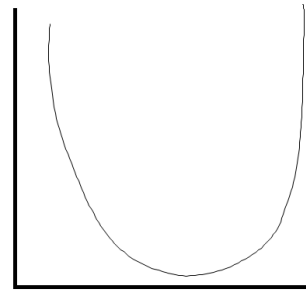
47. A student experiments to measure the acceleration of a falling marble, which should be 9.8 m/s^2 . The student collects an experimental value of 11.6 m/s^2 . The most likely reason for this variation is due to:

- A. Air resistance
- B. Human error
- C. Fluctuations in gravity
- D. Mass of the object

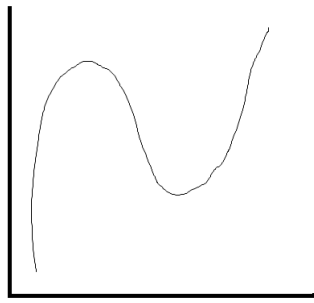
48. A student took a glass of lemonade filled with ice outside on a hot summer day. Shortly after the student went back inside for more ice to refill the glass since it had already melted. Which sketch best represents the change of temperature occurring?



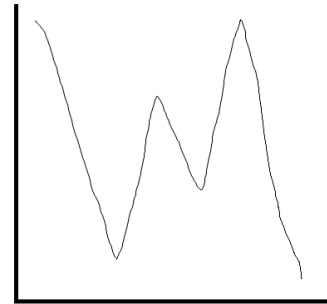
A.



B.



C.



D.

49. Which of the following is not equal to 1000 mL?

- A. 1 L
- B. 100 cL
- C. 1 dm^3
- D. 1 cm^3

50. Suppose you are on a scale as you are riding up to the top of a building in an elevator. What will be true about the reading on the scale as you travel upward?

- A. The scale's reading will remain constant
- B. The scale's reading will increase
- C. The scale's reading will decrease
- D. The mass reading will increase

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-2024 SCIENCE
SPRING TEST**

ANSWER KEY

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

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

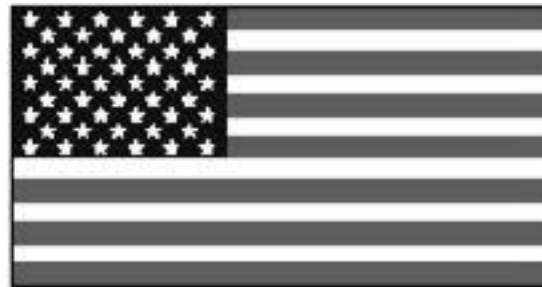
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|-----|---|---|---|---|-----|---|---|---|---|
| 1. | A | B | C | D | 21. | A | B | C | D |
| 2. | A | B | C | D | 22. | A | B | C | D |
| 3. | A | B | C | D | 23. | A | B | C | D |
| 4. | A | B | C | D | 24. | A | B | C | D |
| 5. | A | B | C | D | 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 2023-2024

A+ ACADEMICS



University Interscholastic League



Social Studies

grades 7 & 8

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

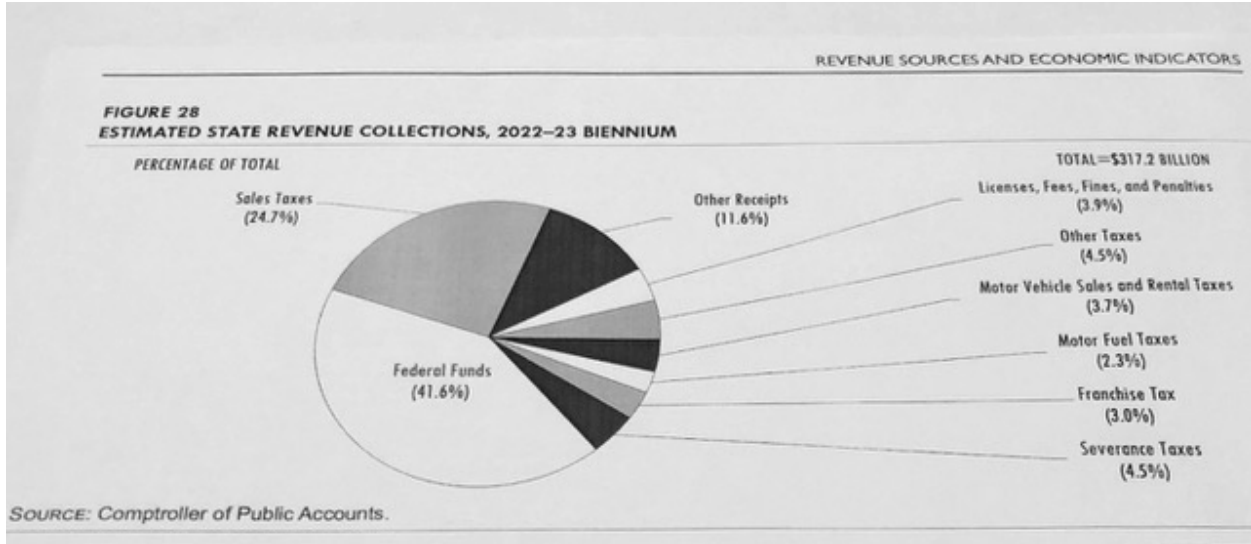
UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-24 A+ SOCIAL STUDIES
INVITATIONAL TEST – GRADES 7 & 8

