

08I-1. $(-0.25 + 1.45) \times 0.488$ ----- 1= _____

08I-2. $(0.539 + 0.183 - 0.0802) \times 0.222$ ----- 2= _____

08I-3. $(2.74 - 1.4 + 1.63 + 0.83) / (-6.11)$ ----- 3= _____

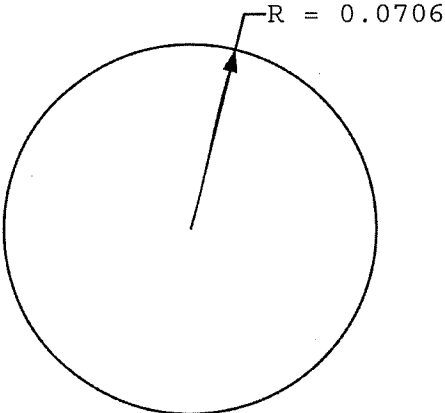
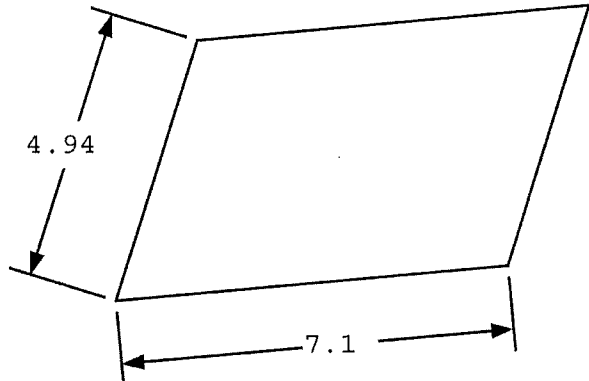
08I-4. $\frac{(0.072)(-0.0166 - 0.0103 + 0.031)}{(-0.0894)(-0.0411)}$ ----- 4= _____

08I-5. $\frac{(-0.00133 - 3.66 \times 10^{-4})(30.6)}{\{(-91.3) / (58.3)\}} - (0.0339 - 0.0259)$ ----- 5= _____

08I-6. Uma buys a \$15.75 book. After paying 8.125% tax, how much change does she receive from a \$20 bill? ----- 6= \$ _____

08I-7. A circular field occupies 6 acres. What is the radius? ----- 7= _____ ft

08I-8. In 2006, the US birth rate was 14.16 people per 1000 population; the death rate for the period was 8.26 per 1000. If the population at the start of 2006 was 300 million people, what was the annual increase in population for 2006? ----- 8= _____ people

<p>08I-9. CIRCLE</p> <div style="text-align: center; margin: 20px 0;">  </div> <p style="text-align: center;">AREA = ?</p> <p>08I-9 = _____</p>	<p>08I-10. PARALLELOGRAM</p> <div style="text-align: center; margin: 20px 0;">  </div> <p style="text-align: center;">PERIMETER = ?</p> <p>08I-10 = _____</p>
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08I-11. $\frac{(-678)(-50.3) + (-596)(-270)}{-18.3 + 1.45 - (-7.65)(0.847)}$ ----- 11= _____

08I-12. $\frac{0.656(9.27 \times 10^{-5} + 6.27 \times 10^{-5})}{(279 - 370)(0.35)} - \frac{-6.67 \times 10^{-8}}{0.196 - 0.135}$ ----- 12= _____

08I-13. $\frac{-91100 + 52200 - 75500 + 22500 + 3.25 \times 10^5}{(-21.8)(71.3 + 18.6)(-88.2 + 8.86)}$ ----- 13= _____

08I-14. $\frac{326 + 213 - 1270}{(0.31)(-0.894)} - \frac{(1.64 \times 10^6)(1.22 \times 10^{-4} + 7.87 \times 10^{-5})}{0.617 + 0.152 - 0.607}$ ----- 14= _____

