A+ Junior High Calculator

Test Writer’s Perspective

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Azle Junior High – (1974 – 1982)
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UIL JH Calculator Applications Contest

The calculator applications contest is designed to stimulate the development of mathematical and calculator skills for students in grades 6,7 and 8. Goals are both intellectual and practical: developing mathematical reasoning and knowledge and requiring the application of problem-solving skills toward realistic problems.

Students will take a test containing 80 problems in 30 minutes. The contest consists of problems which, may include calculations involving addition, subtraction, multiplication, division, roots, and powers. It also includes straightforward calculation problems (number crunchers), and simple geometric and stated problems similar to those found in recently adopted textbooks.

Students may use any silent, hand-held calculator that does not require auxiliary electric power. The calculator data and program memory should be cleared prior to the contest.

Students **may not** use pre-recorded programs during the contest.

Students may also use additional paper (provide by the contest director) besides writing on the contest paper itself.

Only answers should be written in the answer blank and once an answer has been written in the answer blank that answer blank should be graded as an attempted answer. Answers may be written in standard numerical format or in scientific notation format as described on the cover sheet.

It is expected that the student will become very familiar with the characteristics of the tool (calculator) that they are using in the

problem solving process. They should be familiar with all the conversions that are available to them via their calculator.

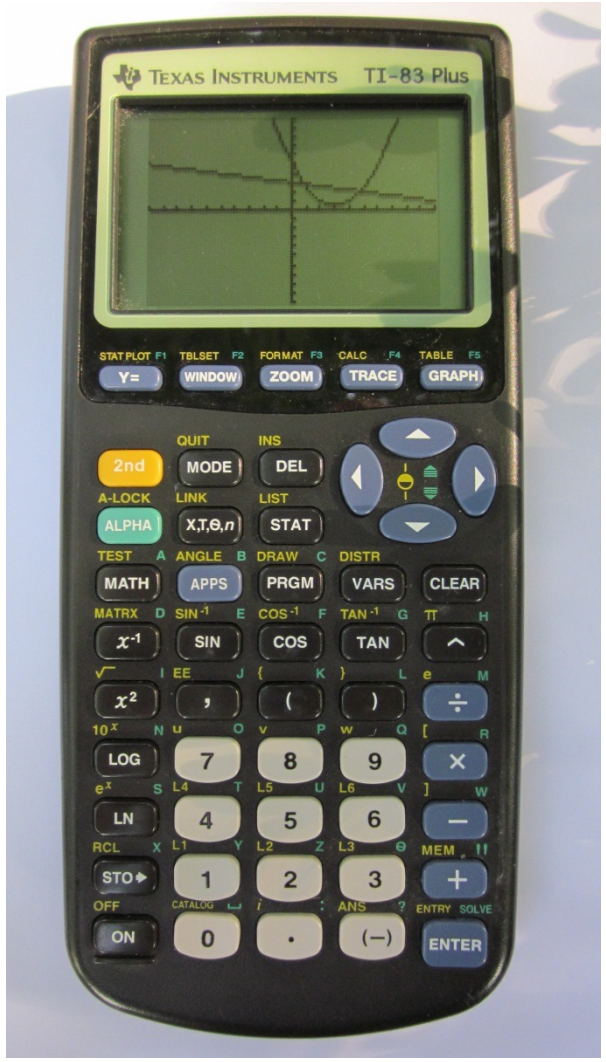
Some conversions the students should know and may not be on their calculator (memorize if need be) are:

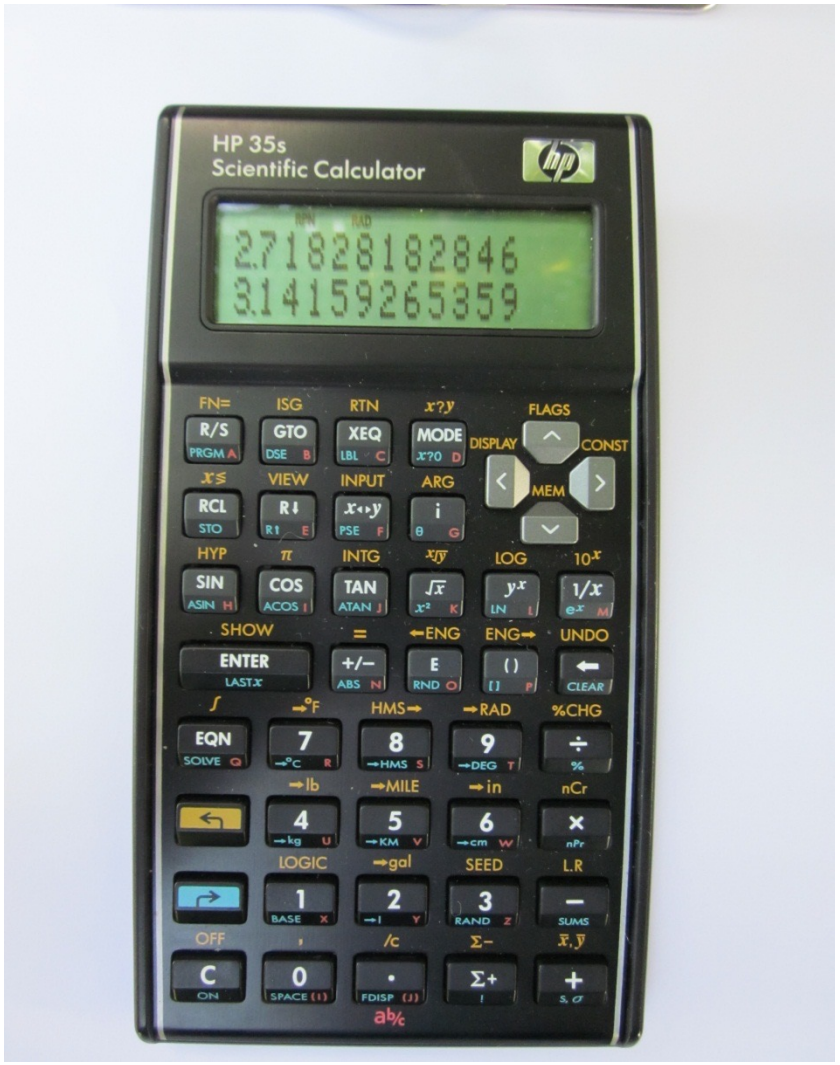
(1) US monetary conversions
(2) English system linear measurement conversion
(3) Standard time unit conversions
(4) Standard English area and volume conversions
(5) Number of days in months
(6) Metric unit conversions
(7) Temperature conversions
(8) Certain Metric to English conversions

Conversion factors can currently be found on page 94 of the "UIL Calculator Applications Contest Manual"

Any other required conversions will be given in the problem.

