

Test #1 - TMSCA Calculator - 2013-2014

11. What is the median of the first nine prime numbers?

A prime number (or a prime) is a natural number greater than 1 that has no positive divisors other than 1 and itself
2,3,5,7,11,13,17,19,23

In statistics and probability theory, the median is the numerical value separating the higher half of a data sample, a population, or a probability distribution, from the lower half.

11.0

12. What is the perimeter of a square with sides that measure one hundred fifty-one thousandths inches?

$$P = 4s$$

$$= 4(.151)$$

$$= .604$$

13. Two hundred thirty-seven is what percent of eight thousand seventy-two?

$$\frac{237}{8072} \times 100 = 2.94$$

24. How many gallons are there in a two liter bottle?

2 liters = _____ gallons

Use conversion key

.528

25. Samantha learned to play six hymns in four weeks of violin lessons. At this rate, how many weeks would it take her to learn fifteen hymns?

$$\frac{6 \text{ hymns}}{4 \text{ weeks}} = \frac{15 \text{ hymns}}{x}$$

$$x = \frac{(4)(15)}{6}$$

$$x = 10 \text{ int}$$

26. Calculate the circumference of a circular field with a radius of five and eighty-seven hundredths centimeters?

$$C = 2\pi r$$

$$= 2\pi(5.87)$$

$$= 36.9$$

35. Jimmy had \$18.55. He spent \$3.85 on sweets and a soda. He gave \$1.50 each to his three friends. How much money did he have left?

$$\text{Amount left} = 18.55 - 4.50 - 3.85$$

$$= \$10.20$$

36. 7,252 people attended the college in 2002. In 2012, 12,571 people attended the same college. What was the percent increase?

7252 Enter

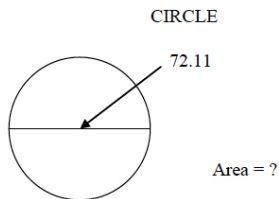
12571 % chg key

= 73.3

37. $A = \pi r^2$

$$= \pi \left(\frac{72.11}{2} \right)^2$$

$$= 4080$$

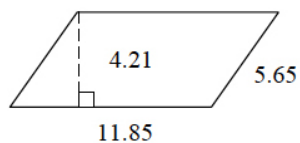


38.

PARALLELOGRAM

$$P = 2(11.85) + 2(5.65)$$

$$= 35.0$$



47. A rectangle A with a length of 18 cm and a width of 5 cm is similar to another rectangle B with a length of 30 cm. What is the area of rectangle B?

$$\frac{5}{18} = \frac{x}{30}$$

$$x = \frac{(5)(30)}{18}$$

$$x = 8\frac{1}{3}$$

$$A = LW$$

$$= (30)\left(8\frac{1}{3}\right)$$

$$= 250$$

48. A circle and a square have the same area. A side of the square measures 12.82 inches. What is the radius of the circle?

$$A_{\text{square}} = 12.82^2$$

$$A_{\text{circle}} = \pi r^2$$

$$r = \sqrt{\frac{A}{\pi}}$$

$$= \sqrt{\frac{(12.82^2)}{\pi}}$$

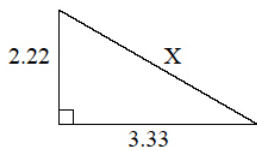
$$= 7.23$$

49. $x^2 = 2.22^2 + 3.33^2$

$$x = \sqrt{2.22^2 + 3.33^2}$$

$$x = 4.00$$

RIGHT TRIANGLE



X = ?

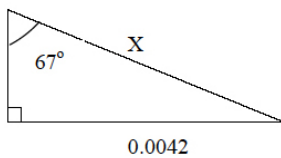
50. $\frac{\sin \theta}{1} = \frac{\text{opp}}{\text{hyp}}$

$$\frac{\text{hyp}}{1} = \frac{\text{opp}}{\sin \theta}$$

$$\text{hyp} = \frac{.0042}{\sin 67^\circ}$$

$$\text{hyp} = .00456$$

RIGHT TRIANGLE



X = ?

