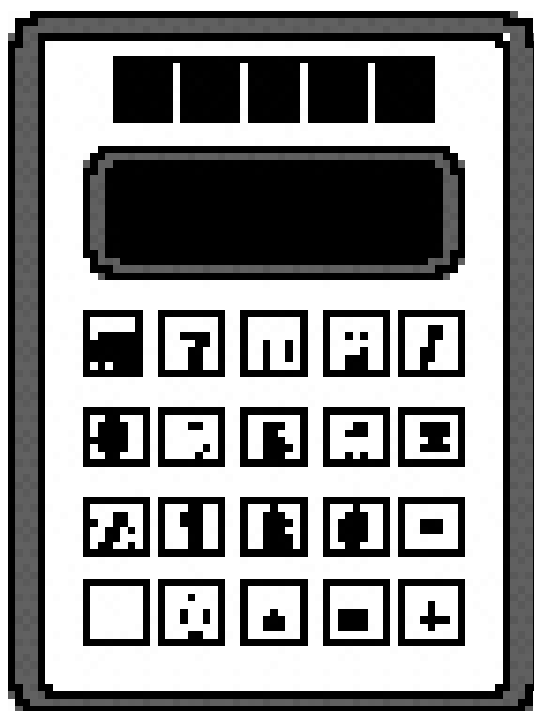


INVITATIONAL 2019-2020

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

How to Write the Answers

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

1. Examples (* means correct but not recommended)

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

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

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

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

B. For stated problems

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

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

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

2020 University Interscholastic League MS/JH Calculator Contest A

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

20X-24. Albert bought a 12-foot long board that actually measured 11' 11³/₄" long. He cut from this board three pieces that each measured 8⁵/₁₆" in length. He then cut the remaining length off the board into 5 equal length pieces. How long was the length of each of the 5 pieces? 24= _____ in

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

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

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

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

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

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

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

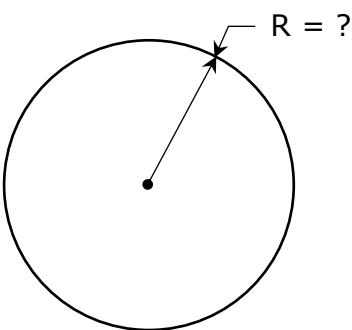
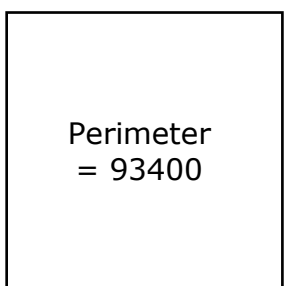
20X-32. $\frac{1}{0.974} + \frac{1}{(\pi)(1.11 - 0.728)}$ ----- 32= _____

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

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

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

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

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

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

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

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

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

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

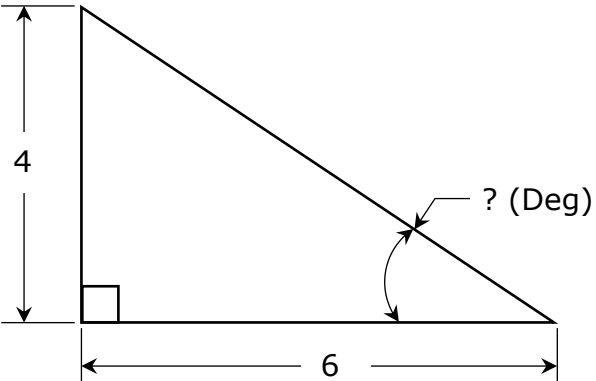
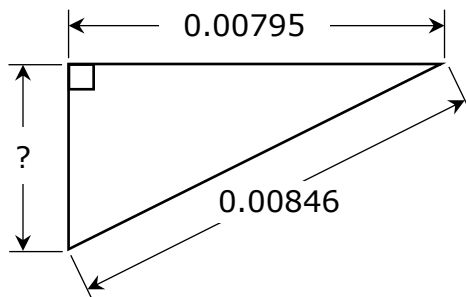
20X-44. $\sqrt{1480 - 628 + 605} - \sqrt{396}$ ----- 44= _____

