

2015-2016 TMSCA Middle School Calculator Test #1

1. $11.2 + 5.18$ ----- 1= _____

2. $2.1 + 2.6 + 2.4$ ----- 2= _____

3. $257 - 916 - 165$ ----- 3= _____

4. $\pi + 4 + 7 + 3$ ----- 4= _____

5. $124 - 99 + 23 - 77$ ----- 5= _____

6. $87 + 99.8 - 76.7 - 76.2 + 56.1$ ----- 6= _____

7. $(1.22 - 1.71) + (0.668 - 0.744 - 1.49)$ ----- 7= _____

8. $\pi + 0.61 + 0.859 + 0.109 + 0.139$ ----- 8= _____

9. $85.8 \times 481 \times 241$ ----- 9= _____

10. $153 \times 1970 \times 561 \times 2210$ ----- 10= _____

11. Alaska, the largest state, has a land area of 5.7×10^5 square miles. Rhode Island, the smallest state, has a land area of 1.0×10^3 square miles. Calculate the land area of the two states combined. ----- 11= _____ mi.²

12. The distance between two numbers on the number line is 19. One of the numbers is 8. Calculate the product of the two possibilities for the other number. ----- 12= _____

13. What number is twenty-two and one-third percent of one million? -- 13= _____

14. $84 - [38/214 + 0.184]$ -----14= _____

15. $(148)[180 \times 128/170]$ -----15= _____

16. $\{(121)(59 - 103)(49)\} - 1.73 \times 10^5$ -----16= _____

17. $\left[\frac{-472}{87}\right] [(356/495) + 0.457]$ -----17= _____

18. $\frac{[0.00113/(0.0044)]/362}{(6.91 \times 5.31)(386)}$ -----18= _____

19. $\left[\frac{(1290/813) - (662/636)}{0.677/0.405}\right]$ -----19= _____

20. $(3.16)[196/180 \times 170/249] - 0.471$ -----20= _____

21. $\frac{(\pi)(16/16)(5/5)}{132}$ -----21= _____

22. $\frac{(652 + 676 - 795)}{\{(311 - 77.8)/(105)\}}$ -----22= _____

23. $\frac{(\pi)(110/273)(172/214)}{(68/283)}$ -----23= _____

24. Calculate the mode of the following list of scores.
 5, 8, 3, 8, 7, 6, 7, 8, 4, 5 -----24= _____ INT.

25. Seven-eighths of a mile is how many yards longer than one quarter
 of a mile? -----25= _____ yds.

26. The area of a square is 222 square feet. Calculate the length of the
 diagonal in feet. -----26= _____ ft.

27. $\frac{(354 + 73.6)(48.5 + 22.3)}{(2.93 \times 10^{12})}$ -----27= _____

28. $(1.41)[(0.00658/0.00639)(5.31 + 3.75)]$ -----28= _____

29. $\frac{(0.757 - 1.23)(100 + 83.7)}{(1.72 \times 10^{11})}$ -----29= _____

30. $(252)\left[\frac{0.0293}{(1.91 \times 10^{-8})}\right]$ -----30= _____

31. $(13.5)[(5.50 \times 10^{11}) - (1.87 \times 10^{11})]$ -----31= _____

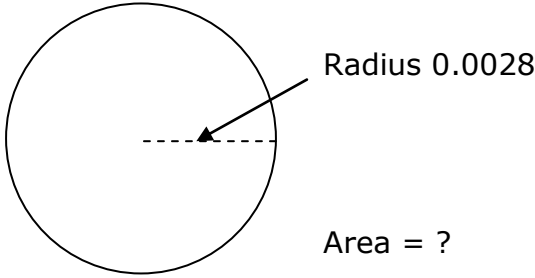
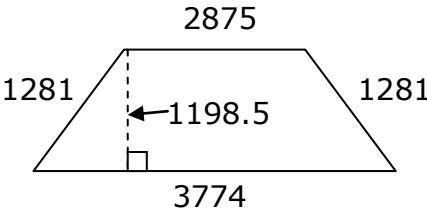
32. $[860]\left[\frac{1/34.6}{1/87.9}\right]$ -----32= _____

33. $\left[\frac{1/230}{1/488}\right][1.13 \times 10^6]$ -----33= _____

34. $\left[\frac{1/560}{1/433}\right] + [0.758]$ -----34= _____

35. A tank is in the shape of a rectangular prism and measures six feet by three feet by fifteen inches. Calculate the number of gallons it will hold if it is filled completely. -----35= _____ gal.

