

8 1st Score: _____	2nd Score: _____	3rd Score: _____	_____. ____ Final Score
S & G _____	S & G _____	S & G _____	
Grader: _____	Grader: _____	Grader: _____	

PLACE LABEL BELOW

Name: _____ School: _____

SS/ID Number: _____ City: _____

Grade: 3 4 5 Classification: 1A 2A 3A 4A 5A 6A



TMSCA ELEMENTARY CALCULATOR SPRING ON-LINE TEST ©

2021

GENERAL DIRECTIONS

I. About this test:

- A. You will be given 30 minutes to take this test. There are 80 problems on this test.
- B. ALL calculators must be cleared. **HP Prime calculators are not allowed.**

II. How to write the answers:

- A. For all problems except stated problem as noted below write three significant digits.
 1. Examples (* means correct, but not recommended)
 Correct: 12.3, 123, 123.*, 1.23x10*, 1.23x10⁰*, 1.23x10¹, 1.23x10⁰¹, .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
 2. Plus or minus one digit error in the third significant digit is permitted.
- B. For stated problems:

1. Except for integer, dollar sign, and significant digit problems, as detailed below, 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. The decimal point and cents are required for exact dollar answers.

III. Some symbols used on the test.

- A. Angle measure: rad means radians; deg means degrees.
- B. Inverse trigonometric functions: arcsin for inverse sine, etc.
- C. Special numbers: π for 3.14159 . . . ; e for 2.71828.
- D. Logarithms: Log means common (base 10); Ln means natural (base e).

IV. Scoring:

- A. All problems answered correctly are worth FIVE points. FOUR points will be deducted for all problems answered incorrectly or skipped before the last problem attempted.

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2021 TMSCA Elementary Calculator Test Spring Online

20G-1. $364 + 169 + 585$ ----- 1=_____

20G-2. $83 + 242$ ----- 2=_____

20G-3. $91 \times (63)$ ----- 3=_____

20G-4. $\pi/65$ ----- 4=_____

20G-5. $1280 - 2550 + 1840$ ----- 5=_____

20G-6. $61 - 12 - 103 - 13$ ----- 6=_____

20G-7. $3780 + 5020 + 3030 + 4710 + 1280$ ----- 7=_____

20G-8. $(27 \times 44) + 205 - 1080$ ----- 8=_____

20G-9. $487 \times 291 \times 254$ ----- 9=_____

20G-10. $(135 + 68) \times (3790 + 2940)$ ----- 10=_____

20G-11. What is the sum of $\frac{9}{16}$, 0.114 and pi?----- 11=_____

20G-12. If the sum of twenty-eight and thirty-nine is divided by 0.00351, what is the result? ----- 12=_____

20G-13. A box of pencils contains 12 pencils. If I have to buy at least 200 pencils, how many boxes do I need to buy?----- 13=_____ bx(integer)

- 20G-14. $-109 + [178/160]$ ----- 14=_____
- 20G-15. $(-10)[33 \times 24/45]$ ----- 15=_____
- 20G-16. $\{(160)(706 - 437)(432)\} - 1.19 \times 10^7$ ----- 16=_____
- 20G-17. $\{(11)(8 - 6)(9)\}$ ----- 17=_____
- 20G-18. $\left[\frac{77}{38 + 57} \right]$ ----- 18=_____
- 20G-19. $\{317\} \left[\frac{644}{585 + 364} \right]$ ----- 19=_____
- 20G-20. $\left[\frac{17/33}{65} \right]$ ----- 20=_____
- 20G-21. $\frac{(86)(17/79)(71/15)}{(65/53)}$ ----- 21=_____
- 20G-22. $\left[\frac{134}{206/489} \right] \{107 + 453\}$ ----- 22=_____
- 20G-23. $\left[\frac{(107/211) - (338/483)}{351/153} \right]$ ----- 23=_____
- 20G-24. How many US nickels equal \$217.75? ----- 24=_____ integer
- 20G-25. Ruben used to walk $2\frac{3}{8}$ miles each day. If his normal stride length (SL) is 30 inches, how many stride lengths does this equal? ---- 25=_____ SL
- 20G-26. Noah had a job of counting cars that entered a parking lot. If the lot held a maximum 175 cars and Noah had counted 98 cars that had entered the lot, what percent of the lot was not filled? ----- 26=_____ %