Examples of Typical Calculators





The format of the middle school calculator contest is **NOT** the same as the high school calculator contest.

Problems 1 – 10	(number crunchers)	**P.1**
Problems 11 – 13	(stated problems)	**P.1**
Problems 14 – 23	(number crunchers)	**P.2**
Problems 24 – 26	(stated problems)	**P.2**
Problems 27 – 34	(number crunchers)	**P.3**
Problems 35 – 36	(stated problems)	**P.3**
Problems 37 – 38	(geometry problems)	**P.3**
Problems 39 – 46	(number crunchers)	**P.4**
Problems 47 – 48	(stated problems)	**P.4**

2015 - 2016 UIL MS/JH Calculator Test A

Page 16X-1

16X-1. 8010 + 7000 ---------- 1=_____

16X-2. 24 – 28 – 11 ---------- 2=_____

16X-3. 7.8 + 12.2 + 16.1 ---------- 3=_____

16X-4. 14 – 20 – π + 13 ---------- 4=_____

16X-5. 342 – 307 – 830 + 694 ---------- 5=_____

16X-6. 19 – 114 – 152 – 51.2 + 28.5 ---------- 6=_____

16X-7. 0.718 + π – 1.04 + 0.968 + 0.237 ---------- 7=_____

16X-8. π + 4.46 + 4.37 + 4.48 + 3.77 ---------- 8=_____

16X-9. 72.1 x 604 x 53.3 ---------- 9=_____

16X-10. 346 x 583 x 254 x 90.3 ----------10=_____

16X-11. If pi is added to $\sqrt{\pi}$ what is the result? ----------11=_____

16X-12. It rained at my house 3.25 inches on Monday, 2.10 inches on Wednesday and 4.75 inches on Saturday. What was the average rainfall for those three days? ----------12=_____ in

16X-13. The fuel tank on my car has 28.8 gallons of fuel. If, on average, my car gets 15.2 miles per gallon (mpg), what is the maximum distance my car can travel on the fuel in its tank?----------13=_____ mi

Page 16X-2

16X-14. (514/450)[158 – 403] ----------14=_____

16X-15. 49 – [79/76 + 7.4] ----------15=_____

16X-16. $\left[\frac{141}{122}\right]$ [(102/194) + 0.23] ----------16=_____

16X-17. $\{165/267\}\left[\frac{88}{79 + 215}\right]$ ----------17=_____

16X-18. $\left[\frac{(0.074 + 0.0985)}{239/31}\right]\left[\frac{0.67}{0.284}\right]$ ----------18=_____

16X-19. $\frac{(55/109) + (47/64)}{(0.0591 - 0.0863)}$ ----------19=_____

16X-20. $\frac{(1090)(3.24)}{1.31}$ (1.2 – 3.49) ----------20=_____

16X-21. (0.00692)[337/228 x 344/242] – 0.00283 ----------21=_____

16X-22. $\frac{(3700 \times 8650)/4360}{(7600 \times 0.179) + 1350}$ ----------22=_____

16X-23. $\left[\frac{1510 + 710}{1490 - 159}\right]\left[\frac{602}{752}\right]$ ----------23=_____

16X-24. A machine used for digging is sometimes referred to as a "backhoe". If this machine digs a rectangular shaped "hole" that measures 4' by 7' by 9', how much dirt is removed?----------24=_____ cu.yds.

16X-25. A train that uses magnetism for levitating the train body has been recorded at traveling 375 miles per hour (mph). If the distance from Houston to Dallas is 239.0 miles, how long would it take this train to travel this distance? ----------25=_____ min

16X-26. A software applications listed the distance from Austin to Brownsville as 351 miles. The application also stated that it would take 5 hours, 5 minutes to travel the distance. What average speed did the program use to get that time? ----------26=_____ mph

16X-27. $\dfrac{(5.11 + 6.36)(509 + 100)}{(1.11\text{x}10^{12})}$ ----------27=_____

16X-28. $(0.051)[(0.123/0.249)(6.68/7.9)]$ ----------28=_____

16X-29. $(0.38)[(65.7/12.3)(0.0128 + 0.0279)]$ ----------29=_____

16X-30. $\dfrac{(12.3 + 6.36)}{(4.32\text{x}10^{10})}$ ----------30=_____

16X-31. $\dfrac{1}{1330} + \dfrac{1}{(\pi)(5470 - 4240)}$ ----------31=_____

16X-32. $[11.8]\left[\dfrac{1/447}{1/484}\right]$ ----------32=_____

16X-33. $\left[\dfrac{1/385}{1/298}\right] + [0.519]$ ----------33=_____

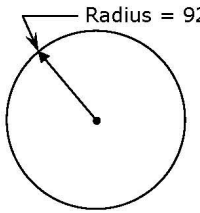
16X-34. $\dfrac{1}{1190} - \dfrac{1}{742} + \dfrac{1}{979}$ ----------34=_____

16X-35. In a game, children were required to roll a 30-inch diameter tire from one goal line to the opposite goal line of a football field in the shortest time. If the children took the most direct route, how many complete revolutions did the tire rotate? (A football field is 100 yards long.)-------35=_____rev(integer)

16X-36. A gallon contains 231 cubic inches. If a water hose has an inside diameter of ¾ inch and the hose is 100 feet long, how much water is in this hose? ----------36=_____gal

16X-37.

CIRCLE

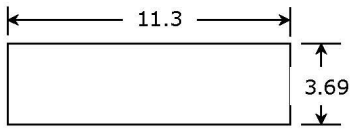


Circumference = ?

16X-37= _____

16X-38.

RECTANGLE



Perimeter = ?