1. Why is the principle of republicanism important in the development of the Texas government?
 - a. Places restrictions on the government
 - b. Voters elect officials to represent them and to serve in the government
 - c. Divides the powers of the Constitution
 - d. Protects individual rights

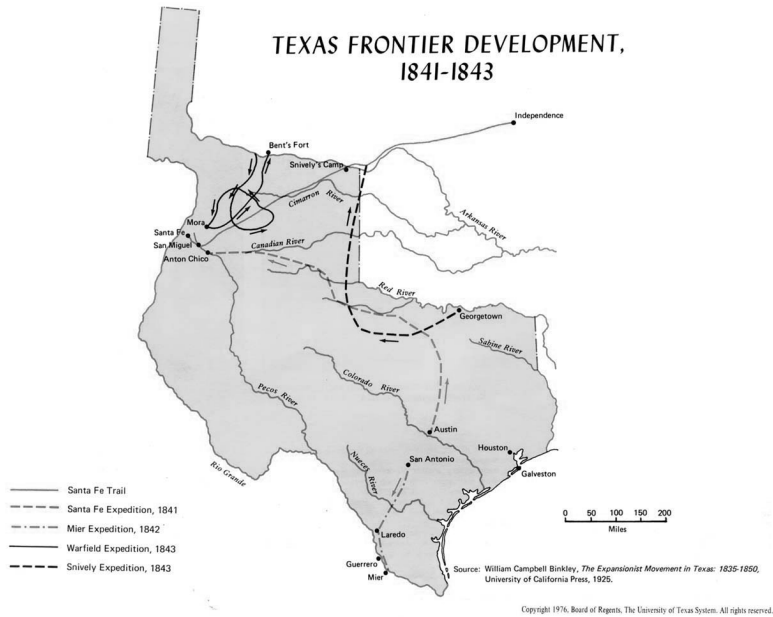
“All political power is inherent in [natural to] the people, and all free governments are founded on their authority, and instituted [created] for their benefit.” -Texas Constitution

2. Which principle of government is reflected in this quote?
 - a. Limited government
 - b. Federalism
 - c. Popular sovereignty
 - d. Separation of powers
3. When does the Texas Legislature do most of its work?
 - a. In sessions
 - b. While in a drought
 - c. During terms
 - d. Under martial law
4. How often is a Governor of Texas elected?
 - a. Every six years
 - b. Every year
 - c. Every two years
 - d. Every four years
5. Which Texas official chairs the powerful Legislative Budget Board?
 - a. Attorney General
 - b. Agriculture Commissioner
 - c. Lieutenant Governor
 - d. Comptroller of Public Accounts
6. What is another way to remove a judge that is provided for in the Texas Constitution?
 - Legislature can impeach
 - Governor can remove
 - ?
 - a. Supreme Court can remove district judges
 - b. Clergy can remove
 - c. Citizens can petition for removal
 - d. Businesses can request that the County remove them

7. Who decides the verdict in a trial?
- a. Grand jury
 - b. Supreme Court
 - c. District Attorney
 - d. Petit jury



8. According to the graph, from what source does the Texas government get the largest amount of revenue?
- a. Franchise taxes
 - b. Federal funds
 - c. Licenses, fees, fines
 - d. Sales taxes
9. The _____ was the flagship of the Texas Navy.
- a. Brazos
 - b. Independence
 - c. Liberty
 - d. Austin
10. In 1843 to reduce spending, Sam Houston ordered the Texas Navy to be sold. Why was it not sold?
- a. Ordered back to the Mexican coast to prevent violence
 - b. Became part of the United States navy
 - c. People in Galveston opposed the sale and prevented bids from being submitted at auction
 - d. It was all sunk by Mexican warships
11. What role did Texas Rangers play in shaping the Texas frontier?
- a. Traded with Mexico for supplies
 - b. Made a military alliance with France
 - c. Built a railroad to provide transportation for settlers
 - d. Helped patrol and guard the frontier