08I-15. $\frac{24100 + 1.65 \times 10^5 - (27800 + 34400)(1.27 - 0.55)}{(-537)(-1.56)(\pi)(783 - 398 + 1530)}$ ----- 15= _____

08I-16. The product of two consecutive positive integers is 118,680. What is their sum? ----- 16= _____ integer

08I-17. If the average heart rate is 80 beats/min, how many times has the heart beat for a teenager on her 16th birthday? Assume that the heart starts beating 33 weeks prior to birth. ----- 17= _____ beats

08I-18. The Old Testament has 592,439 words and 23,214 verses, while the New Testament has 181,253 words and 7956 verses. What is the percent difference in the average number of words per verse in the Old and New Testaments? ----- 18= _____ %

08I-19. RIGHT TRIANGLE

08I-19 = _____

08I-20. RIGHT TRIANGLE

AREA = ?

08I-20 = _____

08I-21. $\left[\frac{\sqrt{2.39 - 0.743}}{-5.34} + \frac{(-0.0954)}{0.683} \right]^2$ ----- 21= _____

08I-22. $\left[\frac{(0.347)(0.415)}{-1.45} + 0.0532 \right]^2 + \sqrt{8.48 \times 10^{-7}}$ ----- 22= _____

08I-23. $(-34.6)(-0.00912) \sqrt{(-0.959)^2/0.83} + 1/\sqrt{\pi + 8.98}$ ----- 23= _____

08I-24. $[-33.1 + \sqrt{921}]^2 \times [381 + 875]^2 \times \sqrt{1.42/2.21}$ ----- 24= _____

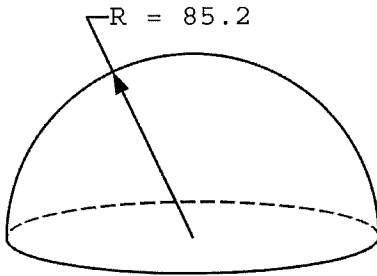
08I-25. $\frac{\sqrt{964 + 770 + (1.57 \times 10^5)/(160)}}{-198 + 103}$ ----- 25= _____

08I-26. The world 1-hr record for human powered vehicles was broken on July 6, 2006 by "Fast Freddy" Markham who pedaled 53.43 mi. The old record was 52.33 mi. What is the percent difference in these distances? ----- 26= _____ % (SD)

08I-27. A tire manufacturer wants to offer a warranty on their tires of 50,000 mi or x years. The desire is for the life in years to associate with 50,000 mi travel. If the average car drives 1.5 hr daily at 30 mph, what is x? ----- 27= _____ yr

08I-28. What is $45,678^{98,765}$? ----- 28= _____

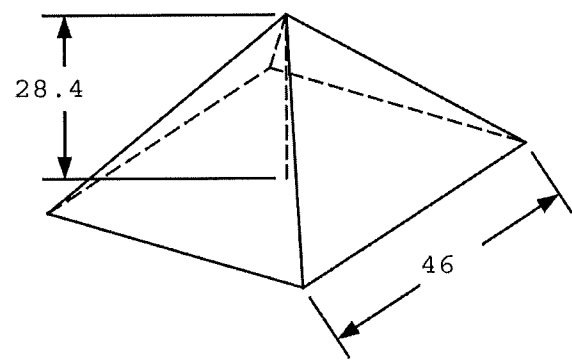
08I-29. HEMISPHERE



VOLUME = ?

08I-29 = _____

08I-30. SQUARE PYRAMID



TOTAL SURFACE AREA = ?

