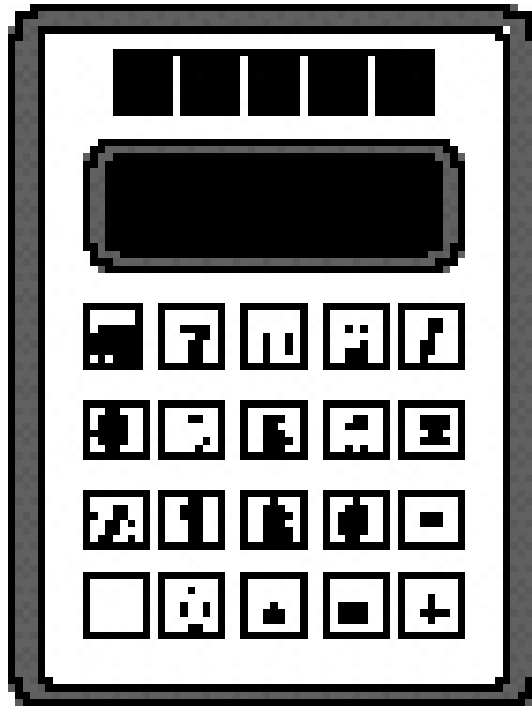


INVITATIONAL 2020-2021

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

2021 UIL MS Calculator Test A

21A-1. $-8.9 + 8.42$ ----- 1= _____

21A-2. $3 + 7.69 + 4$ ----- 2= _____

21A-3. $-308 + 118 + 156$ ----- 3= _____

21A-4. $22 - 22 - 15 + 20$ ----- 4= _____

21A-5. $444 + 548 + 115 + 130$ ----- 5= _____

21A-6. $57 - 364 - 244 - 357 + 531$ ----- 6= _____

21A-7. $0.385 + 0.715 + \pi + 0.283 + 0.492$ ----- 7= _____

21A-8. $1.66 - 1.65 + 1.21 - \pi - 4.31$ ----- 8= _____

21A-9. $206 \times 71.8 \times 586$ ----- 9= _____

21A-10. $378 \times 85.9 \times 886 \times 136$ ----- 10= _____

21A-11. What is the quotient of two pi and 17.8 if the answer is greater than the integer one? ----- 11= _____

21A-12. Genny found 18 coins in her purse when she decided to clean it out. If there were 5 nickels, 7 quarters, 2 dimes and the rest of the change in pennies, how much money in change did she have? ----- 12= \$ _____

21A-13. How many minutes are in 14 hours? ----- 13= _____ min(integer)

21A-14. $80/[76 \times 49 \times 143]$ ----- 14= _____

21A-15. $(119)[113 \times 248 \times 207]$ ----- 15= _____

21A-16. $\{(310)(117 - 311)(291)\} - 1.43 \times 10^7$ ----- 16= _____

21A-17. $\{-183/153\} \left[\frac{216}{266 + 56} \right]$ ----- 17= _____

21A-18. $\left[\frac{(0.00585 + 0.00392)}{171/19} \right] \left[\frac{0.14}{3.96} \right]$ ----- 18= _____

21A-19. $\frac{(221/446) + (642/200)}{(0.0259 - 0.0334)}$ ----- 19= _____

21A-20. $\frac{(779)(5.4)}{0.0471} (3480 - 1040)$ ----- 20= _____

21A-21. $(0.117)[28/53 \times 27/63] - 0.0108$ ----- 21= _____

21A-22. $\frac{(\pi)(161/47)(89/137)}{(117/116)}$ ----- 22= _____

21A-23. $\frac{(0.253 + 0.132 - 0.321)}{\{(408 - 677)/(0.739)\}}$ ----- 23= _____

21A-24. A concrete-rectangular sidewalk is 6' wide, 4" thick and one half mile long. How much concrete is in this sidewalk? ----- 24= _____ yds³

21A-25. Noah has 12 different crayons, 6 different colored pencils and 3 different colored ink pens. How many different combinations of a crayon, an ink pen and a colored pencil does Noah have? ----- 25= _____ integer

21A-26. Wesley spins a rubber stopper attached to a 3' long string around his head so that the stopper spins once around every quarter of a second. What is the speed of the stopper? ----- 26= _____ ft/s

21A-27. $(21.5)[[5.93/(4.19)][0.0056/(0.00309)]]$ ----- 27= _____

21A-28. $[1100 - (707 + 213)] + [(\pi)(725 - 701)]$ ----- 28= _____

21A-29. $\frac{(1.53 \times 10^{11}) + (6.16 \times 10^{10})}{(-0.147)(0.561) - 0.0531}$ ----- 29= _____

21A-30. $(8.8)[(5.77 \times 10^{10}) - (3.99 \times 10^{10})]$ ----- 30= _____

21A-31. $(2.49)\left[\frac{120}{(2.15 \times 10^9)}\right]$ ----- 31= _____

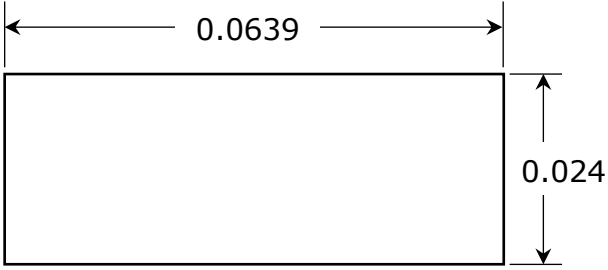
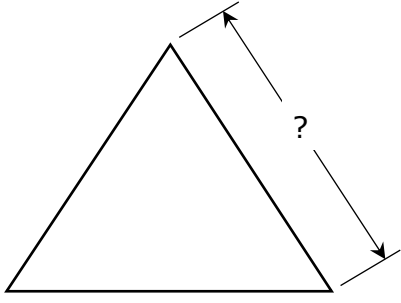
21A-32. $\frac{1}{-0.347} + \frac{1}{(\pi)(2.33 - 2.63)}$ ----- 32= _____

21A-33. $\left[\frac{1/239}{1/176}\right] + [0.381]$ ----- 33= _____

21A-34. $\left[\frac{1/890}{1/1860}\right][2.70 \times 10^6]$ ----- 34= _____

21A-35. If there are 52 cards in a standard deck of playing cards what is the probability of drawing a queen of spades with one draw? ----- 35= _____

21A-36. If there are 2.54 centimeters in one inch, how many millimeters (mm) are in one yard?----- 36= _____ mm

<p>21A-37.</p> <p style="text-align: center;">RECTANGLE</p>  <p style="text-align: center;">Perimeter = ?</p> <p>21A-37 = _____</p>	<p>21A-38.</p> <p style="text-align: center;">EQUILATERAL TRIANGLE</p>  <p style="text-align: center;">Perimeter = 8.21×10^{-7}</p> <p>21A-38 = _____</p>
--	---

21A-39. $\left[\frac{851}{879}\right](202 + 429)^2$ ----- 39= _____

21A-40. $\left[\frac{36300 + (1/(4.28 \times 10^{-5}))}{(7040/26000) - 0.164}\right]^2$ ----- 40= _____