16X-38 = _____

16X-39. $\dfrac{(10100 + 12600)^3}{(0.123 - 0.0242)^2}$ ----------39=_____

16X-40. $\left[\dfrac{94.4}{79.6}\right](7.14 + 14.5)^3$ ----------40=_____

16X-41. $\left[\dfrac{2350 + (1/(2.32\text{x}10^{-4}))}{(5660/1060) - 2.43}\right]^2$ ----------41=_____

16X-42. $\sqrt{1460 - 897 + 562} - \sqrt{1310}$ ----------42=_____

16X-43. $(1/(0.00443))(51300 - 9670)^3$ ----------43=_____

16X-44. $(1/\pi)\sqrt[4]{\dfrac{0.0875 + 0.225}{2.67 - 2.47}}$ ----------44=_____

16X-45. $\dfrac{(594 + 461)^{1/3}}{(6840 - 2820)^{1/3}}$ ----------45=_____

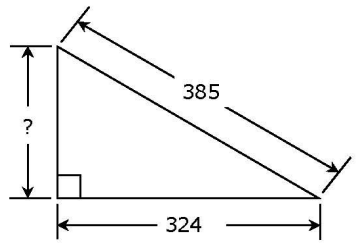
16X-46. $\dfrac{1}{\sqrt{131 + 109 + 59.8}} + \left(\dfrac{1}{\sqrt{9.47}}\right)^2$ ----------46=_____

16X-47. Two bicyclists are travelling toward each other. One is traveling at a speed of 30 kilometers per hour (km/h) and the other is traveling at a speed of 27 km/h. After they pass each other, and assuming they are traveling in straight lines, how long will it take them to be 80 kilometers from each other?----------47=_____hrs

16X-48. One of the benefits of working for a certain store is that I get a 20% discount on all items I buy for myself. If I paid $64.16 for some items, what was the cost of the items before the discount? ----------48=$_____

16X-49.

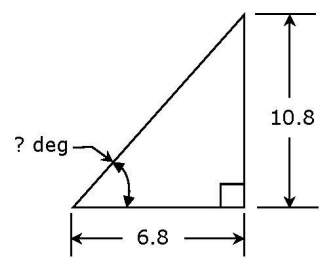
RIGHT TRIANGLE



16X-49= _____

16X-50.

RIGHT TRIANGLE



16X-50 = _____

16X-51. $\sqrt{\frac{3.06\times10^{-10}}{(0.314)(0.0943)} + \frac{(13.6 - 23.5)}{(22400 + 19600)}}$ ----------51=_____

16X-52. $\left[\frac{7590 - 5150 + \sqrt{2.41\times10^{9}/1410}}{-153 + 247}\right]^{-2}$ ----------52=_____

16X-53. $\frac{(2.79 + 8 - 2.88)^{4}}{\sqrt{0.0694 + 0.0324 + 0.0585}}$ ----------53=_____

16X-54. $4440 + \sqrt{(2640)(3200)} - (2340 + 4080)$ ----------54=_____

16X-55. $0.129 + \sqrt{(62.6)/(3340)} - (0.21 + 0.0913)^{2}$ ----------55=_____

16X-56. $\sqrt{\frac{(35800)(1.26\times10^{5})}{(2.61\times10^{5})(3150)}} - 0.84 + 1.73$ ----------56=_____

16X-57. $\sqrt{\frac{(3.93)(19.2)}{(160) + (87.5)}} + 1/(0.906)^{-6}$ ----------57=_____

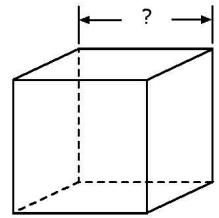
16X-58. $\sqrt{\frac{(451)(5.56)}{(3610) + (2620)}} - 1.03$ ----------58=_____

16X-59. In one year, Albert earned the same interest from an investment at 8% annual interest as an investment at 12% annual interest. If he had invested $1500 more in the 8% account, how much money did he have invested at 12%? ----------59=$_____

16X-60. Dan is making a picture frame whose length will be 4 inches greater than its width. The frame will have a uniform width of 2 inches. If the area of the frame will be 192 square inches, what will be the area of the resulting space for the picture? ----------60=_____ in^2

16X-61.

CUBE

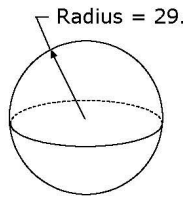


Volume = 0.825

16X-61= _____

16X-62.

SPHERE



Surface Area = ?

16X-62 =_____

16X-63. $\frac{31!}{14!} + 24!$ ----------63=_____

16X-64. (deg) $(2.75 + 2.12)\tan(10.8°)$ ----------64=_____

16X-65. $(321 - \pi)e^{0.694}$ ----------65=_____

16X-66. (rad) $\frac{\cos(62.3)}{513/506}$ ----------66=_____

16X-67. (deg) $[5.76]\tan(22.3° - 23.1°)$ ----------67=_____

16X-68. (deg) $\frac{\tan(328°)}{19 + 10.6}$ ----------68=_____

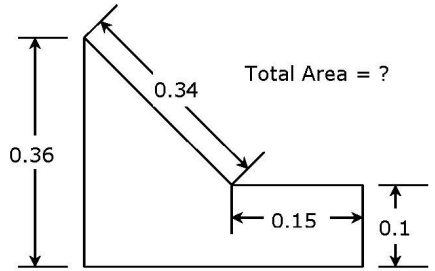
16X-69. (deg) $\frac{\sin(531°) - \tan(531°)}{\sin(531°)}$ ----------69=_____

16X-70. $(5380 - 1210)^{\frac{0.364 - 0.146}{}}$ ----------70=_____

16X-71. A boat travels 60 miles with the river current in one and one-half hours. The return trip takes two hours. What is the speed of the river current? ----------71=_____ mph

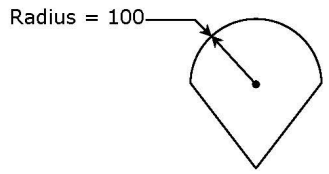
16X-72. Mackenzie can mow the lawn twice as quickly as Wesley. Together they can do the mowing job in 4 hours. How long would it take Wesley to mow the lawn alone?----------72=_____ hrs

16X-73.
RIGHT TRIANGLE & RECTANGLE



16X-73= _____

16X-74.
SEMICIRCLE & EQUILATERAL TRIANGLE



Total Area = ?