08I-30 = _____

08I-31. $\sqrt{\frac{9.53}{\sqrt{38.2 + 26.5}}} \times \left[\frac{1}{(4.52 - 2.88)^2} + \frac{1}{(\pi + 0.669)^2} \right]$ ----- 31= _____

08I-32. $\frac{(-0.571 + 0.888)^2}{\sqrt{14.4 - 4.93}} + \frac{0.0177}{\sqrt{0.144 + 0.185}}$ ----- 32= _____

08I-33. $\frac{(4.82)^2 + \sqrt{354}}{\sqrt{(9.39)(-14)^2}} + \frac{\sqrt{\sqrt{(1.12 \times 10^5)(0.246)}}}{4.57 + 14.1}$ ----- 33= _____

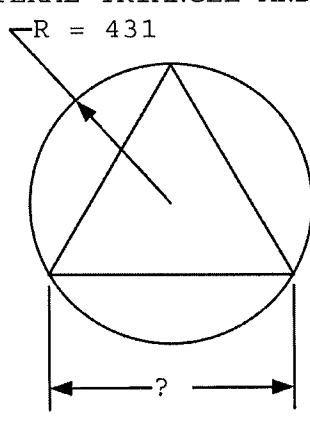
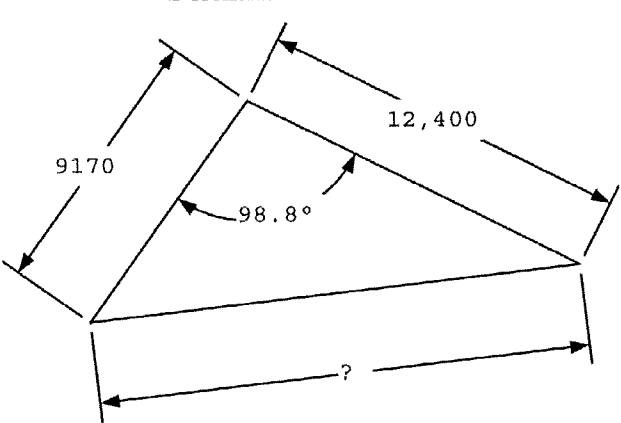
08I-34. $\frac{(4.28 \times 10^5)^2 (1.01 \times 10^{-12} + 4.25 \times 10^{-13})}{0.00269 + (-0.272)(0.0329)} + \frac{1}{\frac{1}{-28.3} + \frac{1}{26}}$ ----- 34= _____

08I-35. $\frac{\left[\frac{-1.53 \times 10^{-4}}{506} \right]^2 + \sqrt{\frac{(0.744)(0.461)}{(8.82 \times 10^{25})}} + (1.18 \times 10^{-13})}{0.902 + \sqrt{(-0.971)(-0.148)}}$ ----- 35= _____

08I-36. A projectile's maximum vertical elevation is 57 ft and it lands 250 ft away. What is the angle of release relative to the ground? ----- 36= _____ rad

08I-37. Two ships are 2 mi apart and traveling at 25 knots. The lead ship executes a turn 25° to port (left) at the same time that the trailing ship executes a 25° turn to starboard (right). How long does it take them to be 100 mi apart? One knot equals 1.15 mph. ----- 37= _____ hr

08I-38. The end of a 15-ft long dog leash slides along a taut 75-ft long clothesline. What is the height of the clothesline if the roaming area is 1800 ft²? ----- 38= _____ ft

<p>08I-39. EQUILATERAL TRIANGLE AND CIRCLE</p>  <p style="text-align: center;">← R = 431</p> <p style="text-align: center;">? ←</p> <p>08I-39 = _____</p>	<p>08I-40. SCALED TRIANGLE</p>  <p style="text-align: center;">9170 12,400</p> <p style="text-align: center;">98.8°</p> <p style="text-align: center;">? ←</p> <p>08I-40 = _____</p>
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08I-41. $\frac{10^{-(\pi - 6.5)}}{-0.0918 + 0.0669}$ ----- 41= _____

08I-42. $\frac{e^{+0.466} + e^{-0.931}}{(-2.89 \times 10^{-6} + 9.66 \times 10^{-7})}$ ----- 42= _____