21A-41. $(0.968 + 3.14)^2(46.2 + 25.2)^2$ ----- 41= _____

21A-42. $\sqrt{98.9} + \sqrt{93.6 + 133} - (\pi)\sqrt{156}$ ----- 42= _____

21A-43. $(1/(0.0111))(1.10 \times 10^5 - 89000)^3$ ----- 43= _____

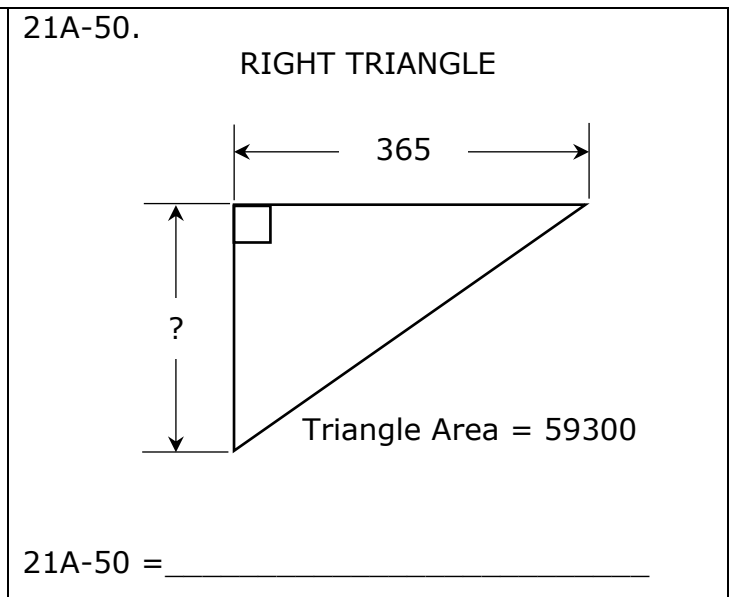
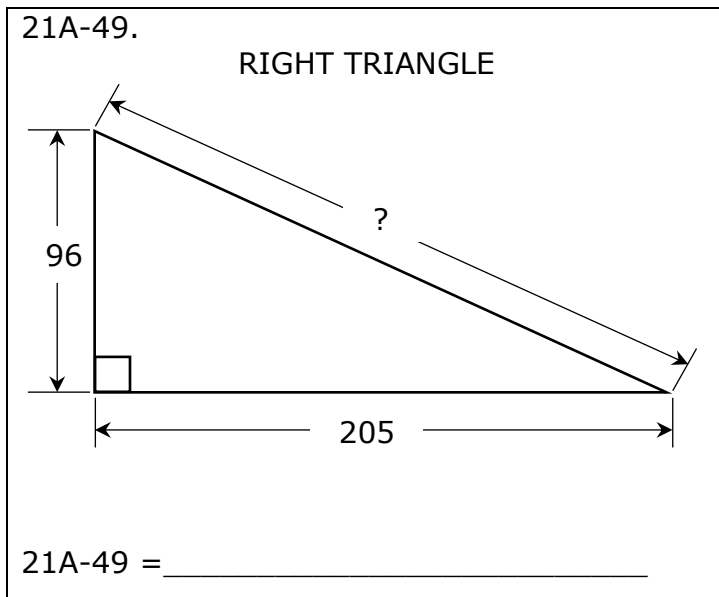
21A-44. $(1/\pi)\sqrt[3]{\frac{0.0746 + 0.0943}{0.848 - 0.672}}$ ----- 44= _____

21A-45. $(243)\sqrt[3]{2990 + 7290 - 2200}$ ----- 45= _____

21A-46. $\frac{(1680 + 4670)^{1/4}}{(901 - 234)^{1/5}}$ ----- 46= _____

21A-47. A crow, sitting on a post 6' above the ground, drops straight down and walks 12' in a straight line in search of worms. If the crow flies back to its original perch, what is the shortest distance it flies? ----- 47= _____ ft

21A-48. Albert is driving along at a speed of 72 miles per hour when he passes under a bridge that is 65' wide. How long does it take Albert to pass under the bridge? ----- 48= _____ s



21A-51. $\frac{(6030 + 9020 - 15400)^4}{\sqrt{27400 + 45900 + 15900}}$ ----- 51= _____

21A-52. $\sqrt{\frac{6.73}{(2.01 \times 10^5)(1.24 \times 10^5)}} + \frac{(0.0117 - 0.00315)}{(175 + 295)}$ ----- 52= _____

21A-53. $\frac{\sqrt{46.5 + \pi + 41.9}}{(5250 - 1550 + 5080)^2}$ ----- 53= _____

21A-54. $\sqrt{\frac{(1.43 \times 10^5)(49100)}{(70800)(7590)}} - 0.476 + 0.499$ ----- 54= _____

21A-55. $0.33 + \sqrt{(3050)/(1450)} - (0.127 + 1.12)^2$ ----- 55= _____

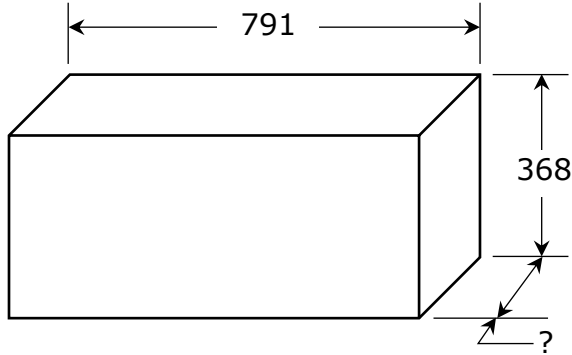
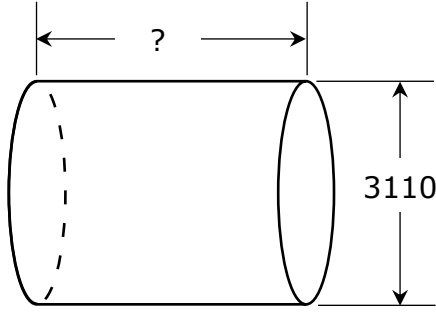
21A-56. $\sqrt{\frac{1/(19.5 - 13.2)}{(105)(29.8 + 29.4)^6}}$ ----- 56= _____

21A-57. $(\text{rad}) \tan(223) + (187/37.1)$ ----- 57= _____

21A-58. $\sqrt{\frac{1/(134 - 90.1)}{(41)(326 + 206)^{-5}}}$ ----- 58= _____

21A-59. The average speed of a moving object can be found by dividing the total distance by the total time. If Andy walks 750 feet in 2 minutes, stops and takes pictures for 2 minutes, then walks another 900 feet in 2.75 minutes, what is Andy's average speed for the total distance traveled? ----- 59= _____ mph

21A-60. The root-mean-square speed (v_{rms}) of a gas molecule, in m/s, is found by taking the square root of the quantity: three times a constant, k , times the temperature in Kelvins and dividing this product by the mass of the molecule in kilograms. What is the v_{rms} for a molecule of oxygen that has a mass of 5.31×10^{-26} kg and is at a temperature of 293 Kelvins? The value of the constant, k , is 1.38×10^{-23} . ----- 60= _____ m/s

<p>21A-61. SOLID RECTANGULAR BOX</p>  <p>Total Surface Area = 967000</p> <p>21A-61 = _____</p>	<p>21A-62. SOLID RIGHT CYLINDER</p>  <p>Total Surface Area = 5.52×10^7</p> <p>21A-62 = _____</p>
--	---

21A-63. $\frac{14! - 21!}{16!}$ ----- 63= _____

21A-64. $(147 - \pi)e^{0.548}$ ----- 64= _____

21A-65. $(\text{deg}) \frac{\tan(175^\circ)}{659}$ ----- 65= _____

21A-66. $(\text{rad}) \frac{\tan(10.5)}{691/812}$ ----- 66= _____

21A-67. $(\text{deg}) [277]\cos(45.8^\circ - 150^\circ)$ ----- 67= _____

21A-68. $(\text{deg}) \frac{\sin(195^\circ)}{\tan(195^\circ)} [8.98]$ ----- 68= _____

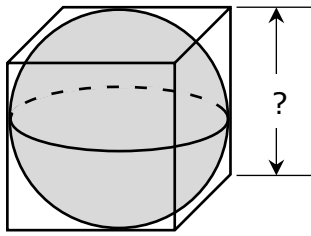
21A-69. $(\text{deg}) \frac{\sin(327^\circ) - \tan(327^\circ)}{\sin(327^\circ)}$ ----- 69= _____

21A-70. $(4.66 - 17.6)e^{\pi - 0.68}$ ----- 70= _____

21A-71. Four times a number squared minus twice that number is 15.75. What is the number if it is positive?----- 71= _____