20G-27. $[480 - 784] + [(21)(16 + 11)]$ ----- 27=_____

20G-28. $(1.17 \times 10^{11}) + (7.09 \times 10^{11})$ ----- 28=_____

20G-29. $(877)[(294) - (388)]$ ----- 29=_____

20G-30. $\frac{(14 - 58)}{(\pi)}$ ----- 30=_____

20G-31. $\frac{(22 + 33)(0.0099)}{(11)}$ ----- 31=_____

20G-32. $\frac{1}{41} + \frac{1}{(18 - 45)}$ ----- 32=_____

20G-33. $\frac{1}{\pi} + \frac{1}{(-11)}$ ----- 33=_____

20G-34. $\frac{1}{30} - \frac{1}{19} + \frac{1}{14}$ ----- 34=_____

20G-35. Dan bought two 92" long boards. He cut off four lengths that are one and one-half feet in length each, four pieces that are each ten inches long and one piece that is three feet, eight inches long. How much of the original boards is left? ----- 35=_____ in

20G-36. Using gravity, I started pouring water into a can that holds 106 liquid ounces. Two minutes, 18 seconds later the can was filled. What is the flowrate, in gallons per minute (gpm), of the gravity pump? ----- 36=_____ gpm

20G-37.

SQUARE

Area =
839000

Perimeter = ?

20G-37=_____

20G-38.

EQUILATERAL TRIANGLE

?

Perimeter = 74800

20G-38=_____

20G-39. $\sqrt{0.0071}$ ----- 39=_____

20G-40. $\frac{(0.00275)^{-3}}{(0.00395 - 0.00301)^2}$ ----- 40=_____

20G-41. $\sqrt[3]{0.00136} + \sqrt{0.00244}$ ----- 41=_____

20G-42. $\frac{1}{0.0024} + \frac{1}{(0.00114 - 0.00386)}$ ----- 42=_____

20G-43. $(11.3)\sqrt{1.9 + 1.83 + 1.86}$ ----- 43=_____

20G-44. $\sqrt{\frac{0.0612 + 0.103}{42 - 13.9}}$ ----- 44=_____

20G-45. $\left[\frac{265}{(1010/169)}\right]^2$ ----- 45=_____

20G-46. $(1/4.83)(7.45 - 241)^3$ ----- 46=_____

20G-47. Michael bought eight soft tacos that cost \$1.69 each. If the sales tax is 8.25% and a \$20 bill is used to buy the tacos, how much change is returned to Michael? ----- 47=\$_____

20G-48. Alicia walked 25 meters east and then walked 36 meters north. What is the shortest distance back to where she started? ----- 48=_____ meters

20G-49.

REGULAR HEPTAGON

20G-49=_____

20G-50.

RIGHT TRIANGLE

20G-50=_____

20G-51. $\sqrt{(7.87 \times 10^6)/(25.7)} + (9.19 - 30.4)^2$ ----- 51=_____

20G-52. $(153)^2 \sqrt{(46.4)/(174)} - (60.3 + 55.1)$ ----- 52=_____

20G-53. $\frac{(43.7 + 17)^3}{(25.2 - 7.85)^2}$ ----- 53=_____

20G-54. $\sqrt{(19.3/11.7) + 1.49}$ ----- 54=_____

20G-55. $(1020)(265)^{1/4}$ ----- 55=_____

20G-56. $\sqrt{\frac{(127)(154)}{(21.7) + (79.1)}} + 1/(56.8)^{-1}$ ----- 56=_____

20G-57. $\sqrt{\frac{1/(9.71 + 1.73)}{(2.3)(10.8 + \pi)^2}}$ ----- 57=_____

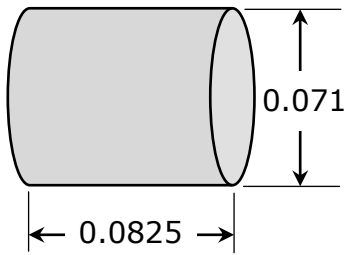
20G-58. $\frac{1}{\sqrt{0.545 - 1.59 + 2.92}} + \left(\frac{1}{\sqrt{2.84}}\right)^3$ ----- 58=_____

20G-59. Matt took 1 sunrise picture the first day. The next time he took pictures, he took 3 sunrise pictures, then he took 5 sunrise pictures, and so on. At the time he took 19 sunrise pictures, how many total pictures had he taken assuming the same pattern of picture taking?--- 59=_____ integer

20G-60. After a physical education class talk Guadalupe became inspired and decided that she was going to run twice around her neighborhood block twice per day, five days a week, for eight weeks. If her neighborhood block is a rectangle and measure 1,320 feet by 660 feet, what distance does she run for the eight weeks?----- 60=_____ mi

20G-61.