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

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

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

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

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

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

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

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

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

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

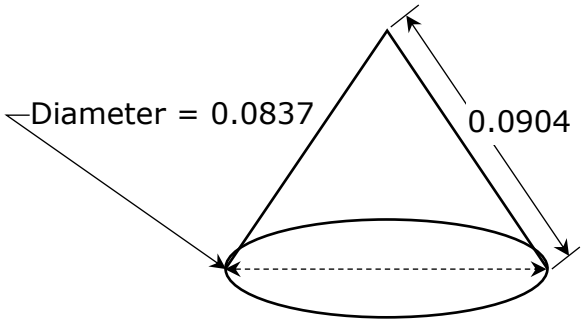
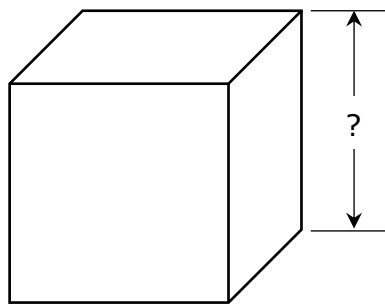
20X-56. $(0.489)^2 \sqrt{(73.4)/(4.05)} - (0.89 + 0.319)$ ----- 56= _____

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

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

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

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

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

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

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

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

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

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

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

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

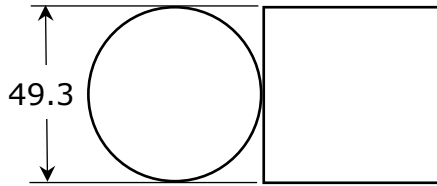
20X-70. $(594 - 309)^{0.416} - 0.383$ ----- 70= _____

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

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

20X-73.

CIRCLE AND SQUARE

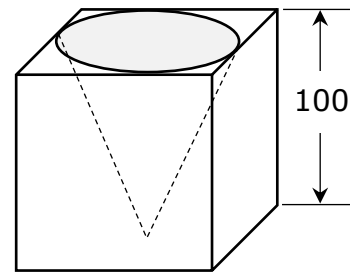


$$\frac{\text{Circle Area}}{\text{Square Area}} = ?$$

20X-73 = _____

20X-74.