21A-72. Mackenzie bought a new dress for a cost of \$178.60. If this cost included a 8.25% sales tax, what was the cost of the dress without the sales tax? ----- 72=\$ _____

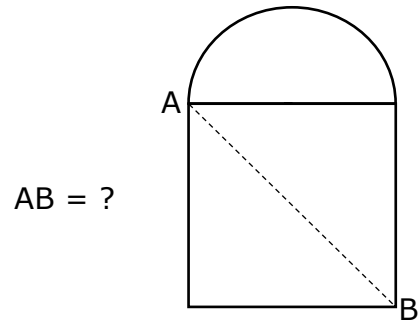
21A-73.
CUBE WITH INSCRIBED SPHERE



Cube Volume - Sphere Volume = 100

21A-73 = _____

21A-74.
SQUARE AND SEMICIRCLE



Total Area = 100

21A-74 = _____

21A-75. $\frac{\text{Log}(2.51 \times 10^7 + 6.84 \times 10^6)}{16.6}$ ----- 75 = _____

21A-76. $\text{Ln}\left[\frac{541 + 348 + 277}{234 + 439 - 112}\right]$ ----- 76 = _____

21A-77. $\frac{35.9 - 6.27}{\text{Log}(7550 + 10000)}$ ----- 77 = _____

21A-78. $\text{Ln}\left[\frac{204 + 152 + 123}{2890 - 156 - 509}\right]$ ----- 78 = _____

21A-79. $1 + 2 + 3 + \dots + 937$ ----- 79 = _____

21A-80. $-\frac{1}{(8.3)} + \frac{1}{3(8.3)^3} - \frac{1}{5(8.3)^5} + \frac{1}{7(8.3)^7}$ ----- 80 = _____

2021 UIL MS Calculator Test A Answer Key

21A-1	= -0.480 = -4.80×10^{-1}	21A-14	= 0.000150 = 1.50×10^{-4}	21A-27	= 55.1 = 5.51×10^1
21A-2	= 14.7 = 1.47×10^1	21A-15	= 6.90×10^8	21A-28	= 255 = 2.55×10^2
21A-3	= -34.0 = -3.40×10^1	21A-16	= -3.18×10^7	21A-29	= -1.58×10^{12}
21A-4	= 5.00 = 5.00×10^0	21A-17	= -0.802 = -8.02×10^{-1}	21A-30	= 1.57×10^{11}
21A-5	= 1240 = 1.24×10^3	21A-18	= 3.84×10^{-5}	21A-31	= 1.39×10^{-7}
21A-6	= -377 = -3.77×10^2	21A-19	= -494 = -4.94×10^2	21A-32	= -3.94 = -3.94×10^0
21A-7	= 5.02 = 5.02×10^0	21A-20	= 2.18×10^8	21A-33	= 1.12 = 1.12×10^0
21A-8	= -6.23 = -6.23×10^0	21A-21	= 0.0157 = 1.57×10^{-2}	21A-34	= 5.64×10^6
21A-9	= 8.67×10^6	21A-22	= 6.93 = 6.93×10^0	21A-35	= 0.0192 = 1.92×10^{-2}
21A-10	= 3.91×10^9	21A-23	= -0.000176 = -1.76×10^{-4}	21A-36	= 914 = 9.14×10^2
21A-11	= 2.83 = 2.83×10^0	21A-24	= 196 = 1.96×10^2	21A-37	= 0.176 = 1.76×10^{-1}
21A-12	= 2.24 Dollar Answer	21A-25	= 216 Integer Answer	21A-38	= 2.74×10^{-7}
21A-13	= 840 Integer Answer	21A-26	= 75.4 = 7.54×10^1		

2021 UIL MS Calculator Test A Answer Key

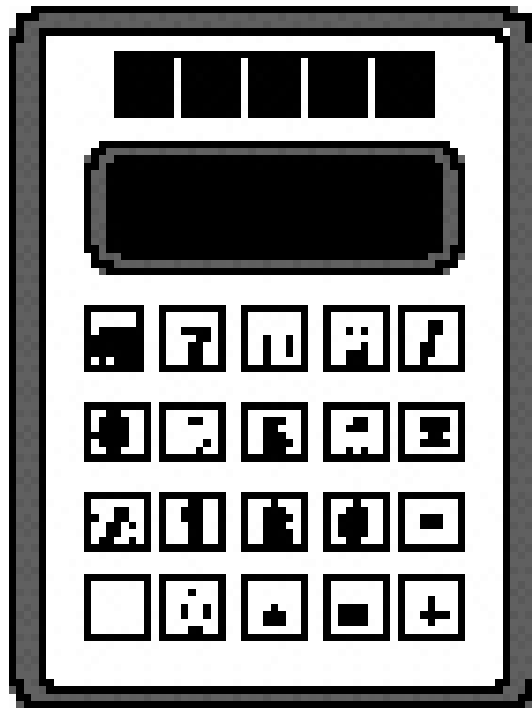
21A-39 = 385000 = 3.85×10^5	21A-51 = 5.02×10^7	21A-61 = 166 = 1.66×10^2	21A-73 = 5.94 = 5.94×10^0
21A-40 = 3.12×10^{11}	21A-52 = 3.46×10^{-5}	21A-62 = 4090 = 4.09×10^3	21A-74 = 12.0 = 1.20×10^1
21A-41 = 86000 = 8.60×10^4	21A-53 = 1.24×10^{-7}	21A-63 = -2.44×10^6	21A-75 = 0.452 = 4.52×10^{-1}
21A-42 = -14.2 = -1.42×10^1	21A-54 = 3.64 = 3.64×10^0	21A-64 = 249 = 2.49×10^2	21A-76 = 0.732 = 7.32×10^{-1}
21A-43 = 8.34×10^{14}	21A-55 = 0.225 = 2.25×10^{-1}	21A-65 = -0.000133 = -1.33×10^{-4}	21A-77 = 6.98 = 6.98×10^0
21A-44 = 0.314 = 3.14×10^{-1}	21A-56 = 1.87×10^{-7}	21A-66 = 2.17 = 2.17×10^0	21A-78 = -1.54 = -1.54×10^0
21A-45 = 4880 = 4.88×10^3	21A-57 = 4.99 = 4.99×10^0	21A-67 = -68.0 = -6.80×10^1	21A-79 = 439000 = 4.39×10^5
21A-46 = 2.43 = 2.43×10^0	21A-58 = 154000 = 1.54×10^5	21A-68 = -8.67 = -8.67×10^0	21A-80 = -0.120 = -1.20×10^{-1}
21A-47 = 13.4 = 1.34×10^1	21A-59 = 2.78 = 2.78×10^0	21A-69 = -0.192 = -1.92×10^{-1}	
21A-48 = 0.616 = 6.16×10^{-1}	21A-60 = 478 = 4.78×10^2	21A-70 = -152 = -1.52×10^2	
21A-49 = 226 = 2.26×10^2		21A-71 = 2.25 = 2.25×10^0	
21A-50 = 325 = 3.25×10^2		21A-72 = 164.99 Dollar Answer	

FALL/WINTER DISTRICT 2020-2021

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

2021 UIL MS Calculator Test B

21B-1. $6.82 + 3.16$ ----- 1= _____

21B-2. $-69 + 93 + 84$ ----- 2= _____

21B-3. $97.4 + 455 + 212$ ----- 3= _____

21B-4. $-27 - \pi - 5 + 20$ ----- 4= _____

21B-5. $2140 - 1860 + 3880 - 782$ ----- 5= _____

21B-6. $409 - 160 - 255 + 353 + 370$ ----- 6= _____

21B-7. $(3.82 - 4.23) + (4.3 - 3.39 - 0.983)$ ----- 7= _____

21B-8. $(4.63 + 1.92 - \pi) - (1.9 + 2.31)$ ----- 8= _____

21B-9. $155 \times 47.3 \times 178$ ----- 9= _____

21B-10. $346 \times 3770 \times 2540 \times 3110$ ----- 10= _____

21B-11. What is the result if twelve-point six pi is added to the negative square root of 120?----- 11= _____

21B-12. The three Gonzales children decided to give their savings in each of their piggy banks to a local charity in desperate need of funds. Mackenzie said she would donate \$28.13, Wesley said he would donate \$18.73 and Noah stated that he would give the 15 quarters, 16 dimes and 23 pennies he had. How much money did the children donate?----- 12=\$ _____

21B-13. As a waiter in a local restaurant, Dan worked 14 hours and received \$135.50 in tips. How much per hour did Dan make? ----- 13= _____ \$/hr.