08I-43. $\frac{(3380) \text{Log}(10200 - 7770)}{(-64300)}$ ----- 43= _____

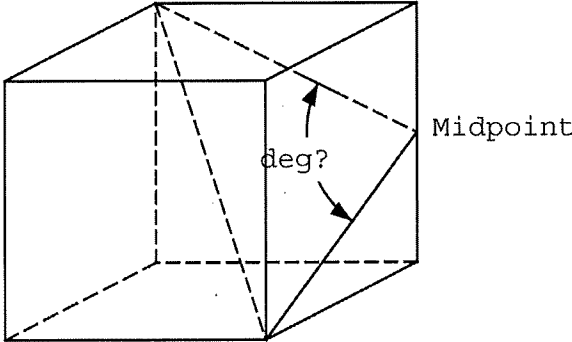
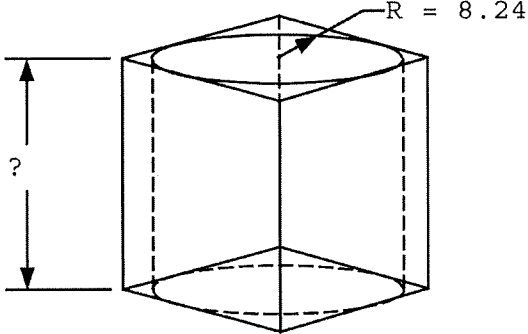
08I-44. $(8.88)^3 + (32.4 - 8.8)^{0.511}$ ----- 44= _____

08I-45. (deg) $\{(74.6) \sin(-31.9^\circ)\} \times \{(-90.9) \cos(-69.8^\circ)\}$ ----- 45= _____

08I-46. On a Texas map scaled at 1:1,100,000, the straight-line distance from San Antonio to Victoria is 5.77 in. In exactly the opposite direction, the distance from San Antonio to Pecos measures 18.9 in. What is the actual distance between Pecos and Victoria? ----- 46= _____ mi (SD)

08I-47. A toy dinosaur is 1.25 in long and grows enormously when placed in water. Its length was measured after placing in water at 10 minute intervals: 1.6 in, 2.2 in, 2.9 in, 3.4 in, 4.5 in and 6.25 in. What is the best-fit average linear growth rate? ----- 47= _____ in/min

08I-48. Solve for (real) q if $7.5q^{5.8-3} = 5q^2-2q$. ----- 48= _____

<p>08I-49. CUBE</p>  <p style="text-align: right; margin-right: 50px;">Midpoint</p> <p style="margin-left: 100px;">deg?</p> <p>08I-49 = _____</p>	<p>08I-50. RECTANGULAR SOLID WITH CYLINDRICAL CAVITY</p>  <p style="margin-left: 100px;">R = 8.24</p> <p style="margin-left: 50px;">?</p> <p style="text-align: center;">TOTAL SURFACE AREA = 1920</p> <p>08I-50 = _____</p>
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08I-51. $\frac{(-0.0039) 10^{-(7.34 - 3.58)}}{0.00673 + 0.00537}$ ----- 51= _____

08I-52. $\frac{1 + e^{\{0.455 + (0.19)(\pi)\}}}{(0.537)(1.4 - e^{-0.112})}$ ----- 52= _____

08I-53. $\frac{\text{Log}\{4.69 \times 10^{-10} + (3.81 \times 10^{-5})(1.62 \times 10^{-5})\}}{21.6 - \text{Log}\{(54.8)/(0.0358)\}}$ ----- 53= _____

08I-54. $\frac{(8.66)^{0.625} - (\pi)^{-0.567}}{7.71 \times 10^{-4} + 1.29 \times 10^{-4}}$ ----- 54= _____

08I-55. (rad) $\frac{\arcsin\{(7.68)(9.6)/(316)\}}{3.32 + (-3.42)(-8.06)}$ ----- 55= _____

08I-56. (rad) What is the maximum value of y for $y = 30\sin x - x^2$? ----- 56= _____

08I-57. A 5-in long string is cut into two pieces. One is used to form a circle and one a square. What is the length of the latter piece if the sum of the areas is minimized? ----- 57= _____ in

08I-58. What is r if $\text{Det}[\mathbf{C}] = 0$ and $[\mathbf{C}] = \begin{bmatrix} 4 & -6 & 9 \\ -6 & 7 & r \\ 9 & 3 & 3 \end{bmatrix}$? ----- 58= _____

08I-59. SOLID OF REVOLUTION (RAD)
(Axis of Revolution: $x = 1$)

$y = 4 \cos\left(\frac{\pi x}{4}\right) + 6$

VOLUME = ?