16X-74 = _____

16X-75. $\dfrac{(0.638)^{0.679}(48.8)^{0.512}}{(14.3 - 6.33)^{-3}}$ ----------75=_____

16X-76. $\dfrac{0.0178 + \sqrt{(0.0143)(0.0138)} + (0.0918)(0.745)}{\sqrt{\sqrt{0.0126 + 0.0109}}}$ ----------76=_____

16X-77. $2\text{Log}\sqrt{\dfrac{(6.52)(7.62)}{30.1 + 49.3}}$ ----------77=_____

16X-78. $\dfrac{\text{Log}[3490 + (46.5)(180)]}{0.71 + \text{Log}[14.6 + 3.48]}$ ----------78=_____

16X-79. $1 + 3 + 5 + \ldots + 279$ ----------79=_____

16X-80. $(0.81) - \dfrac{(0.81)^2}{2} + \dfrac{(0.81)^3}{3} - \dfrac{(0.81)^4}{4}$ ----------80=_____

All number cruncher problems and all geometry problem answers must be written in three significant digit (SD) format.

Example-1

Display reads: 2345.77

Answer should be written as 2350 or 2.35×10^{3}

Example-2

Display reads: 0.000803111

Answer should be written as: .000803 or 8.03×10^{-4}

Note you **do not** have to write the leading zero.

Example-3

Display reads: 99

Answer should be written as: 99.0 or 9.90×10^{1}

All problems that require an integer answer will have the word "Integer" in the answer blank and have to be written as an integer number. No scientific notation can be used. All monetary problems requiring a US-dollar "$" answers must be written to the cent.

Example-4

Display reads: 456.7072

Answer is: 456.71

Note that problems that require cent, "¢", answers must be written in 3-SD format

There are **fourteen** stated problems. Some stated problems just involve a straightforward calculation. Some stated problems that you might see involve motion with average speed where the problems use the distance = rate x time formula. Another type of motion problem involves motion where acceleration is involved. The formulas for these problems are more complicated, and in most instances, will be given in the problem itself. There may be problems related to probability/odds; some related to the Pythagorean relationship; some involving simple interest; some involving solving ratios; some related to consumer arithmetic; some involving conversions of one quantity to another that are not listed on the conversion table; some problems that involve not only simple percent concepts, but also percent problems involving percent increase/decrease and percent error; some problems where the

formula for some process is described and the student is required to interpret the words to produce the formula in order to solve the problem. Some stated problems that you might see are in an algebra I course and could require the use of the quadratic formula. There may be some stated problems whereby students are required to use a geometric formula.

Example-5

The sum of pi, 12.8 and the positive value of $\sqrt{12}$ is equal to what number? ---------- 11=_____

$\pi + 12.8 + \sqrt{12} = 19.40569\ldots$

19.4 or 1.94×10^1

Example-6

If every Cupro-Nickel dime has a mass of 2.268 grams, at most how many dimes are in a mass of 2.50 kilograms of dimes? ---------- 13=____dimes(Integer)

$$2.50\cancel{kg} \times \left(\frac{1000\cancel{g}}{1\cancel{kg}}\right) \div \left(\frac{2.268\ \cancel{g}}{1\ \text{dime}}\right) = 1102.2927\ldots\ \text{dimes}$$

1102

Example-7

The speed of a radio wave traveling through space is 3.00×10^5 km/s. How long would it take a radio wave to travel from Jupiter to Earth, an average distance of 6.29×10^8 kilometers?---------- 25=_____s

$(6.29 \times 10^8 \text{ km}) \div (3.00 \times 10^5 \text{ km/s}) = 2096.666\ldots$

2100 or 2.10×10^3

Example-8

What is the volume in a pipe that measures three-quarters of an inch in inner diameter and is one-quarter mile long?---------- 47= _____ in^3

Volume of a cylinder (pipe) = $\pi r^2 l$; where r = radius and l = length

$$V_{pipe} = \pi(.75\ in/2)^2 \times \left[0.25\ \cancel{mi} \times \left(\frac{5280\ \cancel{ft}}{1\ \cancel{mi}}\right) \times \left(\frac{12\ in}{1\ \cancel{ft}}\right)\right]$$

V_{pipe} = 6997.8976 . . .

7000 or 7.00×10^3

Example-9

One morning a 30-foot flagpole cast a shadow that measured 49 feet, 8.5 inches long. At the same time, how long of a shadow would Dan cast if he is standing 5 foot, 10 inches tall?---------- 25=_____ft

$$\frac{30\ \text{ft}}{49\ \text{ft} + 8.5\ \text{in}/12} = \frac{5\ \text{ft} + 10\ \text{in}/12}{S}$$

S = 9.66509 . . .

9.67 or 9.67×10^0

Example-10

The distance traveled when something is uniformly changing speeds (accelerating) is found by taking the average of the beginning and final speeds and multiplying that average by the time it took to change speeds. So, how far does a car travel during the 5.0 seconds it took to uniformly speed up from 55 miles per hour (mph) to 65 mph?---------- 59=_____ft

Formula ➔ dist. = $(s_1 + s_2)/2 \times (t)$; **where s = speed and t = time**

$$\text{dist} = \left(\frac{55\text{mph} \times (22/15) + 65\text{mph} \times (22/15)}{2} \right) \times (5.0\text{s})$$

dist = 440

440 or 4.40×10^2

NOTE: 22/15 converts mph to ft/s!

Example-11

Twice a certain number, greater than 1, plus its reciprocal is 10. What is that number?----------72=_____

$2n + 1/n = 10 \rightarrow 2n^2 + 1 = 10n \rightarrow 2n^2 - 10n + 1 = 0$

$$n = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \qquad n = \frac{-(-10) \pm \sqrt{(-10)^2 - 4(2)(1)}}{2(2)}$$

n = 0.204168 . . . **or** 4.8979 . . . **n > 1**

4.90 or 4.90×10^0

Example-12

Mrs. Saenz, the science teacher, normally picks students at random to answer questions about the topic she is teaching that day. If there are 11 girls and 12 boys in her class what is the probability that Mrs. Saenz will pick a girl to answer the first question of class?----------36=_____

$$P(G) = \frac{11}{11+12}$$

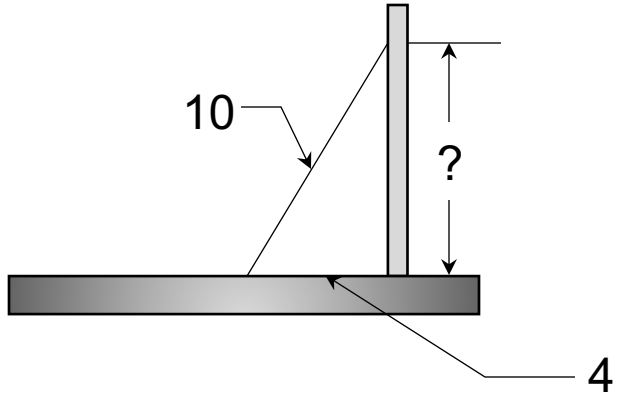
$$= 0.47826\ldots$$

.478 or 4.78×10^{-1}

Example-13

Dan took a 10 ft long ladder and leaned it up against a wall. Safety instructions that came with the ladder indicated that the bottom of the ladder should be no further than 4 feet from the wall. What is the lowest possible height reached up the wall the top of the ladder could reach following safety standards?---- 47=_____ft

Pythagorean relationship!