21B-14. $-267/[123 \times 290 \times 212]$ ----- 14= _____

21B-15. $-43 - [68/138 + 0.973]$ ----- 15= _____

21B-16. $\left[\frac{-22}{108}\right] [(91/81) - 0.24]$ ----- 16= _____

21B-17. $\{-97/96\} \left[\frac{78}{67 + 141}\right]$ ----- 17= _____

21B-18. $\left[\frac{(3240/5090) - (1990/3170)}{16.1/(16.9)}\right]$ ----- 18= _____

21B-19. $\left[\frac{37/95}{153/141}\right] \{0.149 + 0.13 - 0.148\}$ ----- 19= _____

21B-20. $\frac{137}{(112 - 57)} - \frac{(47 - 78)}{140}$ ----- 20= _____

21B-21. $\frac{(\pi)(7/42)(48/25)}{107}$ ----- 21= _____

21B-22. $\frac{[-(2000 + 1230)(2000 - 2050)]}{(3.68 \times 10^{-4} / (0.533))}$ ----- 22= _____

21B-23. $\left[\frac{4500 + 3270}{3110 - 1520}\right] \left[\frac{1460}{2830}\right]$ ----- 23= _____

21B-24. How many U.S. postage stamps can one buy with \$20 if each stamp currently costs 55¢?----- 24= _____ integer

21B-25. With a 6-inch diameter auger, Mike dug a hole 28 inches deep. How much dirt did Mike dig out?----- 25= _____ in³

21B-26. When Genny walked into a local ice cream shop she found that the shop had 24 different flavors of ice cream, 6 different types of sprinkles for toppings and 2 different types of ice cream cones. How many different combinations of ice cream, sprinkle and cone are available from this ice cream shop for Genny?----- 26= _____ integer

21B-27. $\frac{(111 + 87.2)(0.024 + 0.0483)}{(3.47 \times 10^{10})}$ ----- 27= _____

21B-28. $(0.159)[[0.12/(0.107)][0.00122/(0.00488)]]$ ----- 28= _____

21B-29. $\frac{(4.32 \times 10^8) + (1.54 \times 10^8)}{(-13.1)(3.27) - 10.6}$ ----- 29= _____

21B-30. $(0.00983)\left[\frac{0.112}{(2.01 \times 10^7)}\right]$ ----- 30= _____

21B-31. $(43.3)[(3.68 \times 10^8) - (6.90 \times 10^8)]$ ----- 31= _____

21B-32. $\frac{1}{0.265} + \frac{1}{(3.95 - 3.46)}$ ----- 32= _____

21B-33. $\frac{1}{(0.129 - 0.232)} - \frac{1}{(-0.0874)}$ ----- 33= _____

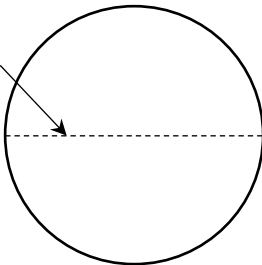
21B-34. $\frac{1}{200} - \frac{1}{(290 + 164)}$ ----- 34= _____

21B-35. While driving along at an average speed of 71 mph, Liz saw a highway sign that stated the next restroom stop was 13 miles away. How long will it take Liz to get to the restroom stop?----- 35= _____ min

21B-36. A men's basketball is 24.26 cm in diameter. If Matt rolls this basketball 65 feet, how many revolutions (rev) does the ball turn? ---- 36= _____ rev

21B-37.

CIRCLE



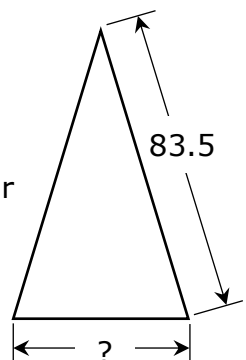
Diameter = ?

Circle Circumference = 0.000737

21B-37 = _____

21B-38.

ISOSCELES TRIANGLE



Triangle Perimeter = 212

21B-38 = _____

21B-39. $\frac{(5100 + 4010)^2}{(0.226 - 0.455)^3}$ ----- 39= _____

21B-40. $(0.285 + 0.184 + 0.109)^2(4410 + 3920)^2$ ----- 40= _____

21B-41. $\sqrt{\frac{0.0867 + 0.08}{0.443 - 0.174}}$ ----- 41= _____

21B-42. $(9440)\sqrt{913 + 181 + 432}$ ----- 42= _____

21B-43. $\sqrt{897} + \sqrt{1460 + 886} - (\pi)\sqrt{1970}$ ----- 43= _____

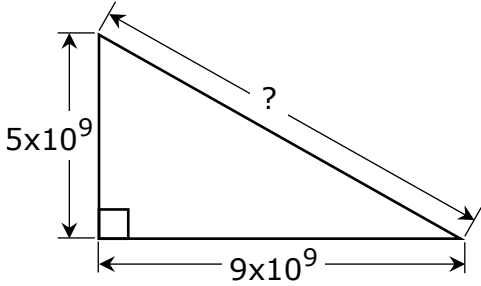
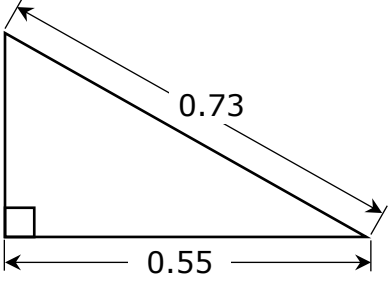
21B-44. $(1/(0.00297))(5.38 \times 10^5 - 3.42 \times 10^5)^2$ ----- 44= _____

21B-45. $\frac{(3.62 + 6.27)^{1/3}}{(118 - 81.6)^{1/5}}$ ----- 45= _____

21B-46. $\sqrt[3]{0.516 - 25.6/121} + 1/\sqrt{34.6 + 21.7}$ ----- 46= _____

21B-47. Andy took a 12' long rope and attached one end to a vertical pipe 6' above the ground. He then stretched the rope taut and with the other end traced a circle along the level ground. What is the circumference of this circle? ----- 47= _____ ft

21B-48. Arturo walked 330' due west and stopped. He then walked 500' away to a spot due south of the point he started at. How far away is he from his starting point? ----- 48= _____ ft

<p>21B-49. RIGHT TRIANGLE</p>  <p style="text-align: center;">21B-49 = _____</p>	<p>21B-50. RIGHT TRIANGLE</p>  <p style="text-align: center;">Triangle Area = ?</p> <p style="text-align: center;">21B-50 = _____</p>
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21B-51. $\left[\frac{18.2 + 148 + \sqrt{11900 + 27100}}{4580/14100} \right]^4$ ----- 51= _____

21B-52. $\frac{(3.49 + 9.2 - 8.59)^3}{\sqrt{96300 + 19300 + 88000}}$ ----- 52= _____

21B-53. $\sqrt{\frac{2.65 \times 10^{-10}}{(1.86)(1.88)}} + \frac{(2.35 - 4)}{(1.10 \times 10^5 + 71200)}$ ----- 53= _____

21B-54. $\sqrt{\frac{1/(62.1 - 58.9)}{(35.6)(342 + 206)^4}}$ ----- 54= _____

21B-55. $(239)(1.65 \times 10^7)^{1/2} - [(7.52 \times 10^8)(5.62 \times 10^9)]^{1/3}$ ----- 55= _____