CUBE AND RIGHT CIRCULAR CONE CAVITY



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

20X-74 = _____

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

$$20X-25 = 62.22$$

Dollar Answer

$$20X-26 = 1.24$$

Dollar Answer

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

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

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

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

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

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

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

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

$$20X-35 = 47$$

Integer Answer

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

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

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

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

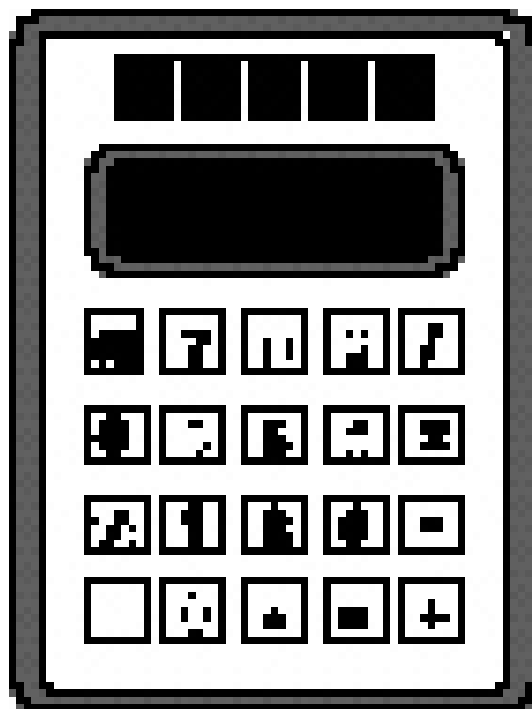
20X-39 = -1.32×10^{13}	20X-51 = 1.68×10^{16}	20X-61 = 0.000147 = 1.47×10^{-4}	20X-73 = 0.785 = 7.85×10^{-1}
20X-40 = 3.57×10^8	20X-52 = 6.71×10^{-18}	20X-62 = 2.14×10^{15}	20X-74 = 738000 = 7.38×10^5
20X-41 = 7.76×10^9	20X-53 = 3.69×10^8	20X-63 = 1.89×10^{25}	20X-75 = 6.57×10^{13}
20X-42 = 3.37 = 3.37×10^0	20X-54 = -46300 = -4.63×10^4	20X-64 = 145 = 1.45×10^2	20X-76 = 0.000643 = 6.43×10^{-4}
20X-43 = 4.82×10^6	20X-55 = 4.35 = 4.35×10^0	20X-65 = 2.51×10^{-31}	20X-77 = -1.76 = -1.76×10^0
20X-44 = 18.3 = 1.83×10^1	20X-56 = -0.191 = -1.91×10^{-1}	20X-66 = -2.95 = -2.95×10^0	20X-78 = 0.699 = 6.99×10^{-1}
20X-45 = 33900 = 3.39×10^4	20X-57 = -109 = -1.09×10^2	20X-67 = 0.210 = 2.10×10^{-1}	20X-79 = 187000 = 1.87×10^5
20X-46 = 0.0845 = 8.45×10^{-2}	20X-58 = 23600 = 2.36×10^4	20X-68 = 0.000371 = 3.71×10^{-4}	20X-80 = 13.1 = 1.31×10^1
20X-47 = 9.38 = 9.38×10^0	20X-59 = 408 = 4.08×10^2	20X-69 = -0.000945 = -9.45×10^{-4}	
20X-48 = 7.59 = 7.59×10^0	20X-60 = 7.07 = 7.07×10^0	20X-70 = 1.21 = 1.21×10^0	
20X-49 = 33.7 = 3.37×10^1		20X-71 = 1.52 = 1.52×10^0	
20X-50 = 0.00289 = 2.89×10^{-3}		20X-72 = 3.95 = 3.95×10^0	

FALL/WINTER DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

How to Write the Answers

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

1. Examples (* means correct but not recommended)

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

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

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

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

B. For stated problems

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

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

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

2020 University Interscholastic League MS/JH Calculator Contest B

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

<p>20Y-37. RECTANGLE</p> <div style="text-align: center; margin: 20px 0;"> </div> <p>20Y-37= _____</p>	<p>20Y-38. REGULAR HEXAGON</p> <div style="text-align: center; margin: 20px 0;"> </div> <p>20Y-38= _____</p>
---	---

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

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

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

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

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

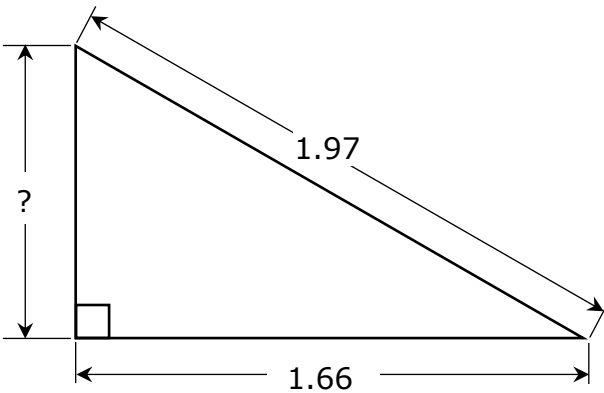
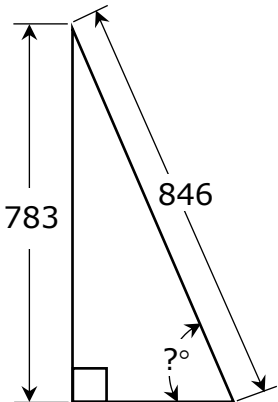
20Y-44. $\sqrt{(99.7/656) + 0.139 - 0.0191}$ ----- 44= _____

