

2015-2016 TMSCA Middle School Calculator Test #12

1. $7560 + 7570$ ----- 1= _____

2. $39 - 28 - 31$ ----- 2= _____

3. $5.9 + 13.9 + 22.1$ ----- 3= _____

4. $11 - \pi + 10 - 4$ ----- 4= _____

5. $1090 - 1480 - 1750 + 1370$ ----- 5= _____

6. $-16.8 - 120 - 115 - 63.9 + 66.6$ ----- 6= _____

7. $(\pi + 0.493 - 0.433) - (1.73 + 0.667)$ ----- 7= _____

8. $2.97 + 3.11 - 1.8 + 0.843 + 1.32$ ----- 8= _____

9. $103 \times 398 \times 70.6$ ----- 9= _____

10. $2720 \times 157 \times 1370 \times 4330$ ----- 10= _____

11. Sam got a score of 216 on her calculator test. If she provided an answer to every problem through number 72, calculate how many problems she got wrong. ----- 11= _____ INT.

12. The area of a circle is 1.11 square inches. Calculate the circumference of the circle in inches. ----- 12= _____ in.

13. An inch worm traveled eight centimeters in the morning, four and four-fifths centimeters in the afternoon, and twelve centimeters in the evening. Calculate the total number of inches it traveled. ----- 13= _____ in.

14. $(225/226)[151 - 241]$ -----14= _____

15. $(124)[124 \times 299 \times 244]$ -----15= _____

16. $\{87/26\} \left[\frac{37}{66 + 59} \right]$ -----16= _____

17. $\left[\frac{304}{155} \right] [(316/153) + 1.24]$ -----17= _____

18. $\frac{(107/123) + (16/119)}{(25.7 - 14.3)}$ -----18= _____

19. $\left[\frac{(0.153 + 0.0587)}{143/125} \right] \left[\frac{0.00384}{0.0244} \right]$ -----19= _____

20. $\frac{(161)(0.00124)}{4.79} (92.7 - 69.1)$ -----20= _____

21. $\frac{372}{(265 - 673)} - \frac{(658 - 186)}{635}$ -----21= _____

22. $\frac{(2780 + 2510 - 1480)}{\{(0.00725 - 0.0102)/(0.0322)\}}$ -----22= _____

23. $\frac{(\pi)(61/165)(107/30)}{(161/100)}$ -----23= _____

24. Calculate the geometric mean of the first five prime numbers greater than one hundred. -----24= _____

25. June got a 20% discount on her purchase. The items she purchased cost her \$429.85. What was the price of the items before the discount? -----25=\$ _____

26. Calculate fifty-two percent of eighty-five percent of twelve thousand eight hundred two. -----26= _____

27. $[1320 - (1970 + 2270)] + [(5.59)(481 - 656)]$ -----27= _____

28. $\frac{(0.22 + 0.058)(16.9 + 19)}{(2.59 \times 10^{12})}$ -----28= _____

29. $\frac{(\pi - 2.85)(40.2 + 25.7)}{(2.15 \times 10^{11})}$ -----29= _____

30. $(7.41)[(9.74 \times 10^9) - (3.05 \times 10^9)]$ -----30= _____

31. $\frac{1}{-0.00338} + \frac{1}{(\pi)(0.00397 - 0.00659)}$ -----31= _____


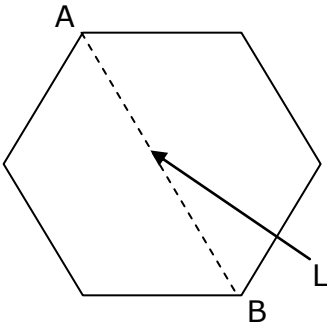
32. $(10.1)\left[\frac{8.26}{(7.50 \times 10^5)}\right]$ -----32= _____

33. $\frac{1}{277} - \frac{1}{(237 + 296)}$ -----33= _____

34. $1/(0.297 - 0.213) - 1/(0.0584)$ -----34= _____

35. The volume of a sphere is 215 cubic inches. Calculate the volume of the sphere if the radius was tripled. -----35= _____ in.³