$h = \sqrt{10^2 - 4^2}$

$= 9.16515\ldots$

9.17 or 9.17×10^0

Example-14

One day, it was Sarah's turn to only pay the 15% gratuity (tip) for the meal she and her four girl friends had. If the bill, with tax, came to $48.75, how much did Sarah pay?----------35=$_____

G = ($48.75) x (0.15)

= 7.3125 . . .

7.31

Example-15

When Anna turned 15 years old, her parents provided a quinceañera party that lasted 4 hours and included 75 guests. If the building rental was $125/hour, the band cost $100/hour and guests were fed at the rate of $12.50/guest, how much did the party cost?--------36=$_____

C = ($125/~~hr~~)x(4 ~~hr~~) + ($100/~~hr~~)x(4 ~~hr~~) + ($12.50/~~guest~~)x(75 ~~guests~~)

= 1837.5

1837.50

In the A+ calculator applications contest there are three types of percent comparison problems to be solved.
They are:

(1) Percent Error
(2) Percent Increase
(3) Percent Decrease

These problem types are different than the ones that basically just compare two quantities, i.e., *1.25 grams is what percent of 4 ounces?*

Let's look at each problem type equation and an associated example.

Percent Error

Equation ➔ $\%\text{Error} = 100\,x\left[\frac{\text{approximate}}{\text{exact}} - 1\right]$

Example – 16

What is the percent error in using 22/7 for pi?-------13=_____%

$$\%\text{Error} = 100\,x\left[\frac{22/7}{\pi} - 1\right]$$

$= 0.40249\ldots$ **.402 or 4.02×10^{-1}**

Example – 17

What is the percent error in using 365 days/year given that a year is defined as 365.256 days?----------13=_____%

Percent Error

Equation ➔ $$\%\text{Error} = 100 \times \left[\frac{\text{approximate}}{\text{exact}} - 1 \right]$$

$$\%\text{Error} = 100 \times \left[\frac{365}{365.256} - 1 \right]$$

$$= -0.070087 \ldots$$

-.0701 or -7.01×10^{-2}

Percent Increase

Equation ➔ $\%\text{Increase} = 100 \times \left[\frac{\text{Larger Number}}{\text{Smaller Number}} - 1 \right]$

Example – 18

What is the percent increase for \$125 and \$100?---13=_____%

$\%\text{Increase} = 100 \times \left[\frac{125}{100} - 1 \right]$

= 25 . . .

25.0 or 2.50×10^1

Example – 19

What is the percent decrease for $125 and $100?--13=_____%

Percent Decrease

Equation ➔ $$\%\text{Decrease} = 100 \times \left[1 - \frac{\text{Smaller Number}}{\text{Larger Number}}\right]$$

$$\%\text{Decrease} = 100 \times \left[1 - \frac{100}{125}\right]$$

= 20 . . .

20.0 or 2.00×10^1

As you have may have noticed the percent increase and percent decrease equations are set up so that the **answers are always positive**. This is a case where one of those rules in the calculator contest may not be quite the same as those taught in the classroom.

There are eight geometry problems of the 2-dimensional and 3-dimensional nature on pages 3, 4, 6 and 7. Typical geometric figures would be circles, squares, triangles (isosceles, equilateral, right, scalene), rectangles, rhombus, parallelograms, trapezoids, cubes, rectangular boxes, spheres, right cylinders, right cones and square-base pyramids.

All the formulas you will need are currently on pages 95 – 100 of the UIL Calculator Applications Contest Manual.

The student should also know the formulas associated with finding angles and sides of right triangles using the sine, cosine and tangent functions.

In addition, the student should be able to find areas (total and lateral surface) and volumes for the geometric figures mentioned

earlier.

Finally, the student should be able to solve geometry problems involving variations of the geometry figures. The student may see problems with hemispheres, three-quarter-circles, figures where a combination of geometric figures are involved such as cone & hemisphere, square & triangle, cube & hemispherical hole, etc.

Geometry Problems

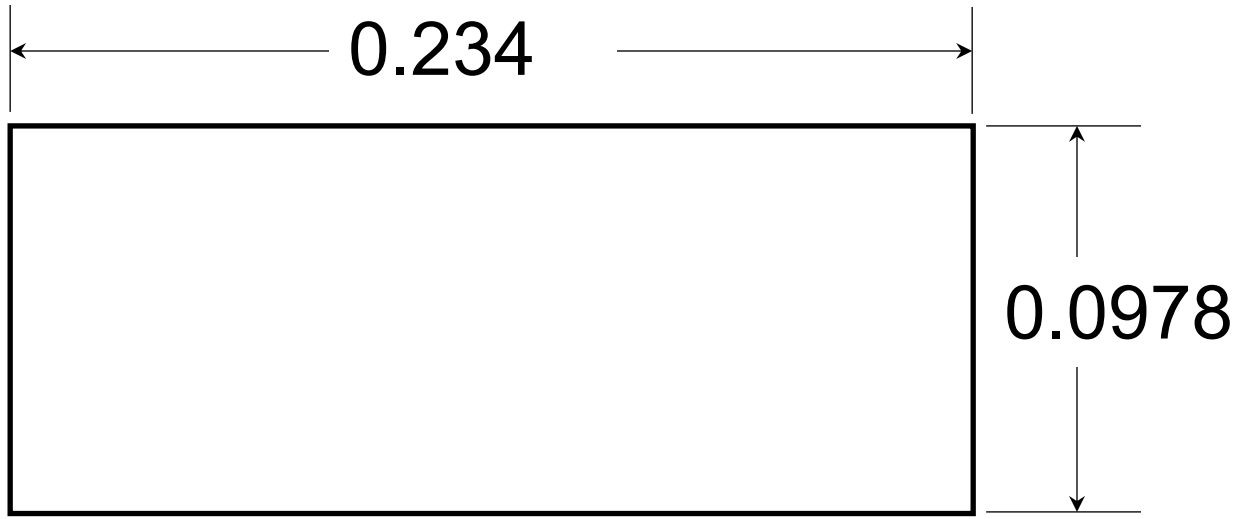
Example – 20

$P = (2)(.234 + .0978)$

$P = 0.6636$

$.664$ or 6.64×10^{-1}

37. RECTANGLE



Perimeter = ?