RIGHT CYLINDER

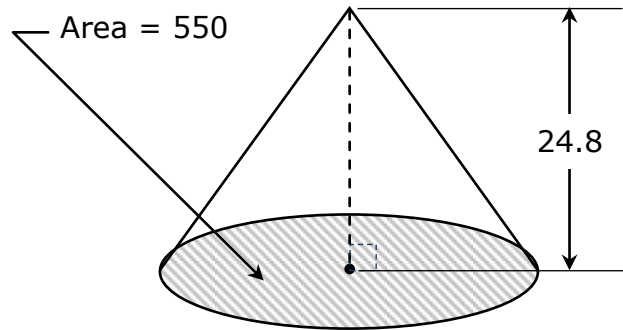


Volume = ?

20G-61=_____

20G-62.

RIGHT CIRCULAR CONE



Volume = ?

20G-62=_____

20G-63. $\frac{16!}{22!}$ ----- 63=_____

20G-64. $\frac{8!}{17!} + 3.24 \times 10^{-11}$ ----- 64=_____

20G-65. (deg) $(21.1)\tan(41.9^\circ)$ ----- 65=_____

20G-66. $e^{0.625}$ ----- 66=_____

20G-67. $(62.8 - 72.9)e^{5.25}$ ----- 67=_____

20G-68. (rad) $\frac{\sin(3.87)}{415}$ ----- 68=_____

20G-69. (deg) $(6.84)\tan(13.4^\circ - 54.8^\circ)$ ----- 69=_____

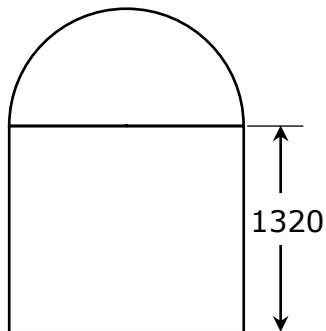
20G-70. (rad) $\sin[(5.18 - 5.66)(124)]$ ----- 70=_____

20G-71. If there are 231 cubic inches in one gallon, then how many gallons are in a rectangular aquarium that measure 15 inches by 1.75 feet by 30 inches? ----- 71=_____ gal

20G-72. A black bag contains 8 red marble, 5 black marbles, 5 blue marbles and 6 green marbles. What is the probability of drawing a green marble randomly? ----- 72=_____

20G-73.

SQUARE AND SEMICIRCLE

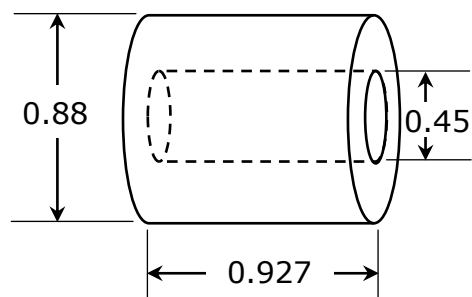


Total Area = ?

20G-73=_____

20G-74.

RIGHT CYLINDERS WITH CYLINDER HOLE



Volume Remaining = ?

20G-74=_____

20G-75. $(0.804 - 1.1 + 1.6)^{2/3}$ ----- 75=_____

20G-76. $\text{Log } 1.02 + \text{Ln } 0.77$ ----- 76=_____

20G-77. $(\text{deg}) \frac{\sin(52.2^\circ)}{\tan(52.2^\circ)} [0.0948]$ ----- 77=_____

20G-78. $(1.78)^{1.81}(1.02)^{0.498}$ ----- 78=_____

20G-79. $\text{Log} \sqrt{\frac{175 - 84.5}{(0.0651)(0.0878)}}$ ----- 79=_____

20G-80. $1 + 2 + 3 + \dots + 144$ ----- 80=_____

2021 TMSCA Elementary Calculator Test Spring Answer Key

$$\begin{aligned} 20G-1 &= 1120 \\ &= 1.12 \times 10^3 \end{aligned}$$

$$\begin{aligned} 20G-14 &= -108 \\ &= -1.08 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20G-27 &= 263 \\ &= 2.63 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20G-2 &= 325 \\ &= 3.25 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20G-15 &= -176 \\ &= -1.76 \times 10^2 \end{aligned}$$

$$20G-28 = 8.26 \times 10^{11}$$

$$\begin{aligned} 20G-3 &= 5730 \\ &= 5.73 \times 10^3 \end{aligned}$$

$$20G-16 = 6.69 \times 10^6$$

$$\begin{aligned} 20G-29 &= -82400 \\ &= -8.24 \times 10^4 \end{aligned}$$

$$\begin{aligned} 20G-4 &= 0.0483 \\ &= 4.83 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20G-17 &= 198 \\ &= 1.98 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20G-30 &= -14.0 \\ &= -1.40 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20G-5 &= 570 \\ &= 5.70 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20G-18 &= 0.811 \\ &= 8.11 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20G-31 &= 0.0495 \\ &= 4.95 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20G-6 &= -67.0 \\ &= -6.70 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20G-19 &= 215 \\ &= 2.15 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20G-32 &= -0.0126 \\ &= -1.26 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20G-7 &= 17800 \\ &= 1.78 \times 10^4 \end{aligned}$$