36. Calculate the percent change from one trillion to one thousand.-----36= _____ %

<p style="text-align: center;">RECTANGLE</p> <p style="text-align: right;">Area = 91400000</p> <div style="display: flex; align-items: center; justify-content: center;"> <div style="margin-right: 10px;">8116</div>  </div> <p style="text-align: right;">Perimeter = ?</p> <p>37= _____</p>	<p style="text-align: center;">REGULAR HEXAGON</p> <p style="text-align: right;">Perimeter = 2.81×10^{-7}</p> <div style="display: flex; align-items: center; justify-content: center;">  </div> <p style="text-align: right;">Length of AB = ?</p> <p>38= _____</p>
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39. $\left[\frac{27900 + (1/(2.39 \times 10^{-5}))}{(48200/18100) - 0.5} \right]^2$ -----49= _____

40. $\sqrt{\frac{0.464 + 0.429}{78.6 - 27.9}}$ -----40= _____

41. $(0.769 + 1.08)^2(7.44 + 4.77)^2$ -----41= _____

42. $\sqrt{(3.97/9.62) + 0.309 - 0.102}$ -----42= _____

43. $\sqrt{2630 - 1340 + 1710} - \sqrt{1230}$ -----43= _____

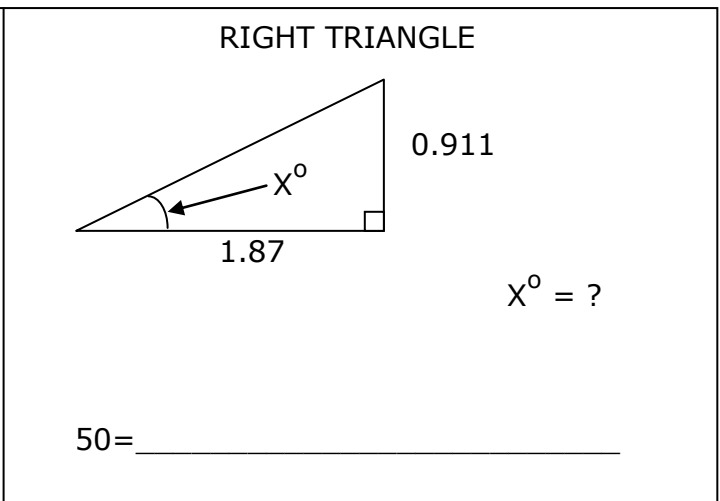
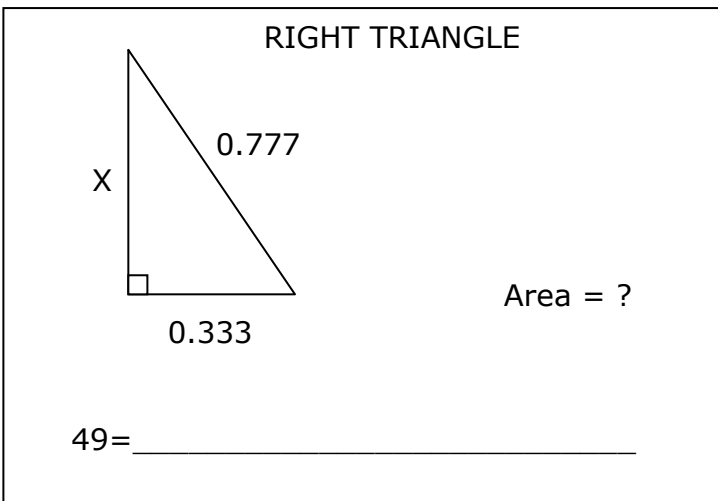
44. $(1/(0.0232))(73700 - 67100)^2$ -----44= _____

45. $\sqrt[3]{0.979 - 2480/3100} + 1/\sqrt{93.6 + 132}$ -----45= _____

46. $\left[\sqrt[3]{(26500/60200)(6.22)} \right]^2$ -----46= _____

47. Andrew started his trip traveling the first 220 miles at an average speed of 68 mph. He stopped for a half hour break. Back on the road he averaged 52 mph for the last 200 miles of the trip. Calculate his average speed for the complete trip. -----47= _____ mph

48. Calculate the product of the roots of the quadratic equation $2x - 7x^2 = 3$ -----48= _____



51. $\frac{\sqrt{0.776 + \pi + 1.83}}{(2.03 - 6.92 + 3.76)^4}$ -----51=_____

52. $\frac{(50.1 + 24.8 - 16.1)^2}{\sqrt{22.9 + 35.5 + 22.6}}$ -----52=_____

53. $\left[\frac{\sqrt{\sqrt{767 - 325}}}{-(17800 - 40100)} \right]^3 [744 + 337]$ -----53=_____