37 = _____

Geometry Problems

Example – 21

$C = \pi \times (\text{diameter})$

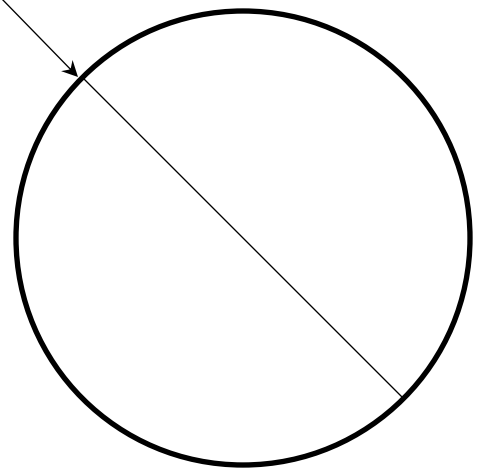
$C = \pi \times (0.613)$

$C = 1.92579 \ldots$

1.93 or 1.93×10^0

38. CIRCLE

Diameter = 0.613



Circumference = ?

38 = _____

Geometry Problems

Example – 22

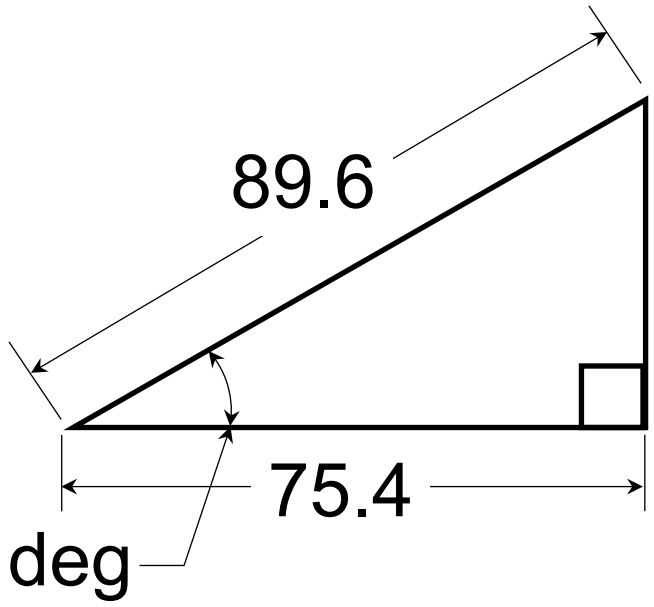
Cos? = 75.4/89.6

? = arccos(75.4/89.6)

? = 32.6992 . . .

32.7 or 3.27×10^1

50. RIGHT TRIANGLE



50 = _____ deg

Geometry Problems

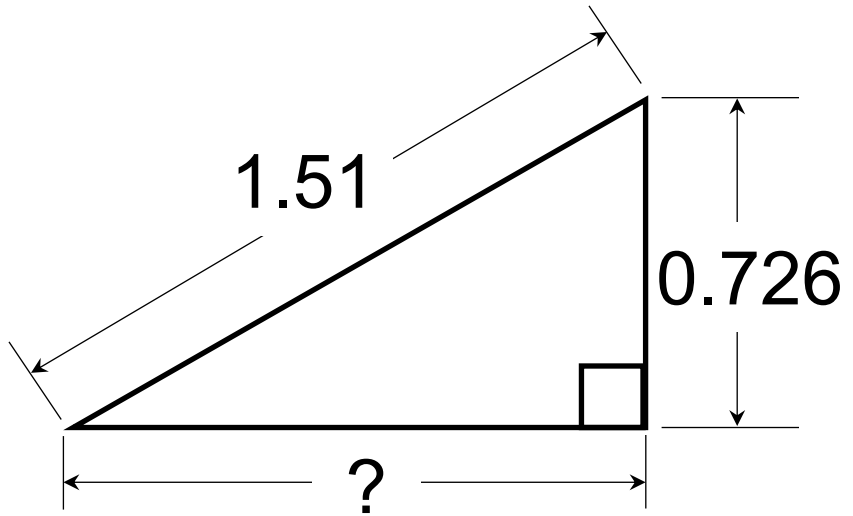
Example – 23

$$? = \sqrt{1.52^2 - 0.726^2}$$

$$? = 1.3354 \ldots$$

1.34 or 1.34×10^0

49. RIGHT TRIANGLE



49 = _____

Geometry Problems

Example – 24

$SA = 4\pi r^2$

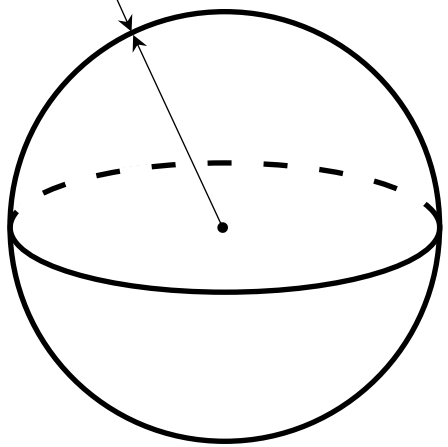
$SA = 4\pi(0.00783)^2$

$SA = 0.00077043\ldots$

0.000770 or 7.70×10^{-4}

61. SPHERE

Radius = 0.00783



Surface Area = ?