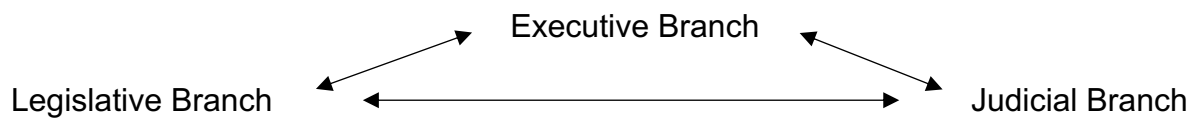


12. Why did Mirabeau Lamar send an expedition to Santa Fe in 1841?
- a. Take control of the region and open it up to trade with Texas
 - b. Control the Cherokee
 - c. Protect the government archives
 - d. To repay money to French citizens owed them by the Mexican government
13. Which United States President requested that both houses of Congress pass a joint resolution for annexation of Texas?
- a. John Tyler
 - b. Andrew Jackson
 - c. Sam Houston
 - d. William Henry Harrison
14. An important role of citizenship is _____. Serving in the military is an example.
- a. Freedom of speech
 - b. Right to a speedy trial
 - c. Public service
 - d. Freedom of religion



15. What office does this government official hold?
- a. Attorney General
 - b. Chief Justice
 - c. Secretary of State
 - d. Governor

23. Who has the duty to indict the accused?
- a. Supreme Court
 - b. Grand jury
 - c. Sheriff
 - d. County Court of Law
24. How many witnesses to the same overt act are needed to convict a person of treason?
- a. Five
 - b. Three
 - c. One
 - d. Two
25. Framers used the principle of _____ to get the states and the nation to become partners in governing.
- a. Federalism
 - b. Individual rights
 - c. Republicanism
 - d. Limited government



26. What did the Framers include in the Constitution to make sure that the branches work together fairly?
- a. Separation of powers
 - b. Popular sovereignty
 - c. Individual rights
 - d. Checks and balances
27. The _____, created in 1619, became the first representative assembly in the American colonies.
- a. Grange
 - b. House of Burgesses
 - c. Pennsylvania State House
 - d. Town hall
28. What was a set of laws that were established in 1639 by a Puritan congregation who had settled in the Connecticut Valley and that expanded the idea of representative government?
- a. Albany Plan of Union
 - b. Great Awakening
 - c. Fundamental Orders of Connecticut
 - d. Platt Amendment
29. Who presented the New Jersey Plan to the Constitutional Convention in response to the Virginia Plan?
- a. George Mason
 - b. John Jay
 - c. William Paterson
 - d. Roger Williams
30. How did the Constitutional Convention deal with representation and taxation for the enslaved?
- a. Missouri Compromise
 - b. Three-Fifths Compromise
 - c. Commerce Compromise
 - d. Compromise of 1850

31. When did the Bill of Rights become part of the Constitution?
- a. 1791
 - b. 1863
 - c. 1776
 - d. 1845
32. What is one of the most important responsibilities one has when they turn 18?
- a. Taking care of yourself
 - b. Behaving in a respectful way
 - c. Helping your family
 - d. Voting
33. Why is freedom of speech and the press important in a democratic society?
- a. Creates deadlines for stories
 - b. Discouraged the use of pictures in newspapers
 - c. Creates daily newspapers
 - d. Preserves democracy by allowing citizens to voice their ideas and views
34. Who represented John Peter Zenger at his trial for printing criticism of the New York governor?
- a. Ben Franklin
 - b. Andrew Hamilton
 - c. Thomas Jefferson
 - d. Abraham Lincoln
35. What sets limits on how much power government officials have so that they cannot take advantage of the people?
- a. Constitutions
 - b. Customs
 - c. Investments
 - d. Castes



36. Why is Nelson Mandela known worldwide?
- a. Communist leader of China
 - b. Mexican leader that signed the North American Free Trade Agreement
 - c. First black president that was elected in South Africa's first democratic election
 - d. Wrote some of the world's favorite ballets

37. About 80 percent of India's people practice which religion?
- a. Hindus
 - b. Boer
 - c. Protestant
 - d. Indigenous
38. Who started most of the famous universities of Europe?
- a. Wealthy individuals
 - b. State governments
 - c. Businesses
 - d. Christian scholars
39. Which religion, that began in Japan many centuries ago, teaches respect for nature, love of simple things and concern for cleanliness and good manners?
- a. Islam
 - b. Shinto
 - c. Christianity
 - d. Jainism
40. Myanmar exports precious gems such as rubies, sapphires and jade and provides about 75 percent of the world's teakwood. Myanmar's valuable forests are decreasing because of deforestation. What is deforestation?
- a. Method by which the land is left unplanted every few years so that it can store moisture
 - b. Process of moving water and wind across the earth's surface, leaving the land less fertile than before
 - c. Widespread cutting of trees
 - d. Strips of land cut out of a hillside like stair steps so the land can hold water and be used for farming