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

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

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

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

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

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

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

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

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

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

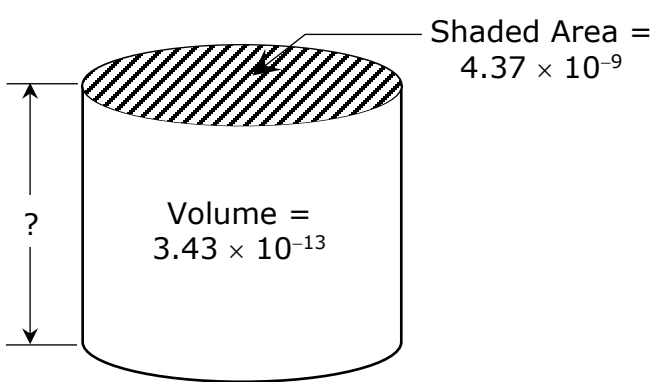
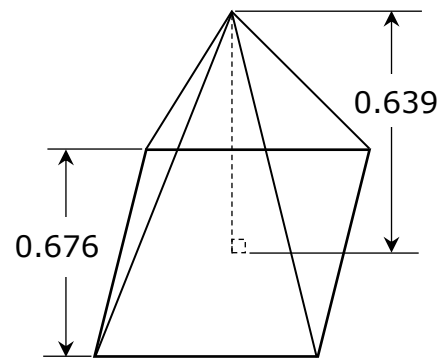
20Y-56. $\sqrt{\frac{1/(59.6 - 11.9)}{(68.5)(9.89 + 40.8)^6}}$ ----- 56= _____

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

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

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

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

<p>20Y-61. SOLID RIGHT CYLINDER</p>  <p>20Y-61= _____</p>	<p>20Y-62. SQUARE PYRAMID</p>  <p>20Y-62= _____</p>
---	--

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

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

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

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

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

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

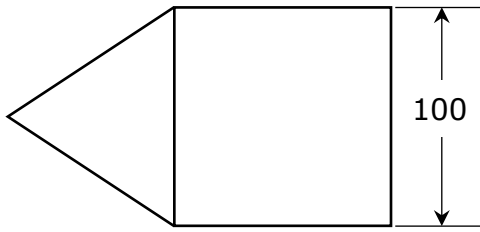
20Y-69. (rad) $(6.68)\sin(380)$ ----- 69= _____

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

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

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

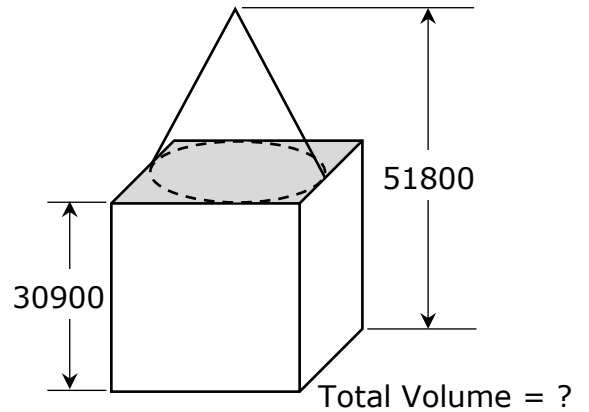
20Y-73.
EQUILATERAL TRIANGLE AND SQUARE



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

20Y-73= _____

20Y-74.
RIGHT CIRCULAR CONE AND SOLID CUBE



20Y-74= _____

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

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

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

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

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

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

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

$$\begin{aligned} 20Y-1 &= 748 \\ &= 7.48 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20Y-2 &= 8.00 \\ &= 8.00 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20Y-3 &= 127 \\ &= 1.27 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20Y-4 &= 3.14 \\ &= 3.14 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20Y-5 &= -879 \\ &= -8.79 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20Y-6 &= 3.40 \\ &= 3.40 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20Y-7 &= 19.1 \\ &= 1.91 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20Y-8 &= -1.37 \\ &= -1.37 \times 10^0 \end{aligned}$$