36. Calculate the distance between the points (6, -8) and (-4, 10) on the coordinate plane. -----36= _____

CIRCLE	TRAPEZOID
 <p style="text-align: right; margin-right: 50px;">Area = ?</p>	 <p style="text-align: right; margin-right: 50px;">Perimeter = ?</p>
37= _____	38= _____

39. $\frac{(26700 + 5530)^3}{(0.337 - 0.155)^2}$ -----39= _____

40. $\left[\frac{37300 + (1/(1.68 \times 10^{-5}))}{(65700/63800) - 0.982} \right]^2$ -----40= _____

41. $\sqrt[3]{\frac{2.02 + 0.822}{586 - 425}}$ -----41= _____

42. $\sqrt{(1270/1120) + 1 - 0.564}$ -----42= _____

43. $(1/(0.0173))(3280 - 1760)^3$ -----43= _____

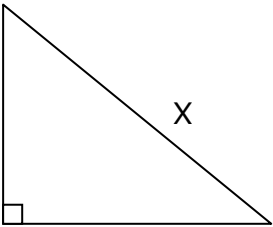
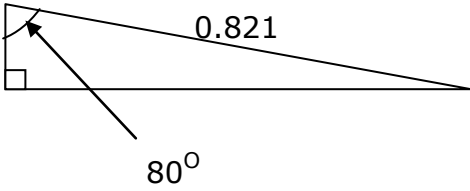
44. $\sqrt{70200 - 36200 + 35500} - \sqrt{60000}$ -----44= _____

45. $\frac{1}{\sqrt{6340 + 5290 + 6630}} + \left(\frac{1}{\sqrt{19.9}} \right)^3$ -----45= _____

46. $\sqrt[4]{0.383 - 1210/6460} + 1/\sqrt{518 + 444}$ -----46= _____

47. The distance between bases on a softball field is 60 feet. Calculate the distance from home plate to second base. -----47= _____ ft.

48. Calculate 271^{217} . -----48= _____

<p style="text-align: center;">RIGHT TRIANGLE</p>  <p style="text-align: center;">$X = ?$</p> <p>49= _____</p>	<p style="text-align: center;">RIGHT TRIANGLE</p>  <p style="text-align: center;">$X = ?$</p> <p>50= _____</p>
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51. $\frac{(0.0153 + 0.00734 - 0.0119)^2}{\sqrt{0.99 + 1.64 + 1.98}}$ -----51=_____

52. $\left[\frac{375 + 52.9 + \sqrt{1.78 \times 10^5 + 33700}}{20.7/61.2} \right]^2$ -----52=_____

53. $\sqrt{\frac{54200}{(30900)(2100)}} + \frac{(43.1 - 10.8)}{(403 + 430)}$ -----53=_____

54. $(5.52)^2 \sqrt{(1.71)/(193)} - (1.56 + 2.16)$ -----54=_____

55. $\sqrt{\frac{(43500)(5.84 \times 10^5)}{(26600)(39700)}} - 1.2 + 1.67$ -----55=_____

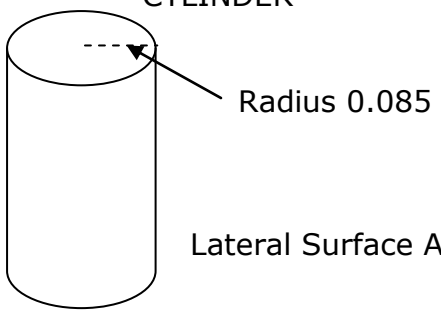
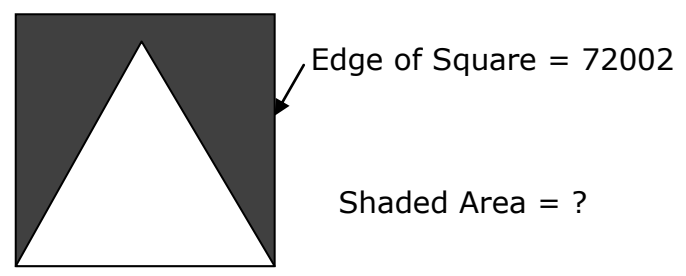
56. $0.267 + \sqrt{(189)/(2370)} - (0.192 + 0.475)^2$ -----56=_____