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-24 A+ SOCIAL STUDIES
INVITATIONAL TEST —GRADES 7 & 8**

Answer Key

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

FALL/WINTER DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League

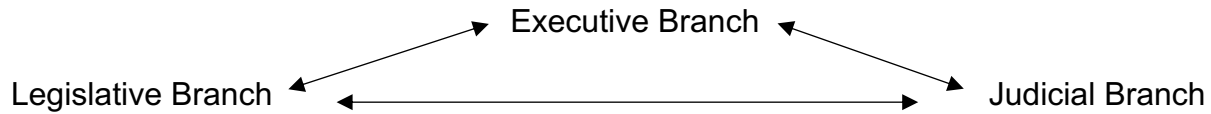


Social Studies

grades 7 & 8

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

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-24 A+ SOCIAL STUDIES
FALL/WINTER DISTRICT TEST – GRADES 7 & 8**



1. Why was the principle of checks and balances included in the Texas Constitution?
 - a. All power comes from the people
 - b. Helps prevent one branch from controlling the government
 - c. Balances power between the state and federal governments
 - d. Protects individual rights

2. How is the principle of republicanism reflected in the Texas Constitution?
 - a. Prevents any one branch from becoming too powerful
 - b. Division of powers among different branches
 - c. Voters elect officials to represent them in the government
 - d. Places restrictions on government

3. Where does the Texas Constitution provide a Bill of Rights?
 - a. Article I
 - b. Article III
 - c. Article II
 - d. Oaths

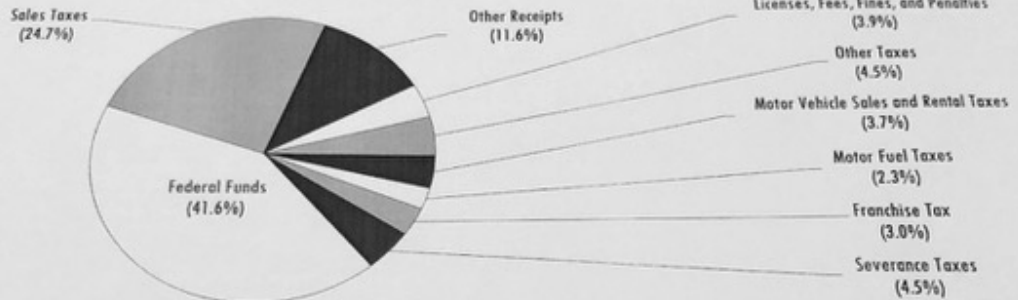
4. Like the United States Congress, the Texas legislature is _____ - made up of two houses: House of Representatives and Senate.
 - a. Biennial
 - b. Political party
 - c. General election
 - d. Bicameral
 - Can call special sessions
 - Appoint judges to fill vacancies
 - Pardon criminals
 - Call out the national guard

5. Which Texas official has these duties and powers?
 - a. Governor
 - b. Senator
 - c. Attorney General
 - d. Commissioner of Agriculture

6. Who decides whether a person accused of a felony should be indicted?
 - a. Petit jury
 - b. Grand jury
 - c. County Judge
 - d. Supreme Court

FIGURE 28
ESTIMATED STATE REVENUE COLLECTIONS, 2022–23 BIENNIUM

PERCENTAGE OF TOTAL



SOURCE: Comptroller of Public Accounts.

7. According to the graph, what is NOT a source of revenue for the State of Texas?
 - a. Federal funds
 - b. Motor vehicle sales and rental taxes
 - c. Motor fuels taxes
 - d. Income taxes

8. How might counties raise money for the construction of buildings, roads or other projects?
 - a. Membership fees
 - b. Mutual funds
 - c. By issuing bonds
 - d. Permanent school fund