$$20Y-9 = 1.45 \times 10^6$$

$$20Y-10 = 1.01 \times 10^{12}$$

$$\begin{aligned} 20Y-11 &= 0.351 \\ &= 3.51 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20Y-12 &= 52.5 \\ &= 5.25 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20Y-13 &= 151 \\ &= 1.51 \times 10^2 \end{aligned}$$

$$20Y-14 = -1.05 \times 10^8$$

$$\begin{aligned} 20Y-15 &= 214 \\ &= 2.14 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20Y-16 &= 0.176 \\ &= 1.76 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20Y-17 &= 0.909 \\ &= 9.09 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20Y-18 &= 13.7 \\ &= 1.37 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20Y-19 &= 739 \\ &= 7.39 \times 10^2 \end{aligned}$$

$$20Y-20 = -6.34 \times 10^{-11}$$

$$\begin{aligned} 20Y-21 &= 0.0273 \\ &= 2.73 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20Y-22 &= 4830 \\ &= 4.83 \times 10^3 \end{aligned}$$

$$\begin{aligned} 20Y-23 &= -2.61 \\ &= -2.61 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20Y-24 &= 80.2 \\ &= 8.02 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20Y-25 &= 1.97 \\ &= 1.97 \times 10^0 \end{aligned}$$

$$20Y-26 = 14.94$$

Dollar Answer

$$20Y-27 = -2.30 \times 10^8$$

$$20Y-28 = 1.12 \times 10^{-10}$$

$$20Y-29 = 3.32 \times 10^{-6}$$

$$\begin{aligned} 20Y-30 &= 0.873 \\ &= 8.73 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20Y-31 &= 0.0237 \\ &= 2.37 \times 10^{-2} \end{aligned}$$

$$20Y-32 = 2.47 \times 10^{12}$$

$$\begin{aligned} 20Y-33 &= 0.000473 \\ &= 4.73 \times 10^{-4} \end{aligned}$$

$$\begin{aligned} 20Y-34 &= 0.723 \\ &= 7.23 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20Y-35 &= 5.25 \\ &= 5.25 \times 10^0 \end{aligned}$$