08I-59 = _____

08I-60. SQUARE AND ISOSCELES TRIANGLE

PERIMETER (SQUARE) = PERIMETER (TRIANGLE)

08I-60 = _____

08I-61. $\frac{(10^{8.19})(10^{2.77})(10^{0.27})}{10\{(\pi)(0.823)\}}$ ----- 61= _____

08I-62. $e^{\ln[(5.83)(49.1)]} + 10^{\log[(0.715)(190)]}$ ----- 62= _____

08I-63. (rad) $\frac{98.2}{6(-8.24)} \{ (3.2) + (0.859)\sin(-4.27) \}^5$ ----- 63= _____

08I-64. $1 + 0.26 + (0.26)^2 + \frac{(0.26)^4}{8} - \frac{(0.26)^5}{15}$ ----- 64= _____

08I-65. $\frac{6.33}{\sqrt{0.0803}} \ln \left[\frac{\sqrt{(-6.38)^2 + (38.1)} + \sqrt{202}}{\sqrt{\pi + (66.5)(0.00651)}} \right]$ ----- 65= _____

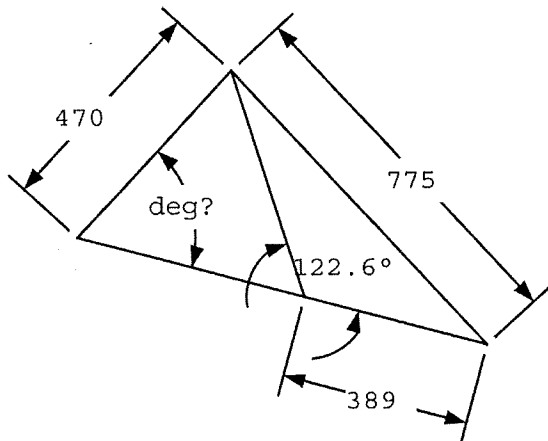
08I-66. A gun fires a bullet at 200 mph. What is the bullet's maximum range, the farthest horizontal distance it can travel? ----- 66= _____ mi

08I-67. An insect population, if unchecked, would triple every 23 days. What fraction of the original population must be annihilated every 12 days to keep the population in check (i.e., to keep it from growing)? ----- 67= _____ %

08I-68. A slow runner runs a 1/4 mi lap in 3.1 min, and a fast runner covers that distance in 1 min 55 sec. They started running from Point O on an oval track in opposite directions. When the fast runner met the slow runner, he immediately reversed direction and raced back to Point O. There, he again reversed direction, running until he met the slow runner again. This continued until the slow runner completed one lap, returning to Point O. How far did the fast runner run? - 68= _____ ft

08I-69.

SCALENE TRIANGLES

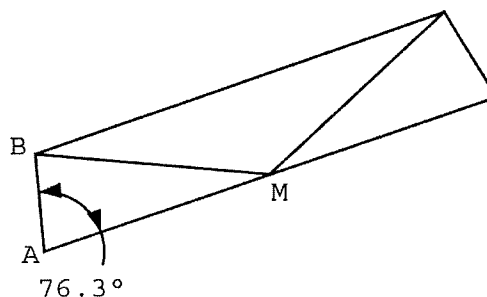


08I-69 = _____

08I-70.

REGULAR TRAPEZOID

TRAPEZOIDAL AREA = 2200



M = MIDPOINT
AM = BM = ?