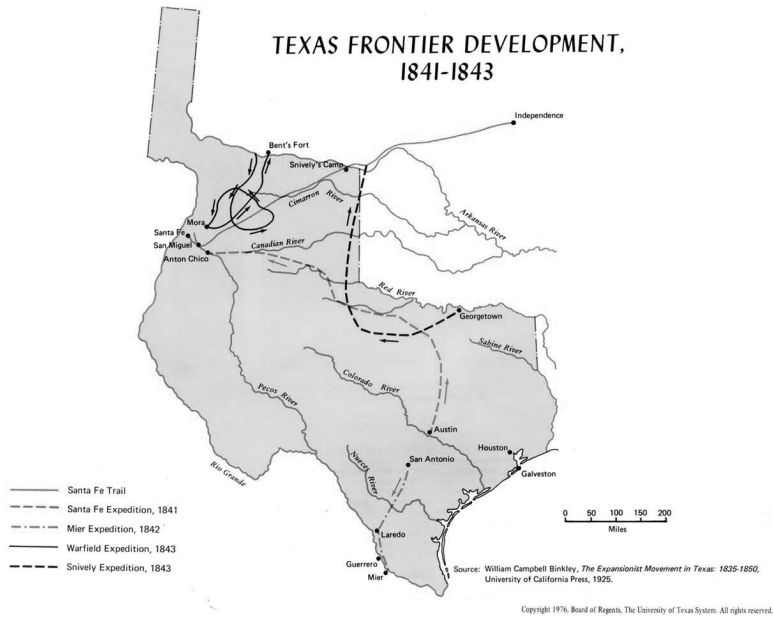
9. In September of 1841 who was placed in command of the Texas Navy and sent to the Yucatan coast?
 - a. Hugh McLeod
 - b. Jose Antonio Navarro
 - c. Thomas J. Rusk
 - d. Edwin Moore

10. Which President of the Republic of Texas ordered the Texas Navy to be sold?
 - a. Sam Houston
 - b. Anson Jones
 - c. Mirabeau Lamar
 - d. David G. Burnet

11. How did the Texas Rangers participate in the Mexican War?
 - a. Leaders of military groups
 - b. As cooks for troops
 - c. Many served as scouts
 - d. Negotiated for supplies in area

12. Who became one of the most famous Texas Rangers?
 - a. A. H. Belo
 - b. John Coffee Hays
 - c. Zachary Taylor
 - d. Gail Borden

13. _____ kept a small herd of unbranded cattle on Matagorda Peninsula.
 - a. Joseph McCoy
 - b. John Deere
 - c. Mary Ann Maverick
 - d. Bose Ikard



14. Where did an 1840 battle occur between Texans and the Comanche when Comanche leaders did not turn over all of their captives?
- Santa Fe
 - Galveston
 - Laredo
 - San Antonio
15. Why did most Texans favor annexation?
- Close business ties, a sound money system and military protection
 - Oil, cattle and cotton
 - Trade alliance
 - Religious ties



16. What office does this government official hold?
- Secretary of State
 - Lieutenant Governor
 - Attorney General
 - Justice of the Supreme Court
17. During the Republic of Texas, who selected the Speaker of the House of Representatives?
- House of Representatives chose their own speaker
 - Senate
 - Appointed by the President
 - Elected by the people

18. According to the Constitution of the Republic of Texas, how many members needed to concur to expel a member of Congress?
- a. 3/4
 - b. 1/4
 - c. 1/2
 - d. 2/3
19. A bill had to be read on _____ days and passed for it to become a law during the Republic of Texas.
- a. Two
 - b. Three
 - c. Four
 - d. Five
20. Which Republic of Texas elected official had to meet these qualifications?
- Attained at least 35 years of age
 - Citizen of the Republic at the time of the adoption of this Constitution
 - Inhabitant of Republic at least three years preceding this election
- a. Member of the House of Representatives
 - b. Senator
 - c. President
 - d. Chief Justice Supreme Court
21. In the Republic of Texas, every head of a family was entitled to how much land?
- a. One league of land and labor
 - b. One third of a league
 - c. One half of a league
 - d. One fourth of a league
22. Who was the secretary of the Convention that signed the Republic of Texas Constitution?
- a. A.B. Hardin
 - b. Andrew Briscoe
 - c. Sterling Robertson
 - d. Albert H.S. Kimble

“The writ of habeas corpus is a writ of right, and shall never be suspended.” – Section 12 Bill of Rights

23. What is a writ of habeas corpus?
- a. Proof of ownership
 - b. Individual rights
 - c. Issued to test the reasons or grounds for restraint and detention
 - d. Government’s power to claim privately owned land for public use
24. In the Bill of Rights, how many witnesses to the same overt act are needed to convict a person of treason?
- a. Five
 - b. Two
 - c. Four
 - d. Three

25. Framers were concerned that too much power might fall into the hands of a single group. To avoid this problem, what system did the Framers establish?