$$20Y-36 = 125$$

Integer Answer

$$20Y-37 = 1.25 \times 10^{18}$$

$$\begin{aligned} 20Y-38 &= 0.000122 \\ &= 1.22 \times 10^{-4} \end{aligned}$$

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

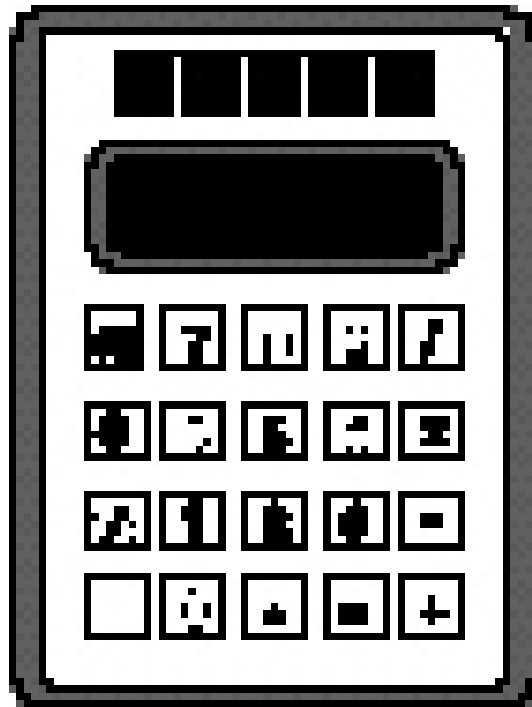
20Y-39 = 9.57×10^8	20Y-51 = -4.24×10^9	20Y-61 = 0.0000785 = 7.85×10^{-5}	20Y-73 = 0.433 = 4.33×10^{-1}
20Y-40 = 2.37×10^{15}	20Y-52 = 8.75×10^{-8}	20Y-62 = 0.0973 = 9.73×10^{-2}	20Y-74 = 3.47×10^{13}
20Y-41 = 1.84 = 1.84×10^0	20Y-53 = 3.34×10^{-6}	20Y-63 = 23.0 = 2.30×10^1	20Y-75 = 1.77 = 1.77×10^0
20Y-42 = 9.47 = 9.47×10^0	20Y-54 = 0.904 = 9.04×10^{-1}	20Y-64 = 0.00643 = 6.43×10^{-3}	20Y-76 = 6.90 = 6.90×10^0
20Y-43 = 0.141 = 1.41×10^{-1}	20Y-55 = 0.568 = 5.68×10^{-1}	20Y-65 = 4.35×10^{-32}	20Y-77 = 2.04 = 2.04×10^0
20Y-44 = 0.521 = 5.21×10^{-1}	20Y-56 = 1.34×10^{-7}	20Y-67 = 0.00432 = 4.32×10^{-3}	20Y-78 = 0.00907 = 9.07×10^{-3}
20Y-45 = 0.0414 = 4.14×10^{-2}	20Y-57 = 87300 = 8.73×10^4	20Y-68 = 0.100 = 1.00×10^{-1}	20Y-79 = 137000 = 1.37×10^5
20Y-46 = 22.8 = 2.28×10^1	20Y-58 = 4.90 = 4.90×10^0	20Y-69 = 0.884 = 8.84×10^{-1}	20Y-80 = -0.165 = -1.65×10^{-1}
20Y-47 = 73.3 = 7.33×10^1	20Y-59 = 16.1 = 1.61×10^1	20Y-70 = 3.95 = 3.95×10^0	
20Y-48 = 23.0 = 2.30×10^1	20Y-60 = 30.7 = 3.07×10^1	20Y-71 = 294 = 2.94×10^2	
20Y-49 = 1.06 = 1.06×10^0		20Y-72 = 5.19 = 5.19×10^0	
20Y-50 = 67.7 = 6.77×10^1			

SPRING DISTRICT 2019-2020

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

How to Write the Answers

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

1. Examples (* means correct but not recommended)

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

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

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

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

B. For stated problems

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

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

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

2020 University Interscholastic League MS/JH Calculator Contest C

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

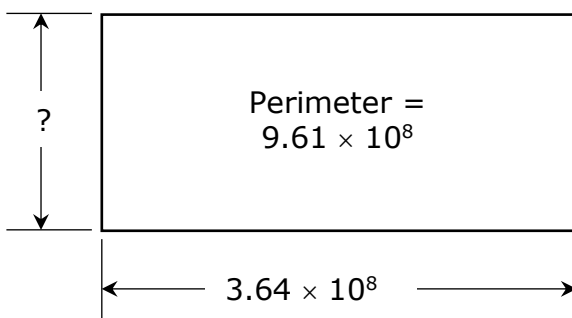
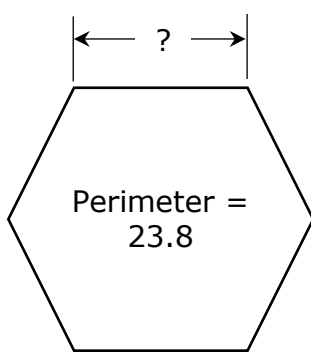
20Z-32. $[0.00428]\left[\frac{1/859}{1/(471)}\right]$ ----- 32= _____

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

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

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

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

<p>20Z-37.</p> <p style="text-align: center;">RECTANGLE</p> <div style="text-align: center;">  </div> <p>20Z-37= _____</p>	<p>20Z-38.</p> <p style="text-align: center;">REGULAR HEXAGON</p> <div style="text-align: center;">  </div> <p>20Z-38= _____</p>
---	---