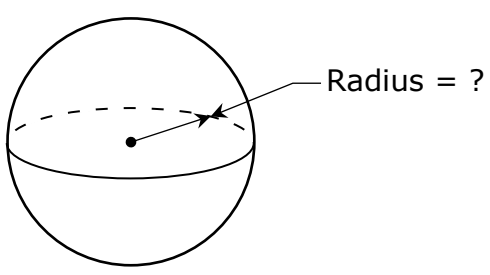
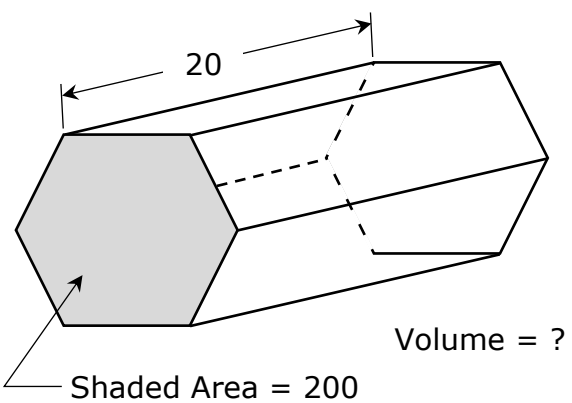
21B-56. $\sqrt{\frac{(4090)(6.16 \times 10^5)}{(9700)(46400)}} - 1.82 + 1.57$ ----- 56= _____

21B-57. $(\text{rad}) \sin(163) + (298/346)$ ----- 57= _____

21B-58. $\sqrt{\frac{(10.1)(939)}{(15.9) + (10.9)}} + 1/(18.9)^{-1}$ ----- 58= _____

21B-59. Two worms are moving toward each other at constant speeds oblivious to each other. One worm is moving at a speed of 8.25 inches per minute (ipm), while the other worm is moving with a speed of 11.25 ipm. If the worms are initially 8.75 feet apart, how long in minutes, will it take them to meet? ----- 59= _____ min

21B-60. When an object is moving, its observed length appears to be different as measured by someone not moving with it. The formula for calculating this observed length is to multiply the object's rest length by the square root of one minus the quantity of the object's speed squared divided by the speed of light squared. So, an object with rest length of 10 meters and moving at a speed of 2×10^8 m/s could be observed to have what length? Let the speed of light equal 3×10^8 m/s. ----- 60= _____ m

<p>21B-61.</p> <p style="text-align: center;">SPHERE</p>  <p style="text-align: center;">Sphere Surface Area = 8.04×10^{-12}</p> <p>21B-61 = _____</p>	<p>21B-62.</p> <p style="text-align: center;">RIGHT HEXAGONAL PRISM</p>  <p style="text-align: right;">Volume = ?</p> <p style="text-align: center;">Shaded Area = 200</p> <p>21B-62 = _____</p>
---	--

21B-63. $\frac{14!}{4!} - 12!$ ----- 63 = _____

21B-64. (deg) $\frac{\tan(5.12^\circ)}{172}$ ----- 64 = _____

21B-65. (deg) $(9.46 - 11)\sin(11.2^\circ)$ ----- 65 = _____

21B-66. (deg) $[111]\cos(29.7^\circ - 27.6^\circ)$ ----- 66 = _____

21B-67. (rad) $\sin\left[\frac{(2.19)(\pi)}{(142)(137)}\right]$ ----- 67 = _____

21B-68. (deg) $\frac{\sin(179^\circ)}{1280 + 775}$ ----- 68 = _____

21B-69. (deg) $\frac{\sin(23.5^\circ)}{\tan(23.5^\circ)}[398]$ ----- 69 = _____

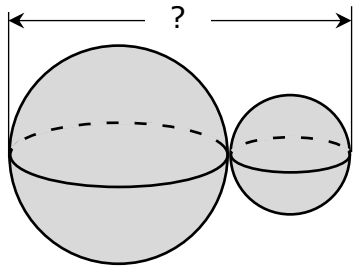
21B-70. $(22.6 + 3.13 + 3.75)^{2/5}$ ----- 70 = _____

21B-71. During the COVID-19 epidemic, Noah's day care went from a normal population of 32 to 17. What percent decrease is this? ----- 71 = _____ %

21B-72. Three times a number squared added to ten times that number is eight. What is the number, if it is negative? ----- 72 = _____

21B-73.

SPHERES

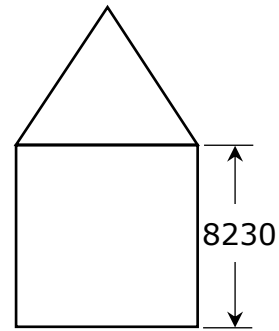


Volume Large Sphere = 200 Volume Small Sphere =
 $\frac{1}{3}$ Volume Large Sphere

21B-73 = _____

21B-74.

SQUARE AND EQUILATERAL TRIANGLE



Total Area = ?

21B-74 = _____

21B-75. $\frac{(26.1)^{0.647}(19.6)^{0.665}}{(17.2 - 8.68)^{-7}}$ ----- 75= _____

21B-76. $\frac{\text{Log}(3.29 \times 10^5 + 4.43 \times 10^5)}{3.31}$ ----- 76= _____

21B-77. $\frac{3610 - 1830}{\text{Log}(10700 + 12100)}$ ----- 77= _____

21B-78. $\frac{\text{Log}[3020 + (907)(14.6)]}{1.76 + \text{Log}[279 + 136]}$ ----- 78= _____

21B-79. $2 + 4 + 6 + \dots + 462$ ----- 79= _____

21B-80. $\frac{1}{(0.689)} + \frac{1}{3(0.689)^3} + \frac{1}{5(0.689)^5} + \frac{1}{7(0.689)^7}$ ----- 80= _____

2021 UIL MS Calculator Test B Answer Key

21B-1	= 9.98 = 9.98×10^0	21B-14	= -3.53×10^{-5}	21B-27	= 4.13×10^{-10}
21B-2	= 108 = 1.08×10^2	21B-15	= -44.5 = -4.45×10^1	21B-28	= 0.0446 = 4.46×10^{-2}
21B-3	= 764 = 7.64×10^2	21B-16	= -0.180 = -1.80×10^{-1}	21B-29	= -1.10×10^7
21B-4	= -15.1 = -1.51×10^1	21B-17	= -0.379 = -3.79×10^{-1}	21B-30	= 5.48×10^{-11}
21B-5	= 3380 = 3.38×10^3	21B-18	= 0.00922 = 9.22×10^{-3}	21B-31	= -1.39×10^{10}
21B-6	= 717 = 7.17×10^2	21B-19	= 0.0470 = 4.70×10^{-2}	21B-32	= 5.81 = 5.81×10^0
21B-7	= -0.483 = -4.83×10^{-1}	21B-20	= 2.71 = 2.71×10^0	21B-33	= 1.73 = 1.73×10^0
21B-8	= -0.802 = -8.02×10^{-1}	21B-21	= 0.00940 = 9.40×10^{-3}	21B-34	= 0.00280 = 2.80×10^{-3}
21B-9	= 1.31×10^6	21B-22	= 2.34×10^8	21B-35	= 11.0 = 1.10×10^1
21B-10	= 1.03×10^{13}	21B-23	= 2.52 = 2.52×10^0	21B-36	= 26.0 = 2.60×10^1
21B-11	= 28.6 = 2.86×10^1	21B-24	= 36 Integer Answer	21B-37	= 0.000235 = 2.35×10^{-4}
21B-12	= 52.44 Dollar Answer	21B-25	= 792 = 7.92×10^2	21B-38	= 45.0 = 4.50×10^1
21B-13	= 9.68 = 9.68×10^0	21B-26	= 288 Integer Answer		