Article 1	Article 2	Article 3
Legislative Branch	Executive Branch	Judicial Branch
Congress makes the laws	President enforces the laws	Supreme court interprets the law

- a. Checks and balances
- b. Federalism
- c. Separation of powers
- d. Republicanism

“E pluribus unum”

26. The United States motto reflects which principle?

- a. Limited government
- b. Individual rights
- c. Popular sovereignty
- d. Federalism

27. Who deeply influenced the Framers with their philosophy that government’s authority comes from the people and reflects their will?

- a. John Locke
- b. Brigham Young
- c. Adam Smith
- d. Ben Franklin

28. Which part of the Constitution guarantees personal liberties and privileges to the citizens?

- a. Preamble
- b. Bill of Rights
- c. Article 2
- d. Article 5

29. The _____ helped establish the idea of self-government and majority rule.

- a. Mayflower Compact
- b. Doctrine of Nullification
- c. Emancipation Proclamation
- d. Great Awakening

30. What document is often called the first written constitution in America?

- a. Monroe Doctrine
- b. North American Trade Agreement
- c. Fundamental Orders of Connecticut
- d. Albany Plan of Union

31. Who proposed the Virginia Plan to the Constitutional Convention?

- a. Robert Morris
- b. Edmund Randolph
- c. George Mason
- d. John Jay

32. What was another name for the Great Compromise?

- a. New York Compromise
- b. Rhode Island Compromise
- c. Georgia Compromise
- d. Connecticut Compromise

33. Who helped draft the Bill of Rights?
- a. James Madison
 - b. Roger Sherman
 - c. William Paterson
 - d. John Quincy Adams
34. Why was the John Peter Zenger trial a step toward freedom of press?
- a. Zenger plead guilty and paid a fine
 - b. The jury would not punish Zenger for criticizing the government
 - c. The governor decided to not press charges
 - d. Protests were held in all of the colonies
35. What type of government is one that the people govern themselves by voting individually on issues and is still practiced in some small New England towns and in parts of Switzerland?
- a. Representative democracy
 - b. Constitutional monarchy
 - c. Socialism
 - d. Direct democracy
36. _____ is an example of an unlimited government.
- a. Democracy
 - b. Free enterprise
 - c. Dictatorship
 - d. Capitalism
37. About 300 A. D. who was responsible for ending the persecution of Christians and making Christianity a lawful religion?
- a. Mohammed
 - b. Stalin
 - c. Caligula
 - d. Constantine the Great
38. What is polytheistic?
- a. One god
 - b. Preserved immediately after death
 - c. Many gods
 - d. Ancient system of writing
39. Which African country's economy is heavily dependent on cattle, goats and sheep with about 50 percent of its export income derived from the sale of livestock?
- a. Burkina Faso
 - b. Poland
 - c. Luxembourg
 - d. Chile
40. Taiwan had one of the world's most prosperous economies. Its wealth comes largely from high-technology industries, manufacturing and trade with other countries. What are high-technology industries?
- a. Home- or village-based industry in which family members supply their own equipment to make goods
 - b. Produce computers and other kinds of electronic equipment
 - c. Industry that produces goods such as clothing, shoes, furniture and household products
 - d. Industry that provides services like banking, education and tourism to people rather than producing goods

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-24 A+ SOCIAL STUDIES
FALL/WINTER DISTRICT TEST —GRADES 7 & 8**

Answer Key

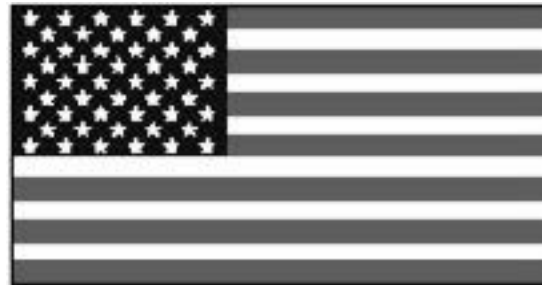
- | | |
|-------|-------|
| 1. B | 21. A |
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SPRING DISTRICT 2023-2024

A+ ACADEMICS



University Interscholastic League



Social Studies

grades 7 & 8

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

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-24 A+ SOCIAL STUDIES
SPRING DISTRICT TEST – GRADES 7 & 8**

1. How does the Texas Constitution reflect the principle of limited government?
 - a. All political power comes from the people
 - b. Most limits protect Texans' individual rights like freedom of speech
 - c. Division of duties
 - d. Powers are divided between the state and federal government and some are also shared