54. $\sqrt{\frac{1/(23.3 - 3.76)}{(25.1)(524 + 310)^3}}$ -----54=_____

55. $5.3 + \sqrt{(4560)/(50.8)} - (0.346 + 1.24)^2$ -----55=_____

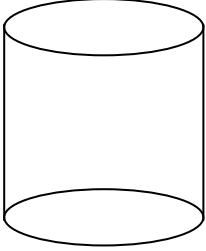
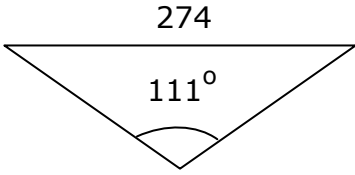
56. $(181)^2 \sqrt{(0.117)/(2)} - (4590 + 1560)$ -----56=_____

57. $\sqrt{\frac{(23.3)(16.5)}{(60.8) + (191)}} - 1.31$ -----57=_____

58. $\sqrt{\frac{1/(54.1 - 50.9)}{(17.7)(125 + 134)^3}}$ -----58=_____

59. A right circular cylinder has a diameter of 17.2 feet and a height of 78.5 feet. Calculate the volume of the cylinder in cubic feet. -----59=_____ ft.³

60. Calculate the odds of drawing a face card from a standard deck of fifty-two cards. -----60=_____

<p style="text-align: center;">RIGHT CIRCULAR CYLINDER</p> <div style="display: flex; align-items: center;">  <div style="flex: 1;"> <p>Diameter = 1221</p> <p>Height = 2495</p> <p>Total Surface Area = ?</p> </div> </div> <p>61= _____</p>	<p style="text-align: center;">ISOSCELES TRIANGLE</p> <div style="text-align: center;">  </div> <p style="text-align: right;">Area = ?</p> <p>62= _____</p>
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63. $\frac{24! - 26!}{16!}$ -----63= _____

64. (deg) $\frac{\tan(13.2^\circ)}{4600}$ -----64= _____

65. $(7.36 \times 10^5 - 8.85 \times 10^5)^8 (1.18 \times 10^9)$ -----65= _____

66. (deg) $(1080 - 702)\cos(2.45^\circ) + 117$ -----66= _____

67. (deg) $\tan(5.09^\circ - 7.79^\circ) + 0.0338$ -----67= _____

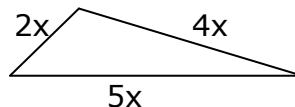
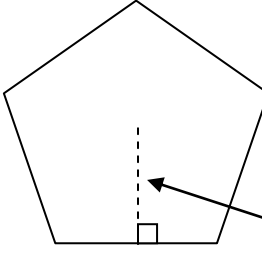
68. (deg) $\frac{\sin(59.6^\circ)}{34.9 + 171}$ -----68= _____

69. (deg) $\frac{\sin(581^\circ)}{\tan(581^\circ)} [17]$ -----69= _____

70. $(5420 - 5240 + 3330)^{5/3}$ -----70= _____

71. Calculate how many different three digit numbers that can be created from the single digit prime numbers if repetition is allowed. -----71= _____ INT.

72. Skim milk is said to have about 0.1% fat, and whole milk about 4% fat. When mixing whole milk with skim milk, calculate the amount of skim milk needed to obtain 100 gallons of milk with 3% fat.-----72= _____ gal.

SCALENE TRIANGLE	REGULAR PENTAGON
 <p>Area = 81125</p> <p>Shortest side = ?</p>	 <p>Apothem = ?</p>
73= _____	74= _____

75. $\frac{\text{Log}(2.07 \times 10^6 + 1.13 \times 10^6)}{0.309}$ ----- 75= _____

76. $\frac{(3.52)^{0.965} (28.6)^{0.229}}{(9.77 - 6.76)^{-4}}$ ----- 76= _____

77. $\frac{65.3 - 42.6}{\text{Log}(53.6 + 32)}$ ----- 77= _____

78. $\frac{\text{Log}[6740 + (459)(25.6)]}{0.19 + \text{Log}[0.738 + 1.17]}$ ----- 78= _____