2021 UIL MS Calculator Test B Answer Key

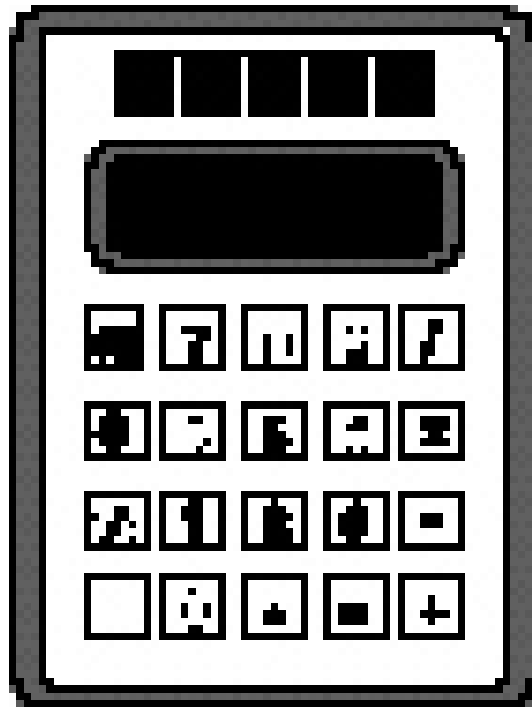
21B-39 = -6.91×10^9	21B-51 = 1.57×10^{12}	21B-61 = 8.00×10^{-7}	21B-73 = 12.3 = 1.23×10^1
21B-40 = 2.32×10^7	21B-52 = 0.153 = 1.53×10^{-1}	21B-62 = 4000 = 4.00×10^3	21B-74 = 9.71×10^7
21B-41 = 0.787 = 7.87×10^{-1}		21B-63 = 3.15×10^9	21B-75 = 1.95×10^8
21B-42 = 369000 = 3.69×10^5	21B-53 = -4.01×10^{-7}	21B-64 = 0.000521 = 5.21×10^{-4}	21B-76 = 1.78 = 1.78×10^0
21B-43 = -61.1 = -6.11×10^1	21B-54 = 3.12×10^{-7}	21B-65 = -0.299 = -2.99×10^{-1}	21B-77 = 408 = 4.08×10^2
21B-44 = 1.29×10^{13}	21B-55 = -646000 = -6.46×10^5	21B-66 = 111 = 1.11×10^2	
21B-45 = 1.05 = 1.05×10^0	21B-56 = 2.12 = 2.12×10^0	21B-67 = 0.000354 = 3.54×10^{-4}	21B-78 = 0.962 = 9.62×10^{-1}
21B-46 = 0.806 = 8.06×10^{-1}	21B-57 = 0.506 = 5.06×10^{-1}	21B-68 = 8.49×10^{-6}	21B-79 = 53600 = 5.36×10^4
21B-47 = 65.3 = 6.53×10^1		21B-69 = 365 = 3.65×10^2	
21B-48 = 376 = 3.76×10^2	21B-58 = 37.7 = 3.77×10^1	21B-70 = 3.87 = 3.87×10^0	21B-80 = 5.70 = 5.70×10^0
21B-49 = 1.03×10^{10}	21B-59 = 5.38 = 5.38×10^0	21B-71 = 46.9 = 4.69×10^1	
21B-50 = 0.132 = 1.32×10^{-1}	21B-60 = 7.45 = 7.45×10^0	21B-72 = -4.00 = -4.00×10^0	

SPRING DISTRICT 2020-2021

A+ ACADEMICS



University Interscholastic League



Calculator Applications

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

2021 UIL MS Calculator Test C

51C-1. $50.4 + 73.4$ ----- 1= _____

51C-2. $-6 - 6 - 13$ ----- 2= _____

51C-3. $461 + 1590 - 2190$ ----- 3= _____

51C-4. $29 - 23 - 30 - 19$ ----- 4= _____

51C-5. $-98 - 29 - 180 - 47$ ----- 5= _____

51C-6. $261 - 460 - 267 - 350 + 205$ ----- 6= _____

51C-7. $0.603 + 0.532 - 0.269 + 0.43 + 1.56$ ----- 7= _____

51C-8. $2.17 + \pi + 3.75 + 3.18 + 1.99$ ----- 8= _____

51C-9. $32.2 \times 224 \times 236$ ----- 9= _____

51C-10. $204 \times 154 \times 60.7 \times 625$ ----- 10= _____

51C-11. What is the result if nine-point seven pi is added to the negative square root of 125?----- 11= _____

51C-12. The three Gonzales children decided to give their savings in each of their piggy banks to a local charity in desperate need of funds. Mackenzie said she would donate \$32.45, Wesley said he would donate \$23.73 and Noah stated that he would give the 16 quarters, 9 dimes and 62 pennies he had. How much money did the children donate?----- 12=\$_____

51C-13. As a waiter in a local restaurant, Dan worked 16 hours and received \$148.50 in tips. How much per hour did Dan make? ----- 13= _____ \$/hr.

51C-14. $84/[123 \times 119 \times 122]$ ----- 14= _____

51C-15. $(-171/55)[220 - 42]$ ----- 15= _____

51C-16. $\{227/94\} \left[\frac{167}{178 + 149} \right]$ ----- 16= _____

51C-17. $\left[\frac{139}{106} \right] [(118/57) - 0.238]$ ----- 17= _____

51C-18. $\left[\frac{(1610/5210) - (2610/4600)}{0.132/(0.173)} \right]$ ----- 18= _____

51C-19. $\frac{[0.183/(0.0928)]/0.0939}{(162 \times 59.2)(14.5)}$ ----- 19= _____

51C-20. $\frac{(\pi)(7/2)(6/3)}{77}$ ----- 20= _____

51C-21. $\left[\frac{(0.336)(2.2)}{1.58 \times 10^{-4}} \right] (0.00312 - 0.00962)$ ----- 21= _____

51C-22. $\left[\frac{2450 + 1420}{2900 - 1850} \right] \left[\frac{545}{2350} \right]$ ----- 22= _____

51C-23. $\frac{(527 \times 503)/2330}{(1380 \times 168) + 1.96 \times 10^5}$ ----- 23= _____

51C-24. How many U.S. postage stamps can one buy with \$30 if each stamp currently costs 55¢?----- 24= _____ integer

51C-25. With a 6-inch diameter auger, Mike dug a hole 32 inches deep. How much dirt did Mike dig out?----- 25= _____ in³

51C-26. When Genny walked into a local ice cream shop she found that the shop had 36 different flavors of ice cream, 6 different types of sprinkles for toppings and 2 different types of ice cream cones. How many different combinations of ice cream, sprinkle and cone are available from this ice cream shop for Genny?----- 26= _____ integer

51C-27. $\frac{(3.75 \times 10^5) + (1.32 \times 10^6)}{(-0.553)(0.986) - 0.464}$ ----- 27= _____

51C-28. $\frac{(3.35 - 1.47)(20.5 + 5.53)}{(4.36 \times 10^{12})}$ ----- 28= _____

51C-29. $\frac{(79.5 + 27.1)(129 + 107)}{(1.97 \times 10^{11})}$ ----- 29= _____

51C-30. $[58.3] \left[\frac{1/1.4}{1/(\pi)} \right]$ ----- 30= _____

51C-31. $\frac{1}{0.00468} + \frac{1}{(\pi)(0.0851 - 0.0764)}$ ----- 31= _____

51C-32. $(13.4) [(8.80 \times 10^{-10}) - (1.58 \times 10^{-9})]$ ----- 32= _____

51C-33. $\left[\frac{1/225}{1/53.6} \right] + [0.344]$ ----- 33= _____

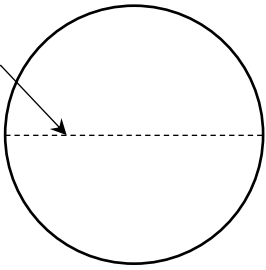
51C-34. $\frac{1}{(0.203 - 0.13)} - \frac{1}{(0.0411)}$ ----- 34= _____

51C-35. While driving along at an average speed of 72 mph, Liz saw a highway sign that stated the next restroom stop was 15 miles away. How long will it take Liz to get to the restroom stop?----- 35= _____ min

51C-36. A men's basketball is 24.26 cm in diameter. If Matt rolls this basketball 85 feet, how many revolutions (rev) does the ball turn? ---- 36= _____ rev

51C-37.