59. Two complementary angles are such that one angle is fourteen degrees more than three times the second angle. What is the measure of the larger angle in degrees?

$$(x) + (3x + 14) = 90$$

$$4x + 14 = 90$$

$$4x = 90 - 14$$

$$x = \frac{90 - 14}{4}$$

$$x = 19$$

$$\text{Largest angle} = 3x + 14$$

$$= (3)(19) + 14$$

$$= 71.0$$

60. Calculate the final temperature when 32.2 g of water at 14.9° C is mixed with 32.2 g of water at 46.8° C.

Both have the same mass, therefore it is the average of the 2 temperatures.

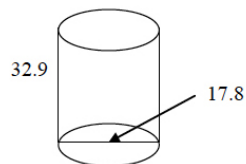
61. $SA = 2\pi r^2 + Ch$

$$= 2\pi r^2 + 2\pi rh$$

$$= 2\pi \left(\frac{17.8}{2}\right)^2 + 2\pi \left(\frac{17.8}{2}\right)(32.9)$$

$$= 2340$$

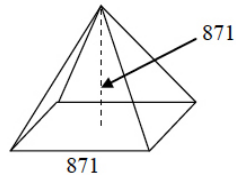
CYLINDER



Surface Area = ?

$$\begin{aligned}
 62. \quad V &= \frac{Bh}{3} \\
 &= \frac{(s^2)h}{3} \\
 &= \frac{(871^2)(871)}{3} \\
 &= \frac{(871^3)}{3} \\
 &= 2.20 \times 10^8
 \end{aligned}$$

SQUARE BASE PYRAMID



Volume = ?

71. What are the odds of flipping a dime and having it land on tails?

$$P(\text{dime lands on tails}) = \frac{1}{2}$$

$$\text{Odds}(\text{dime lands on tails}) = \frac{1}{1} = 1.00$$

72. Mrs. Tampa wanted to make a group of five students from her class of twenty. How many ways is this possible?

$$\begin{aligned}
 \frac{n!}{r!(n-r)!} &= \frac{20!}{5!(20-5)!} \\
 &= 15500
 \end{aligned}$$

73. $SA = A_{\text{square}} - A_2 - A_3 - A_4 - A_5$

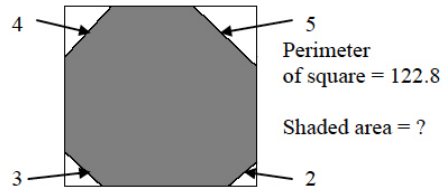
$$= \left(\frac{P}{4}\right)^2 - \frac{s_2^2}{2} - \frac{s_3^2}{2} - \frac{s_4^2}{2} - \frac{s_5^2}{2}$$

$$= \left(\frac{122.8}{4}\right)^2 - \frac{\left(\frac{2}{\sqrt{2}}\right)^2}{2} - \frac{\left(\frac{3}{\sqrt{2}}\right)^2}{2} - \frac{\left(\frac{4}{\sqrt{2}}\right)^2}{2} - \frac{\left(\frac{5}{\sqrt{2}}\right)^2}{2}$$

$$= \left(\frac{122.8}{4}\right)^2 - 1 - 2.25 - 4 - 6.25$$

$$= 929$$

SQUARE AND ISOSCELES TRIANGLES



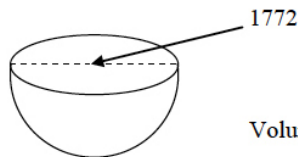
$$74. \quad V = \frac{4}{3}\pi r^3$$

$$V = \frac{2}{3}\pi r^3$$

$$= \frac{2}{3}\pi \left(\frac{1772}{2}\right)^3$$

$$= 1.46 \times 10^9$$

HEMISPHERE



Volume = ?