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

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

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

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

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

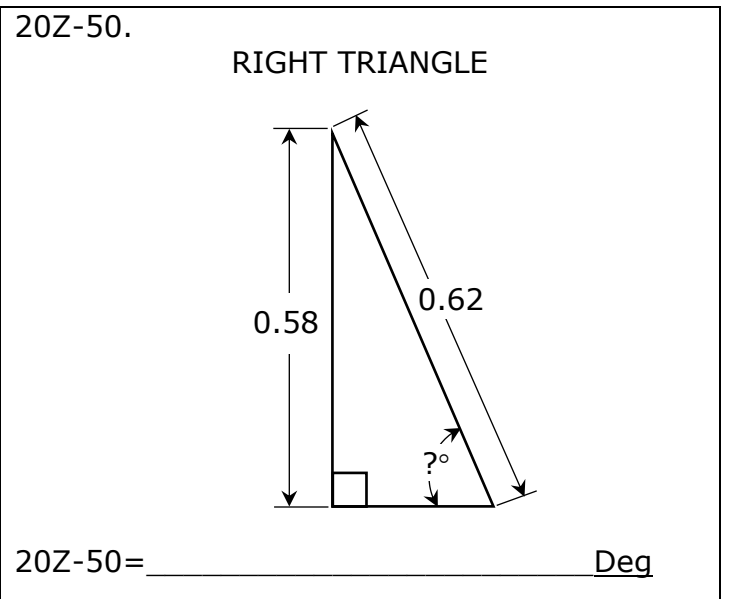
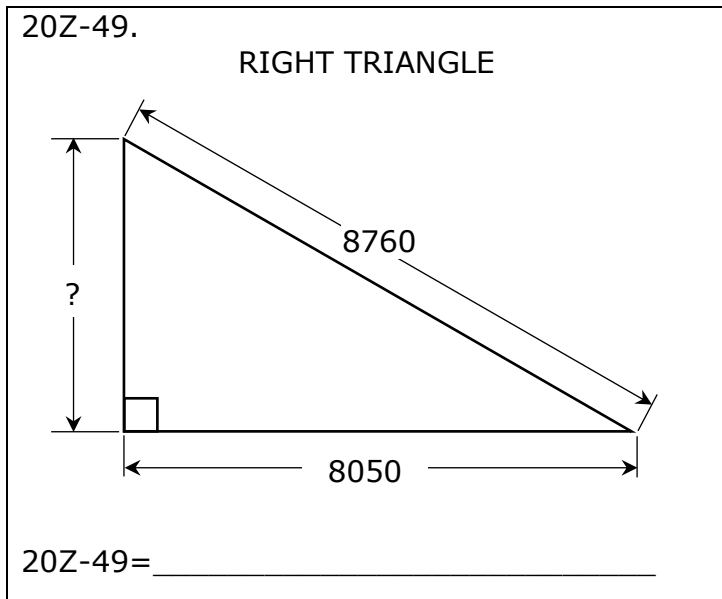
20Z-44. $(1/(0.0184))(20700 - 11400)^2$ ----- 44= _____

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

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

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

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



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

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

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

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

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

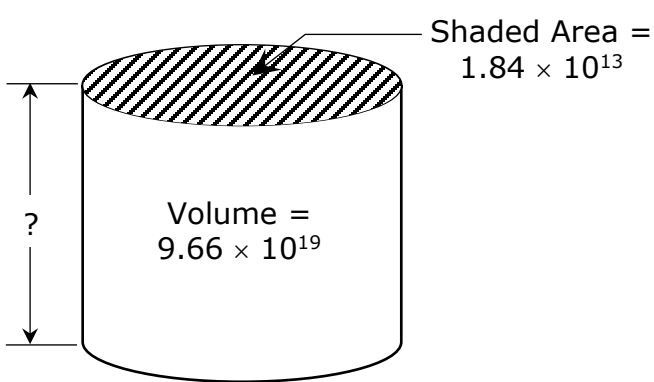
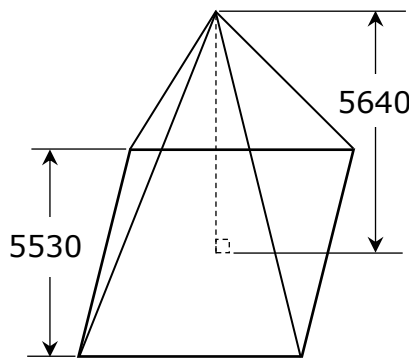
20Z-56. $\sqrt{\frac{1/(250 - 208)}{(4)(80.2 + 81)^3}}$ ----- 56= _____