CIRCLE



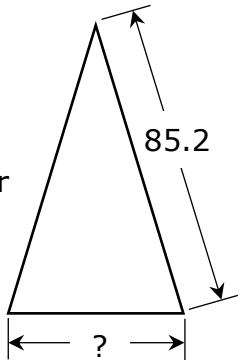
Diameter = ?

Circle Circumference = 0.000131

51C-37 = _____

51C-38.

ISOSCELES TRIANGLE



Triangle Perimeter = 210

51C-38 = _____

51C-39. $(13.5 + 47.5 + 14.5)^2(0.0582 + 0.0872)^2$ ----- 39= _____

51C-40. $\left[\frac{1500 + (1/(0.00128))}{(1300/567) - 1.85} \right]^2$ ----- 40= _____

51C-41. $\left[\frac{555}{44} \right](502 + 641)^3$ ----- 41= _____

51C-42. $\sqrt{2170 - 1930 + 2060} - \sqrt{632}$ ----- 42= _____

51C-43. $\sqrt{(1.37/1.4) + 0.729 - 0.495}$ ----- 43= _____

51C-44. $(1/(0.00731))(9880 - 3630)^3$ ----- 44= _____

51C-45. $\sqrt{6.89 - 881/314} + 1/\sqrt{0.0444 + 0.0106}$ ----- 45= _____

51C-46. $\frac{1}{\sqrt{147 + 565 + 135}} + \left(\frac{1}{\sqrt{4.87}} \right)^4$ ----- 46= _____

51C-47. Andy took a 15' long rope and attached one end to a vertical pipe 6' above the ground. He then stretched the rope taut and with the other end traced a circle along the level ground. What is the circumference of this circle? ----- 47= _____ ft

51C-48. Arturo walked 400' due west and stopped. He then walked 550' away to a spot due south of the point he started at. How far away is he from his starting point? ----- 48= _____ ft

51C-49. RIGHT TRIANGLE

51C-49 = _____

51C-50. RIGHT TRIANGLE

Triangle Area = ?

51C-50 = _____

51C-51. $\frac{\sqrt{39.3 + \pi + 18.4}}{(0.0479 - 0.106 + 0.105)^4}$ ----- 51=_____

51C-52. $\left[\frac{\sqrt{\sqrt{1.56 \times 10^5 - 88300}}}{-(676 - 764)} \right]^2 [18300 + 19000]$ ----- 52=_____

51C-53. $\left[\frac{245 + 169 + \sqrt{1.32 \times 10^5 + 1.34 \times 10^5}}{22.2/25.8} \right]^3$ ----- 53=_____

51C-54. $(246)(3.81 \times 10^7)^{1/2} - [(2.05 \times 10^{12})(1.50 \times 10^{13})]^{1/4}$ ---- 54=_____

51C-55. $(120)^2 \sqrt{(7.15)/(4.05)} - (10700 + 2430)$ ----- 55=_____

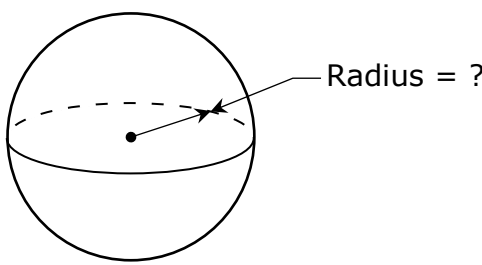
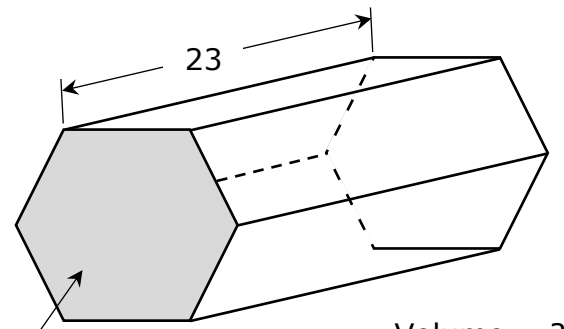
51C-56. $0.312 + \sqrt{(124)/(405)} - (0.386 + 0.472)^2$ ----- 56=_____

51C-57. $\sqrt{\frac{(4.03)(16.3)}{(25.5) + (29.6)}} - 2.3$ ----- 57=_____

51C-58. $(\text{deg}) \tan(33^\circ) + (381/256)$ ----- 58=_____

51C-59. Two worms are moving toward each other at constant speeds oblivious to each other. One worm is moving at a speed of 8.75 inches per minute (ipm), while the other worm is moving with a speed of 10.25 ipm. If the worms are initially 9.75 feet apart, how long in minutes, will it take them to meet? ----- 59=_____ min

51C-60. When an object is moving, its observed length appears to be different as measured by someone not moving with it. The formula for calculating this observed length is to multiply the object's rest length by the square root of one minus the quantity of the object's speed squared divided by the speed of light squared. So, an object with rest length of 10 meters and moving at a speed of 2.5×10^8 m/s could be observed to have what length? Let the speed of light equal 3×10^8 m/s. ----- 60=_____ m

<p>51C-61.</p> <p style="text-align: center;">SPHERE</p>  <p style="text-align: center;">Sphere Surface Area = 8.50×10^{-11}</p> <p>51C-61 = _____</p>	<p>51C-62.</p> <p style="text-align: center;">RIGHT HEXAGONAL PRISM</p>  <p style="text-align: right;">Volume = ?</p> <p style="text-align: center;">Shaded Area = 250</p> <p>51C-62 = _____</p>
---	--

51C-63. $\frac{14! + 13!}{9!}$ ----- 63 = _____

51C-64. (deg) $(160 - 597)\sin(510^\circ)$ ----- 64 = _____

51C-65. (deg) $(9.77 + 42.5)\sin(403^\circ)$ ----- 65 = _____

51C-66. (rad) $\frac{\sin(431)}{1680/986}$ ----- 66 = _____

51C-67. (deg) $\sin(11.2^\circ - 27.2^\circ) + 0.232$ ----- 67 = _____

51C-68. (rad) $\sin[(2.9 - 0.655)(39)]$ ----- 68 = _____

51C-69. (deg) $\frac{\tan(13^\circ)}{1340 + 1300}$ ----- 69 = _____

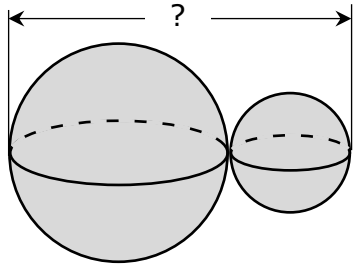
51C-70. $\left[(150) \left(\frac{684}{(1400)(\pi)} \right) \right]^{3/2}$ ----- 70 = _____

51C-71. During the COVID-19 epidemic, Noah's day care went from a normal population of 28 to 18. What percent decrease is this? ----- 71 = _____ %

51C-72. Two times a number squared minus three times that number is thirty-five. What is the number, if it is negative? ----- 72 = _____

51C-73.

SPHERES

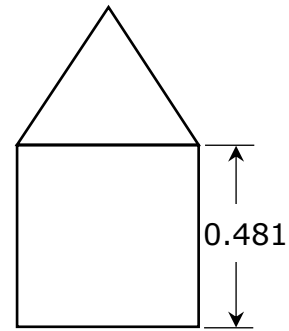


Volume Large Sphere = 267 Volume Small Sphere = 1/3 Volume Large Sphere

51C-73 = _____

51C-74.

SQUARE AND EQUILATERAL TRIANGLE



Total Area = ?