57. $\sqrt{\frac{(791)(25)}{(287) + (254)}} + 1/(1.35)^{-6}$ -----57=_____

58. $(\text{deg}) \sin(1340^\circ) + (882/1780)$ -----58=_____

59. The radius of a right circular cone is 235.86 centimeters. The height of the cone is 538.62 centimeters. Calculate the volume of the cone in cubic centimeters. -----59=_____ cm³

60. Calculate the odds of drawing a prime numbered card from a standard deck of cards. -----60=_____

<p style="text-align: center;">CYLINDER</p>  <p>0.115</p> <p>Radius 0.085</p> <p>Lateral Surface Area = ?</p> <p>61= _____</p>	<p style="text-align: center;">SQUARE AND EQUILATERAL TRIANGLE</p>  <p>Edge of Square = 72002</p> <p>Shaded Area = ?</p> <p>62= _____</p>
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63. $\frac{23!}{21!} + 6!$ ----- 63= _____

64. (deg) $(192 + 160)\tan(897^\circ)$ ----- 64= _____

65. (deg) $(150 - 41.4)\tan(171^\circ)$ ----- 65= _____

66. (deg) $\cos(46^\circ - 24.1^\circ) + 0.599$ ----- 66= _____

67. (rad) $\cos\left[\frac{(13.8)(\pi)}{(0.818)(2.2)}\right]$ ----- 67= _____

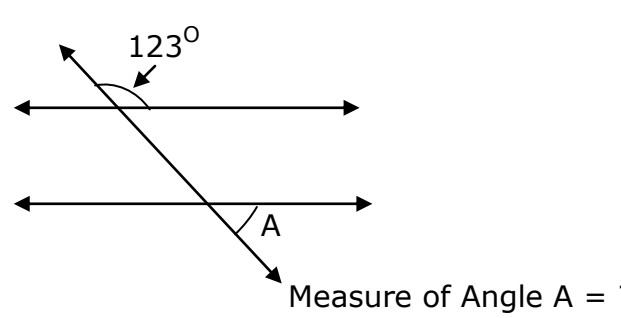
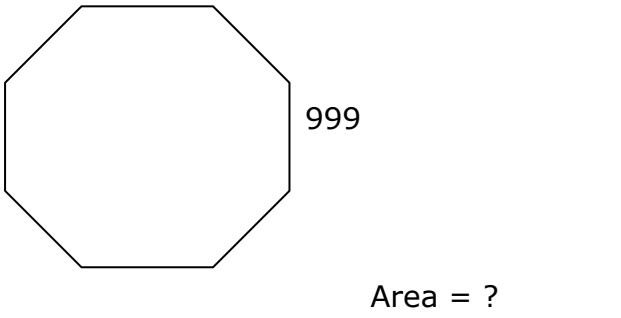
68. (rad) $(2.71)\tan(242)$ ----- 68= _____

69. (deg) $\frac{\sin(151^\circ)}{\tan(151^\circ)}[562]$ ----- 69= _____

70. $\left[(32.3)\left(\frac{126}{(1.13)(\pi)}\right)\right]^{3/2}$ ----- 70= _____

71. Calculate the total number of five person committees that can be formed from 10 people. ----- 71= _____ INT.

72. Ms. Marys first quiz to her class had 20 True/False questions. Calculate how many possible outcomes there are for the answers to a completed test. ----- 72= _____

<p style="text-align: center;">PARALLEL LINES CUT BY TRANSVERSAL</p>  <p style="text-align: right;">Measure of Angle A = ?</p> <p>73= _____</p>	<p style="text-align: center;">REGULAR OCTAGON</p>  <p style="text-align: right;">Area = ?</p> <p>74= _____</p>
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75. $\frac{(1.65)^{0.537}(0.874)^{0.626}}{(6.32 - 2.74)^{-8}}$ -----75= _____

76. $\frac{\text{Log}(371 + 289)}{55.7 - 48.7}$ -----76= _____

77. $\frac{5730 - 3010}{\text{Log}(9.69 + 3.31)}$ -----77= _____

78. $(1.74)^\pi(0.845)^5(4.76 - 2.39)^3$ -----78= _____

79. $1 + 2 + 3 + \dots + 943$ -----79= _____

80. $(0.48) - \frac{(0.48)^2}{2} + \frac{(0.48)^3}{3} - \frac{(0.48)^4}{4}$ -----80= _____