61 = _____

Geometry Problems

Example – 25

$$V = \frac{1}{3}\pi r^2 h$$

$$h = \sqrt{0.0725^2 - 0.0138^2}$$

$$h = 0.071174\ldots$$

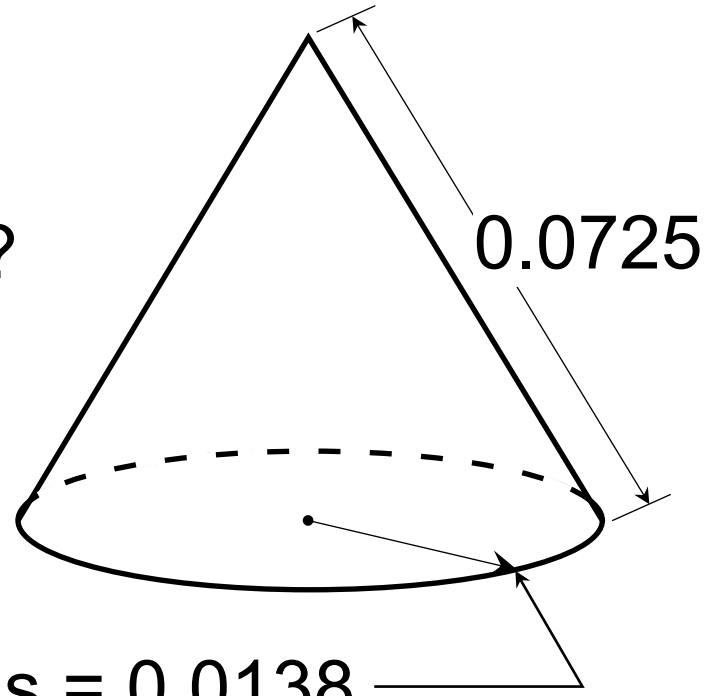
$$V = \frac{1}{3}\pi(0.0138)^2(0.07117)$$

$$V = 0.000014194\ldots$$

0.0000142 or 1.42×10^{-5}

62. RIGHT CIRCULAR CONE

Volume = ?



62 = _____

Geometry Problems

Example – 26

$V_{Remain} = V_{cube} - V_{cone}$

$V_R = ?^3 - (1/3)[\pi(?/2)^2](?)$

Some Algebra Stuff!

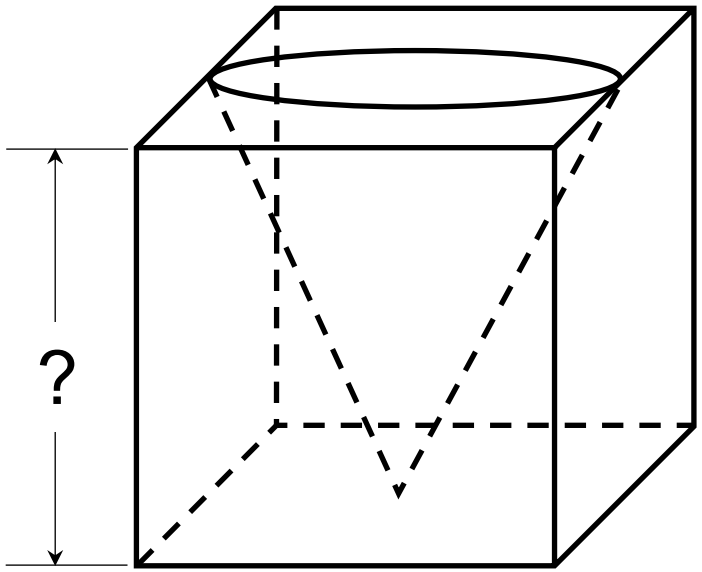
$100 = (?^3)[1 - \pi/12]$

$$? = \sqrt[3]{\frac{100}{1 - \pi/12}}$$

$? = 5.1358\ldots$

5.14 or 5.14×10^0

74. CUBE, RIGHT CONE CAVITY



Remaining Volume = 100

74 = _____

Geometry Problems

Example – 27

$$A_{Total} = s^2 + \frac{s^2\sqrt{3}}{4}$$

$$A_{Total} = 29400^2 + \frac{29400^2\sqrt{3}}{4}$$

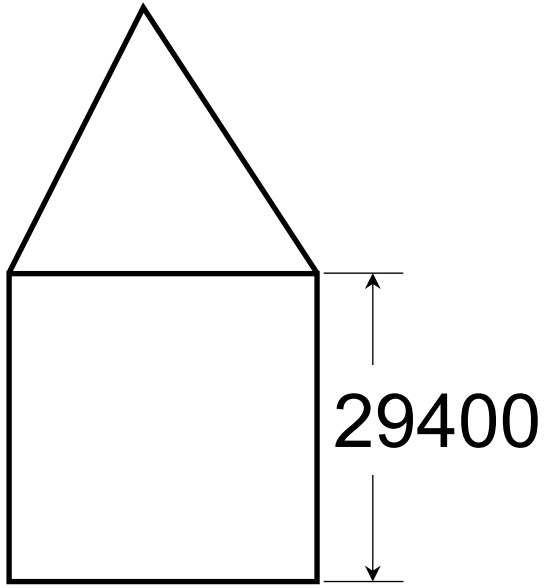
$$A_{Total} = (29400)^2\left[1 + \frac{\sqrt{3}}{4}\right]$$

$$A_{Total} = 1238638859.01\ldots$$

1.24×10^9

73. EQUILATERAL TRIANGLE, SQUARE

Total Area = ?



73 = _____

Practice Problems

(1) A particular cut of meat cost $3.99 per pound. What is the cost of 1.49 pounds of this meat?----------1=$_____

(2) Cd's at a discounts table cost $2.99 plus 8 ¼ % sales tax. How many CD's can I buy with $50? ----------2=_____Integer

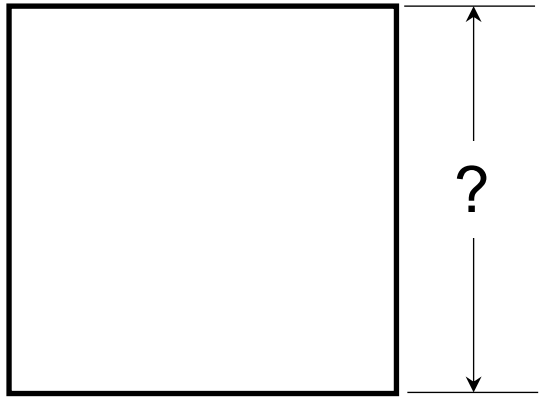
(3) When I turn on my outside faucet, I can fill a 64 fluid ounce can in 5.8 seconds with my garden hose. Using the same hose how long would it take me to fill a 55-gallon barrel?----------3= _____min