51C-74 = _____

51C-75. $\text{Ln}\left[\frac{80.2 + 61 + 87.7}{292 + 684 - 563}\right]$ ----- 75= _____

51C-76. $\frac{\text{Log}(7.17 + 42.5)}{5760 - 34000}$ ----- 76= _____

51C-77. $\text{Log}\sqrt{\frac{448 - 358}{(0.9)(1.31)}}$ ----- 77= _____

51C-78. $\frac{(e^{0.809})(e^{0.858})(e^{0.859})}{\text{Ln}(2010 + 4810)}$ ----- 78= _____

51C-79. $1 + 3 + 5 + \dots + 957$ ----- 79= _____

51C-80. $-\frac{1}{(3.4)} + \frac{1}{3(3.4)^3} - \frac{1}{5(3.4)^5} + \frac{1}{7(3.4)^7}$ ----- 80= _____

2021 UIL MS Calculator Test C Answer Key

$$51C-1 = 124$$
$$= 1.24 \times 10^2$$

$$51C-2 = -25.0$$
$$= -2.50 \times 10^1$$

$$51C-3 = -139$$
$$= -1.39 \times 10^2$$

$$51C-4 = -43.0$$
$$= -4.30 \times 10^1$$

$$51C-5 = -354$$
$$= -3.54 \times 10^2$$

$$51C-6 = -611$$
$$= -6.11 \times 10^2$$

$$51C-7 = 2.86$$
$$= 2.86 \times 10^0$$

$$51C-8 = 14.2$$
$$= 1.42 \times 10^1$$

$$51C-9 = 1.70 \times 10^6$$

$$51C-10 = 1.19 \times 10^9$$

$$51C-11 = 19.3$$
$$= 1.93 \times 10^1$$

$$51C-12 = 61.70$$

Dollar Answer

$$51C-13 = 9.28$$
$$= 9.28 \times 10^0$$

$$51C-14 = 4.70 \times 10^{-5}$$

$$51C-15 = -553$$
$$= -5.53 \times 10^2$$

$$51C-16 = 1.23$$
$$= 1.23 \times 10^0$$

$$51C-17 = 2.40$$
$$= 2.40 \times 10^0$$

$$51C-18 = -0.339$$
$$= -3.39 \times 10^{-1}$$

$$51C-19 = 0.000151$$
$$= 1.51 \times 10^{-4}$$

$$51C-20 = 0.286$$
$$= 2.86 \times 10^{-1}$$

$$51C-21 = -30.4$$
$$= -3.04 \times 10^1$$

$$51C-22 = 0.855$$
$$= 8.55 \times 10^{-1}$$

$$51C-23 = 0.000266$$
$$= 2.66 \times 10^{-4}$$

$$51C-24 = 54$$

Integer Answer

$$51C-25 = 905$$
$$= 9.05 \times 10^2$$

$$51C-26 = 432$$

Integer Answer

$$51C-27 = -1.68 \times 10^6$$

$$51C-28 = 1.12 \times 10^{-11}$$

$$51C-29 = 1.28 \times 10^{-7}$$

$$51C-30 = 131$$
$$= 1.31 \times 10^2$$

$$51C-31 = 250$$
$$= 2.50 \times 10^2$$

$$51C-32 = -9.38 \times 10^{-9}$$

$$51C-33 = 0.582$$
$$= 5.82 \times 10^{-1}$$

$$51C-34 = -10.6$$
$$= -1.06 \times 10^1$$

$$51C-35 = 12.5$$
$$= 1.25 \times 10^1$$

$$51C-36 = 34.0$$
$$= 3.40 \times 10^1$$

$$51C-37 = 0.0000417$$
$$= 4.17 \times 10^{-5}$$

$$51C-38 = 39.6$$
$$= 3.96 \times 10^1$$

2021 UIL MS Calculator Test C Answer Key

$$\begin{aligned} 51C-39 &= 121 \\ &= 1.21 \times 10^2 \end{aligned}$$

$$51C-40 = 2.65 \times 10^7$$

$$51C-41 = 1.88 \times 10^{10}$$

$$\begin{aligned} 51C-42 &= 22.8 \\ &= 2.28 \times 10^1 \end{aligned}$$

$$\begin{aligned} 51C-43 &= 1.10 \\ &= 1.10 \times 10^0 \end{aligned}$$

$$51C-44 = 3.34 \times 10^{13}$$

$$\begin{aligned} 51C-45 &= 6.28 \\ &= 6.28 \times 10^0 \end{aligned}$$

$$\begin{aligned} 51C-46 &= 0.0765 \\ &= 7.65 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 51C-47 &= 86.4 \\ &= 8.64 \times 10^1 \end{aligned}$$

$$\begin{aligned} 51C-48 &= 377 \\ &= 3.77 \times 10^2 \end{aligned}$$

$$51C-49 = 1.08 \times 10^{10}$$

$$\begin{aligned} 51C-50 &= 0.144 \\ &= 1.44 \times 10^{-1} \end{aligned}$$

$$51C-51 = 1.61 \times 10^6$$

$$\begin{aligned} 51C-52 &= 1250 \\ &= 1.25 \times 10^3 \end{aligned}$$

$$51C-53 = 1.26 \times 10^9$$

$$\begin{aligned} 51C-54 &= -836000 \\ &= -8.36 \times 10^5 \end{aligned}$$

$$\begin{aligned} 51C-55 &= 6000 \\ &= 6.00 \times 10^3 \end{aligned}$$

$$\begin{aligned} 51C-56 &= 0.129 \\ &= 1.29 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 51C-57 &= -1.21 \\ &= -1.21 \times 10^0 \end{aligned}$$

$$\begin{aligned} 51C-58 &= 2.14 \\ &= 2.14 \times 10^0 \end{aligned}$$

$$\begin{aligned} 51C-59 &= 6.16 \\ &= 6.16 \times 10^0 \end{aligned}$$

$$\begin{aligned} 51C-60 &= 5.53 \\ &= 5.53 \times 10^0 \end{aligned}$$

$$51C-61 = 2.60 \times 10^{-6}$$

$$\begin{aligned} 51C-62 &= 5750 \\ &= 5.75 \times 10^3 \end{aligned}$$

$$\begin{aligned} 51C-63 &= 257000 \\ &= 2.57 \times 10^5 \end{aligned}$$

$$\begin{aligned} 51C-64 &= -219 \\ &= -2.19 \times 10^2 \end{aligned}$$

$$\begin{aligned} 51C-65 &= 35.6 \\ &= 3.56 \times 10^1 \end{aligned}$$

$$\begin{aligned} 51C-66 &= -0.332 \\ &= -3.32 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 51C-67 &= -0.0436 \\ &= -4.36 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 51C-68 &= -0.398 \\ &= -3.98 \times 10^{-1} \end{aligned}$$

$$51C-69 = 8.75 \times 10^{-5}$$

$$\begin{aligned} 51C-70 &= 113 \\ &= 1.13 \times 10^2 \end{aligned}$$

$$\begin{aligned} 51C-71 &= 35.7 \\ &= 3.57 \times 10^1 \end{aligned}$$

$$\begin{aligned} 51C-72 &= -3.50 \\ &= -3.50 \times 10^0 \end{aligned}$$

$$\begin{aligned} 51C-73 &= 13.5 \\ &= 1.35 \times 10^1 \end{aligned}$$

$$\begin{aligned} 51C-74 &= 0.332 \\ &= 3.32 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 51C-75 &= -0.590 \\ &= -5.90 \times 10^{-1} \end{aligned}$$

$$51C-76 = -6.01 \times 10^{-5}$$

$$\begin{aligned} 51C-77 &= 0.941 \\ &= 9.41 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 51C-78 &= 1.42 \\ &= 1.42 \times 10^0 \end{aligned}$$

$$\begin{aligned} 51C-79 &= 229000 \\ &= 2.29 \times 10^5 \end{aligned}$$

$$\begin{aligned} 51C-80 &= -0.286 \\ &= -2.86 \times 10^{-1} \end{aligned}$$