2015-2016 TMSCA Middle School Calculator Test #1 Answer Key

Page 1	Page 2	Page 3	Page 4
1 = 16.4 = 1.64×10^1	14 = 83.6 = 8.36×10^1	27 = 1.03×10^{-8}	39 = 1.01×10^{15}
2 = 7.10 = 7.10×10^0	15 = 20100 = 2.01×10^4	28 = 13.2 = 1.32×10^1	40 = 4.11×10^{12}
3 = -824 = -8.24×10^2	16 = -434000 = -4.34×10^5	29 = -5.05×10^{-10}	41 = 0.260 = 2.60×10^{-1}
4 = 17.1 = 1.71×10^1	17 = -6.38 = -6.38×10^0	30 = 3.87×10^8	42 = 1.25 = 1.25×10^0
5 = -29.0 = -2.90×10^1	18 = 5.01×10^{-8}	31 = 4.90×10^{12}	43 = 2.03×10^{11}
6 = 90.0 = 9.00×10^1	19 = 0.327 = 3.27×10^{-1}	32 = 2180 = 2.18×10^3	44 = 18.7 = 1.87×10^1
7 = -2.06 = -2.06×10^0	20 = 1.88 = 1.88×10^0	33 = 2.40×10^6	45 = 0.0187 = 1.87×10^{-2}
8 = 4.86 = 4.86×10^0	21 = 0.0238 = 2.38×10^{-2}	34 = 1.53 = 1.53×10^0	46 = 0.697 = 6.97×10^{-1}
9 = 9.95×10^6	22 = 240 = 2.40×10^2	35 = 168 = 1.68×10^2	47 = 84.9 = 8.49×10^1
10 = 3.74×10^{11}	23 = 4.23 = 4.23×10^0	36 = 20.6 = 2.06×10^1	48 = 9.00×10^{527}
11 = 571000 = 5.71×10^5	24 = 8 INT.	37 = 0.0000246 = 2.46×10^{-5}	49 = 11.8 = 1.18×10^1
12 = -297 = -2.97×10^2	25 = 1100 = 1.10×10^3	38 = 9210 = 9.21×10^3	50 = 0.143 = 1.43×10^{-1}
13 = 223000 = 2.23×10^5	26 = 21.1 = 2.11×10^1		

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$$51 = 5.37 \times 10^{-5}$$

$$52 = 6.89 \times 10^6$$

$$53 = 0.0677 \\ = 6.77 \times 10^{-2}$$

$$54 = -0.852 \\ = -8.52 \times 10^{-1}$$

$$55 = 5.37 \\ = 5.37 \times 10^0$$

$$56 = 0.105 \\ = 1.05 \times 10^{-1}$$

$$57 = 12.1 \\ = 1.21 \times 10^1$$

$$58 = -0.489 \\ = -4.89 \times 10^{-1}$$

$$59 = 3.14 \times 10^7$$

$$60 = 0.444 \\ = 4.44 \times 10^{-1}$$

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$$61 = 0.0614 \\ = 6.14 \times 10^{-2}$$

$$62 = 2.94 \times 10^9$$

$$63 = 1230 \\ = 1.23 \times 10^3$$

$$64 = -18.4 \\ = -1.84 \times 10^1$$

$$65 = -17.2 \\ = -1.72 \times 10^1$$

$$66 = 1.53 \\ = 1.53 \times 10^0$$

$$67 = 0.505 \\ = 5.05 \times 10^{-1}$$

$$68 = 0.265 \\ = 2.65 \times 10^{-1}$$

$$69 = -492 \\ = -4.92 \times 10^2$$

$$70 = 38800 \\ = 3.88 \times 10^4$$

$$71 = 252 \text{ INT.}$$

$$72 = 1050000 \\ = 1.05 \times 10^6$$

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$$73 = 57.0 \\ = 5.70 \times 10^1$$

$$74 = 4820000 \\ = 4.82 \times 10^6$$

$$75 = 32500 \\ = 3.25 \times 10^4$$

$$76 = 0.403 \\ = 4.03 \times 10^{-1}$$

$$77 = 2440 \\ = 2.44 \times 10^3$$

$$78 = 32.7 \\ = 3.27 \times 10^1$$

$$79 = 445000 \\ = 4.45 \times 10^5$$

$$80 = 0.388 \\ = 3.88 \times 10^{-1}$$