Texas Government

Legislative

Senate, House of Representatives

Executive

Governor

Judicial

Supreme Court

2. Why was the principle of separation of powers included in the Texas Constitution?
 - a. Keeps one branch from controlling the government
 - b. Protects individual's rights
 - c. Helps prevent any one branch from becoming too powerful
 - d. All power lies with the people of Texas
3. What served as the model for the first Texas Bill of Rights?
 - a. Mayflower Compact
 - b. Emancipation Proclamation
 - c. Declaration of Independence
 - d. U.S. Constitution's Bill of Rights
4. Which branch of government is described in Article III of the Texas Constitution?
 - a. Legislative
 - b. Judicial
 - c. Executive
 - d. Church
5. What role of the Texas Governor is an informal but important executive power?
 - a. Best student
 - b. Head of the Church
 - c. First citizen
 - d. First businessman
6. How does judicial review reflect the principle of checks and balances in the Texas Constitution?
 - a. Separates the duties of each branch
 - b. Gives the judiciary a way to check the power of the other two branches of government
 - c. Protects the rights of citizens
 - d. Gives power to the citizens

7. What is a major source of revenue for Texas counties?
 - a. Property taxes
 - b. Income taxes
 - c. Donations
 - d. Lottery

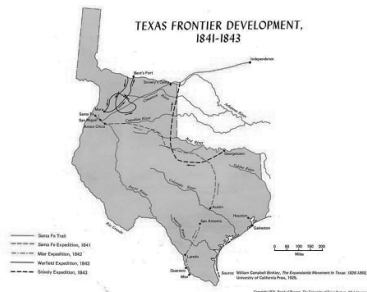
8. A _____ tax applies to corporations based in Texas.
 - a. Sales
 - b. Bonds
 - c. Motor fuels
 - d. Franchise

9. Who was the Republic of Texas Minister to the United States that was captured by Mexican warships?
 - a. William H. Wharton
 - b. Henry Austin
 - c. Collin McKinney
 - d. George Kimble

10. Where did the Texas Rangers attack Adrian Woll's force and cause them to retreat?
 - a. Brazos River
 - b. Salado Creek
 - c. Sabine River
 - d. Trinity Creek

11. The _____ was a new weapon that gave the Texas Rangers an advantage in frontier warfare.
 - a. Double barrel shotgun
 - b. Long rifle
 - c. Cannon
 - d. Colt six-shooter

12. What Cherokee leader served on a decision-making council and formed a strong friendship with Sam Houston?
 - a. Santana
 - b. Quannah Parker
 - c. Chief Bowles
 - d. Chief Ten Bears



13. Who sent an expedition of about 320 people to take control of the Santa Fe region?
 - a. Sam Houston
 - b. David G. Burnet
 - c. Anson Jones
 - d. Mirabeau Lamar

14. Which major issue caused the United States to be divided over the annexation of Texas?
 - a. Slavery
 - b. Texas Navy
 - c. Trade
 - d. Cotton

15. U.S. Senators feared that Texas annexation would spark a war with _____.
a. Argentina
b. Mexico
c. Russia
d. Canada



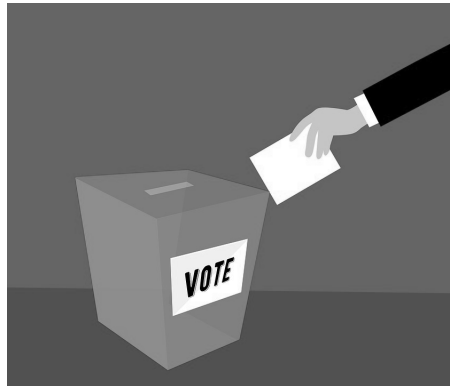
16. What office in the Texas government does this official hold?
a. Comptroller of Public Accounts
b. Commissioner, Railroad Commission of Texas
c. Secretary of State
d. Commissioner of General Land Office
17. How many days did a President of the Republic of Texas have to return a bill before it became law?
a. Five
b. Ten
c. Six
d. Two

- **Levy and collect taxes and imposts, excise and tonnage duties**
- **To borrow money**
- **To pay the debts**
- **Provide for the common defense and general welfare of the Republic**

18. Which branch of the Republic of Texas government was responsible for these duties?
a. Executive
b. Church
c. Judicial
d. Legislative
19. The _____ was vested with judicial powers in the Republic of Texas.
a. Senate
b. House of Representatives
c. Supreme Court
d. President

20. Who was NOT eligible to hold the office of Executive in the Republic of Texas?
a. Plantation owners
b. Minister of the gospel or priest of any denomination
c. Business owners
d. Students