(4) What is the percent increase in the price of natural gas if it changes from $4.02 to $4.11 in 24 hours?----------4=_____%

(5) What is the perimeter of an equilateral triangle with an area of 100 square centimeters? ----------5= _____cm

Practice Problems

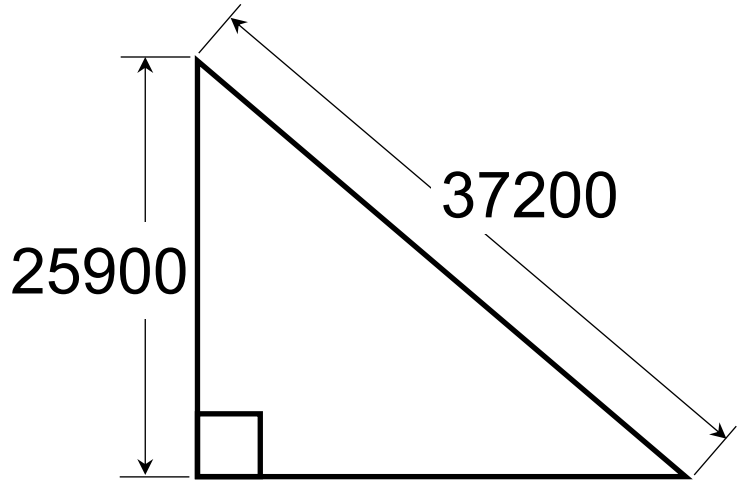
6. Square



Perimeter = 0.00948

6 = _____

7. RIGHT TRIANGLE

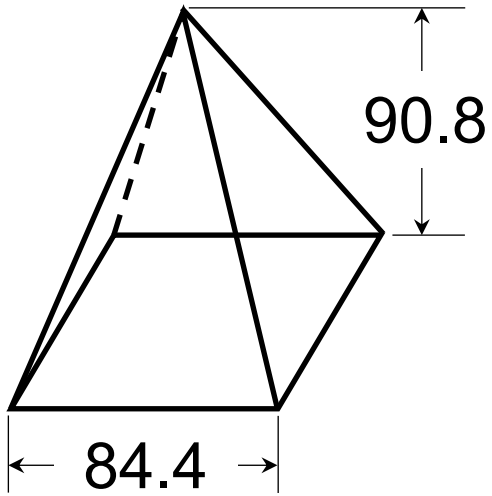


Area = ?

7 = _____

Practice Problems

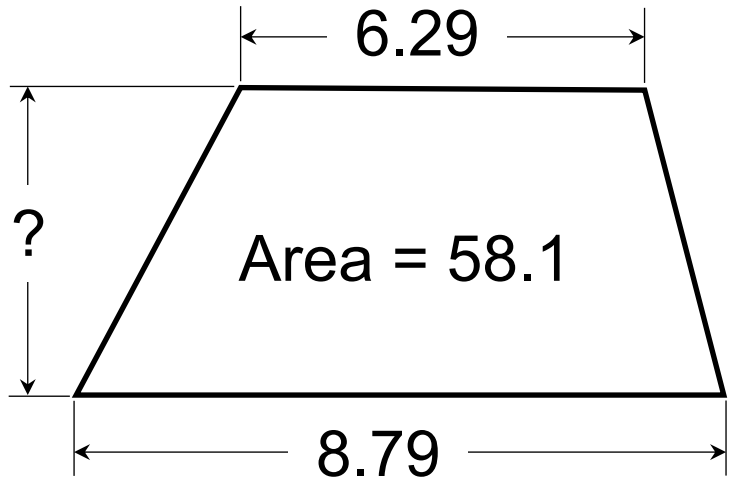
8. SQUARE PYRAMID



Volume = ?

8 = _____

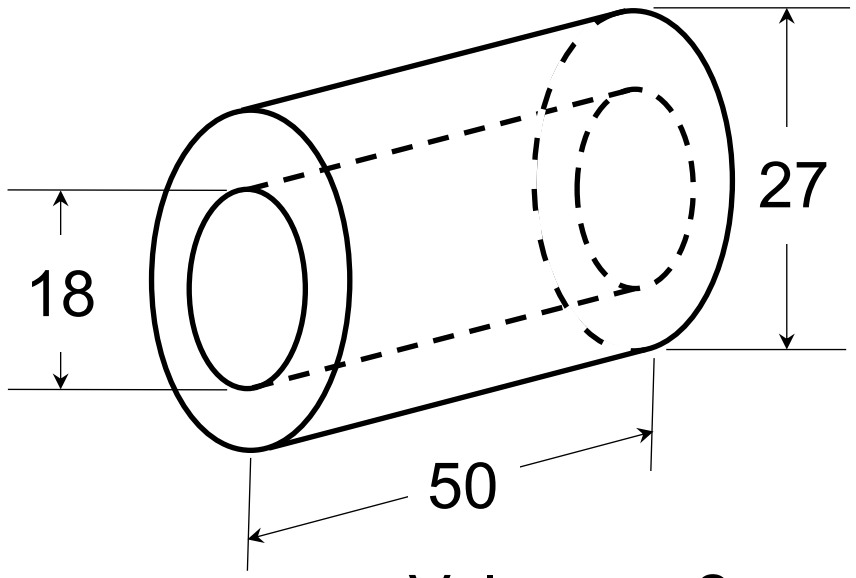
9. TRAPEZOID



9 = _____

Practice Problems

10. CYLINDER WITH CYLINDER CAVITY



Volume = ?

10 = _____

Practice Problems Answers

(1) 5.95 (dollar answer)
(2) 15 (Integer)
(3) 10.6 or 1.06×10^{1}
(4) 2.24 or 2.24×10^{0}
(5) 45.6 or 4.56×10^{1}
(6) 0.0379 or 3.79×10^{-2}
(7) 3.46×10^{8}
(8) 216000 or 2.16×10^{5}
(9) 7.71 or 7.71×10^{0}
(10) 15900 or 1.59×10^{4}

Calculator Resources

A+ Academics Resources

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The Virtual Challenge High School & Middle School Meets

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- Email: cthompson1313@gmail.com
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