$$\begin{aligned} 20G-20 &= 0.00793 \\ &= 7.93 \times 10^{-3} \end{aligned}$$

$$\begin{aligned} 20G-33 &= 0.227 \\ &= 2.27 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20G-8 &= 313 \\ &= 3.13 \times 10^2 \end{aligned}$$

$$\begin{aligned} 20G-21 &= 71.4 \\ &= 7.14 \times 10^1 \end{aligned}$$

$$\begin{aligned} 20G-34 &= 0.0521 \\ &= 5.21 \times 10^{-2} \end{aligned}$$

$$20G-9 = 3.60 \times 10^7$$

$$\begin{aligned} 20G-22 &= 178000 \\ &= 1.78 \times 10^5 \end{aligned}$$

$$\begin{aligned} 20G-35 &= 28.0 \\ &= 2.80 \times 10^1 \end{aligned}$$

$$20G-10 = 1.37 \times 10^6$$

$$\begin{aligned} 20G-23 &= -0.0840 \\ &= -8.40 \times 10^{-2} \end{aligned}$$

$$\begin{aligned} 20G-36 &= 0.360 \\ &= 3.60 \times 10^{-1} \end{aligned}$$

$$\begin{aligned} 20G-11 &= 3.82 \\ &= 3.82 \times 10^0 \end{aligned}$$

$$\begin{aligned} 20G-24 &= 4355 \\ &\text{Integer Answer} \end{aligned}$$

$$\begin{aligned} 20G-37 &= 3660 \\ &= 3.66 \times 10^3 \end{aligned}$$

$$\begin{aligned} 20G-12 &= 19100 \\ &= 1.91 \times 10^4 \end{aligned}$$

$$\begin{aligned} 20G-25 &= 5020 \\ &= 5.02 \times 10^3 \end{aligned}$$

$$\begin{aligned} 20G-38 &= 24900 \\ &= 2.49 \times 10^4 \end{aligned}$$

$$\begin{aligned} 20G-13 &= 17 \\ &\text{Integer Answer} \end{aligned}$$

$$\begin{aligned} 20G-26 &= 44.0 \\ &= 4.40 \times 10^1 \end{aligned}$$

2021 TMSCA Elementary Calculator Test Online Spring Answer Key

20G-39 = 0.0843 = 8.43×10^{-2}	20G-51 = 1000 = 1.00×10^3	20G-61 = 0.000327 = 3.27×10^{-4}	20G-73 = 2.43×10^6
20G-40 = 5.44×10^{13}	20G-52 = 12000 = 1.20×10^4	20G-62 = 4550 = 4.55×10^3	20G-74 = 0.416 = 4.16×10^{-1}
20G-41 = 0.160 = 1.60×10^{-1}	20G-53 = 743 = 7.43×10^2	20G-63 = 1.86×10^{-8}	20G-75 = 1.19 = 1.19×10^0
20G-42 = 49.0 = 4.90×10^1	20G-54 = 1.77 = 1.77×10^0	20G-64 = 1.46×10^{-10}	20G-76 = -0.253 = -2.53×10^{-1}
20G-43 = 26.7 = 2.67×10^1	20G-55 = 4120 = 4.12×10^3	20G-65 = 18.9 = 1.89×10^1	20G-77 = 0.0581 = 5.81×10^{-2}
20G-44 = 0.0764 = 7.64×10^{-2}	20G-56 = 70.7 = 7.07×10^1	20G-66 = 1.87 = 1.87×10^0	20G-78 = 2.87 = 2.87×10^0
20G-45 = 1970 = 1.97×10^3	20G-57 = 0.0140 = 1.40×10^{-2}	20G-67 = -1920 = -1.92×10^3	20G-79 = 2.10 = 2.10×10^0
20G-46 = -2.64×10^6	20G-58 = 0.939 = 9.39×10^{-1}	20G-68 = -0.00160 = -1.60×10^{-3}	20G-80 = 10400 = 1.04×10^4
20G-47 = 5.36 Dollar Answer	20G-59 = 100 Integer Answer	20G-69 = -6.03 = -6.03×10^0	
20G-48 = 43.8 = 4.38×10^1	20G-60 = 120 = 1.20×10^2	20G-70 = -0.169 = -1.69×10^{-1}	
20G-49 = 4.86×10^{11}		20G-71 = 40.9 = 4.09×10^1	
20G-50 = 101 = 1.01×10^2		20G-72 = 0.250 = 2.50×10^{-1}	