21. What action had to happen before anyone chosen or appointed to an office of trust or profit could begin their duties?
- a. Sign a nondisclosure agreement
 - b. Take a religious test
 - c. Fill out information forms
 - d. Take an oath to support the Constitution of the Republic and an oath to the office
22. A person was not to be imprisoned for _____ in the Republic of Texas.
- a. Slander
 - b. Fraud
 - c. Debt
 - d. Burglary
23. According to the Bill of Rights, what cannot disqualify a person from giving evidence in Texas courts?
- a. Religious opinion
 - b. Land ownership
 - c. Intelligence
 - d. Political opinion
24. Why might an accused person be denied bail?
- a. Theft
 - b. Capital offense when proof is evident
 - c. Trespassing
 - d. Speeding tickets

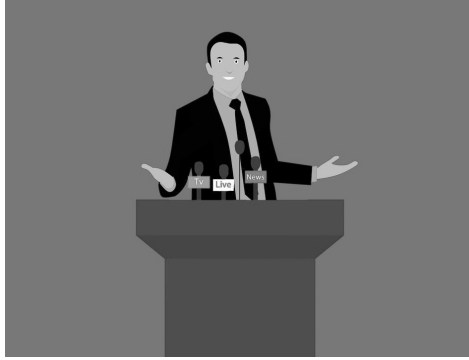


25. How did Framers solve the potential problem of public opinion standing in the way of sound decision making?
- a. Federalism
 - b. Republicanism
 - c. Checks and balances
 - d. Separation of powers

“We the people of the United States, . . . do ordain and establish this Constitution for the United States of America.”

26. This quote clearly spells out who gives the government its power?
- a. Limited government
 - b. Individual rights
 - c. Popular sovereignty
 - d. Republicanism

27. What agreement, established by the men who sailed together, called for laws for the good of the colony and set forth the idea of self-government?
- a. Emancipation Proclamation
 - b. Doctrine of Nullification
 - c. Platt Amendment
 - d. Mayflower Compact
28. Which colonial document extended voting rights to non-church members, limited the power of the governor and expanded the idea of representative government?
- a. Fundamental Orders of Connecticut
 - b. Monroe Doctrine
 - c. Social Gospel
 - d. Wilmot Proviso
29. What is the Three-Fifths Compromise?
- a. Series of laws enacted in 1820 to maintain the balance of power between slave and free states
 - b. Constitutional Convention's agreement on how to count a state's slaves as population for purposes of representation and taxation
 - c. Policy of U.S. opposition to any European interference in the Western Hemisphere
 - d. Agreement that resolved an 1876 election results
30. Who was widely credited with proposing the Great Compromise?
- a. Roger Sherman
 - b. John Adams
 - c. Thomas Jefferson
 - d. Patrick Henry
31. What impact did the Bill of Rights have on the passage of the U. S. Constitution?
- a. Some states said they would vote no on the Constitution if a Bill of Rights was added
 - b. It would have no influence on the passage of the Constitution
 - c. Several states approved the Constitution only if a list of guaranteed freedoms was added
 - d. One state said it would vote for the passage of the Constitution
32. Which civic responsibility is especially important to persons over the age of 18?
- a. Help one's family
 - b. Take responsibility for one's behavior
 - c. Receive an education
 - d. Serve on juries
33. What were the sixteen pamphlets written between 1776 and 1783 that the British could have charged Thomas Paine with a crime for writing?
- a. *Johnny Tremain*
 - b. *The American Crisis*
 - c. *Poor Richards Almanac*
 - d. *Little Women*



34. What Amendment to the U. S. Constitution guarantees this freedom to citizens?
- Three
 - Ten
 - Five
 - One
35. A _____ government is the type that even the people who make the laws must obey them.
- Limited
 - Traditional
 - Market
 - Unlimited
36. What is not a type of unlimited government?
- Dictatorship
 - Absolute monarchy
 - Constitutional monarchy
 - Military Regime
- **Ready supply of natural resources**
 - **Plentiful supply of raw materials**
 - **Source of people**
37. Because of these resources, where did the Industrial Revolution begin?
- Britain
 - Chile
 - Belgium
 - India
38. What is monotheism?
- Many gods
 - One God
 - Ancient system of writing
 - Preserved immediately after death
39. Which nation has one of the lowest infant death rates in the world and its literacy rate is almost 100 percent?
- Afghanistan
 - Congo
 - Japan
 - Bolivia
40. Why is Luxembourg so economically attractive to foreign countries?
- Tourism
 - Climate
 - Precious gems
 - Location and people are multilingual

**UNIVERSITY INTERSCHOLASTIC LEAGUE
2023-24 A+ SOCIAL STUDIES
SPRING DISTRICT TEST —GRADES 7 & 8**

Answer Key

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