79. $1 + 2 + 3 + \dots + 388$ ----- 79= _____

80. $1 + 0.6 + (0.6)^2 + \frac{(0.6)^4}{8} - \frac{(0.6)^5}{15}$ ----- 80= _____

2015-2016 TMSCA Middle School Calculator Test #12 Answer Key

Page 1	Page 2	Page 3	Page 4
1 = 15100 = 1.51×10^4	14 = -89.6 = -8.96×10^1	27 = -3900 = -3.90×10^3	39 = 1.04×10^9
2 = -20.0 = -2.00×10^1	15 = 1.12×10^9	28 = 3.85×10^{-12}	40 = 0.133 = 1.33×10^{-1}
3 = 41.9 = 4.19×10^1	16 = 0.990 = 9.90×10^{-1}	29 = 8.94×10^{-11}	41 = 510 = 5.10×10^2
4 = 13.9 = 1.39×10^1	17 = 6.48 = 6.48×10^0	30 = 4.96×10^{10}	42 = 0.787 = 7.87×10^{-1}
5 = -770 = -7.70×10^2	18 = 0.0881 = 8.81×10^{-2}	31 = -417 = -4.17×10^2	43 = 19.7 = 1.97×10^1
6 = -249 = -2.49×10^2	19 = 0.0291 = 2.91×10^{-2}	32 = 0.000111 = 1.11×10^{-4}	44 = 1.88×10^9
7 = 0.805 = 8.05×10^{-1}	20 = 0.984 = 9.84×10^{-1}	33 = 0.00173 = 1.73×10^{-3}	45 = 0.630 = 6.30×10^{-1}
8 = 6.44 = 6.44×10^0	21 = -1.66 = -1.66×10^0	34 = -5.22 = -5.22×10^0	46 = 1.96 = 1.96×10^0
9 = 2.89×10^6	22 = -41600 = -4.16×10^4		
10 = 2.53×10^{12}	23 = 2.57 = 2.57×10^0	35 = 5810 = 5.81×10^3	47 = 55.4 = 5.54×10^1
11 = 16 INT.	24 = 107 = 1.07×10^2	36 = -100 = -1.00×10^2	48 = 0.429 = 4.29×10^{-1}
12 = 3.73 = 3.73×10^0	25 = \$537.31	37 = 38800 = 3.88×10^4	49 = 0.117 = 1.17×10^{-1}
13 = 9.76 = 9.76×10^0	26 = 5660 = 5.66×10^3	38 = 9.37×10^{-8}	50 = 26.0 = 2.60×10^1

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$$51 = 1.47 \\ = 1.47 \times 10^0$$

$$52 = 384 \\ = 3.84 \times 10^2$$

$$53 = 9.40 \times 10^{-9}$$

$$54 = 1.87 \times 10^{-6}$$

$$55 = 12.3 \\ = 1.23 \times 10^1$$

$$56 = 1770 \\ = 1.77 \times 10^3$$

$$57 = -0.0744 \\ = -7.44 \times 10^{-2}$$

$$58 = 3.19 \times 10^{-5}$$

$$59 = 18200 \\ = 1.82 \times 10^4$$

$$60 = 0.300 \\ = 3.00 \times 10^{-1}$$

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$$61 = 1.19 \times 10^7$$

$$62 = 12900 \\ = 1.29 \times 10^4$$

$$63 = -1.92 \times 10^{13}$$

$$64 = 5.10 \times 10^{-5}$$

$$65 = 2.87 \times 10^{50}$$

$$66 = 495 \\ = 4.95 \times 10^2$$

$$67 = -0.0134 \\ = -1.34 \times 10^{-2}$$

$$68 = 0.00419 \\ = 4.19 \times 10^{-3}$$

$$69 = -12.8 \\ = -1.28 \times 10^1$$

$$70 = 811000 \\ = 8.11 \times 10^5$$

$$71 = 64 \text{ INT.}$$

$$72 = 25.6 \\ = 2.56 \times 10^1$$

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$$73 = 292 \\ = 2.92 \times 10^2$$

$$74 = 5510 \\ = 5.51 \times 10^3$$

$$75 = 21.1 \\ = 2.11 \times 10^1$$

$$76 = 596 \\ = 5.96 \times 10^2$$

$$77 = 11.7 \\ = 1.17 \times 10^1$$

$$78 = 9.07 \\ = 9.07 \times 10^0$$

$$79 = 75500 \\ = 7.55 \times 10^4$$

$$80 = 1.97 \\ = 1.97 \times 10^0$$