08I-70 = _____

08I-1 = 0.586 = 5.86×10^{-1}	08I-11 = -18800 = -1.88×10^4	08I-21 = 0.144 = 1.44×10^{-1}
08I-2 = 0.142 = 1.42×10^{-1}	08I-12 = -2.11×10^{-6}	08I-22 = 0.00305 = 3.05×10^{-3}
08I-3 = -0.622 = -6.22×10^{-1}	08I-13 = 1.50 = 1.50×10^0	08I-23 = 0.619 = 6.19×10^{-1}
08I-4 = 0.0803 = 8.03×10^{-2}	08I-14 = 606 = 6.06×10^2	08I-24 = 9.58×10^6
08I-5 = 0.0251 = 2.51×10^{-2}	08I-15 = 0.0286 = 2.86×10^{-2}	08I-25 = -0.549 = -5.49×10^{-1}
08I-6 = \$2.97	08I-16 = 689 integer	08I-26 = -2.06 = -2.06×10^0 (3SD)
08I-7 = 288 = 2.88×10^2	08I-17 = 7.00×10^8	08I-27 = 3.04 = 3.04×10^0
08I-8 = 1.77×10^6	08I-18 = -10.7 = -1.07×10^1	08I-28 = $9.33 \times 10^{460,215}$
08I-9 = 0.0157 = 1.57×10^{-2}	08I-19 = 1.32 = 1.32×10^0	08I-29 = 1.30×10^6
08I-10 = 24.1 = 2.41×10^1	08I-20 = 414 = 4.14×10^2	08I-30 = 5480 = 5.48×10^3

08I-31 = 0.480	08I-41 = -91700	08I-51 = -5.60x10 ⁻⁵
= 4.80x10 ⁻¹	= -9.17x10 ⁴	
08I-32 = 0.0635	08I-42 = -1.03x10 ⁶	08I-52 = 14.2
= 6.35x10 ⁻²		= 1.42x10 ¹
08I-33 = 1.67	08I-43 = -0.178	08I-53 = -0.487
= 1.67x10 ⁰	= -1.78x10 ⁻¹	= -4.87x10 ⁻¹
08I-34 = 278	08I-44 = 705	08I-54 = 3700
= 2.78x10 ²	= 7.05x10 ²	= 3.70x10 ³
08I-35 = 2.12x10 ⁻¹³	08I-45 = 1240	08I-55 = 0.00762
	= 1.24x10 ³	= 7.62x10 ⁻³
08I-36 = 0.739	08I-46 = 428	08I-56 = 27.7
= 7.39x10 ⁻¹	= 4.28x10 ² (3SD)	= 2.77x10 ¹
08I-37 = 4.11	08I-47 = 0.0786	08I-57 = 2.80
= 4.11x10 ⁰	= 7.86x10 ⁻²	= 2.80x10 ⁰
08I-38 = 11.2	08I-48 = 0.952	08I-58 = -11.4
= 1.12x10 ¹	= 9.52x10 ⁻¹	= -1.14x10 ¹
08I-39 = 747	08I-49 = 102	08I-59 = 192
= 7.47x10 ²	= 1.02x10 ²	= 1.92x10 ²
08I-40 = 16,500	08I-50 = 15.3	08I-60 = 23.4
= 1.65x10 ⁴	= 1.53x10 ¹	= 2.34x10 ¹

08I-61 = 4.41×10^8

08I-62 = 422
= 4.22×10^2

08I-63 = -1970
= -1.97×10^3

08I-64 = 1.33
= 1.33×10^0

08I-65 = 52.5
= 5.25×10^1

08I-66 = 0.507
= 5.07×10^{-1}

08I-67 = 77.4
= 7.74×10^1

08I-68 = 2130
= 2.13×10^3

08I-69 = 62.0
= 6.20×10^1

08I-70 = 50.3
= 5.03×10^1