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

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

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

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

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

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

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

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

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

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

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

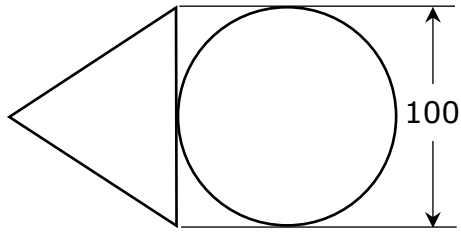
20Z-69. (rad) $(1220)\sin(271)$ ----- 69= _____

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

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

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

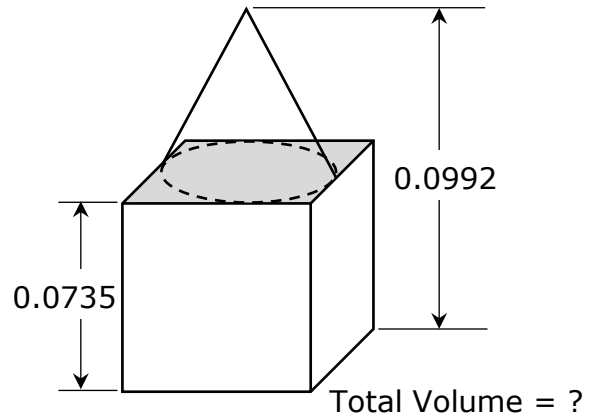
20Z-73.
EQUILATERAL TRIANGLE AND CIRCLE



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

20Z-73= _____

20Z-74.
RIGHT CIRCULAR CONE AND SOLID CUBE



20Z-74= _____

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

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

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

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

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

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

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

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

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

20Z-39 = 935 = 9.35×10^2	20Z-51 = 1.75 = 1.75×10^0	20Z-61 = 5.25×10^6	20Z-73 = 0.551 = 5.51×10^{-1}
20Z-40 = 9.59 = 9.59×10^0	20Z-52 = -3.35×10^{-5}	20Z-62 = 5.75×10^{10}	20Z-74 = 0.000433 = 4.33×10^{-4}
20Z-41 = 8.25×10^7	20Z-53 = -0.0646 = -6.46×10^{-2}	20Z-64 = 346 = 3.46×10^2	20Z-75 = -0.376 = -3.76×10^{-1}
20Z-42 = 47.1 = 4.71×10^1	20Z-54 = -0.813 = -8.13×10^{-1}	20Z-65 = -0.0292 = -2.92×10^{-2}	20Z-76 = 2450 = 2.45×10^3
20Z-43 = 1.14 = 1.14×10^0	20Z-55 = 0.183 = 1.83×10^{-1}	20Z-66 = -120 = -1.20×10^2	20Z-77 = 5940 = 5.94×10^3
20Z-44 = 4.70×10^9	20Z-56 = 3.77×10^{-5}	20Z-67 = -13.0 = -1.30×10^1	20Z-78 = 0.626 = 6.26×10^{-1}
20Z-45 = 3.57 = 3.57×10^0	20Z-57 = 1.95×10^{-5}	20Z-68 = 0.662 = 6.62×10^{-1}	20Z-79 = 287000 = 2.87×10^5
20Z-46 = 1.16 = 1.16×10^0	20Z-58 = 16.5 = 1.65×10^1	20Z-69 = 895 = 8.95×10^2	20Z-80 = 0.580 = 5.80×10^{-1}
20Z-47 = 70.0 = 7.00×10^1	20Z-59 = 72.9 = 7.29×10^1	20Z-70 = 0.886 = 8.86×10^{-1}	
20Z-48 = 30.6 = 3.06×10^1	20Z-60 = 20.5 = 2.05×10^1	20Z-71 = 204 = 2.04×10^2	
20Z-49 = 3450 = 3.45×10^3		20Z-72 = 4.24 = 4.24×10^0	