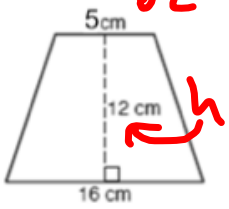
Name_____ Geometry - Ch.9 Practice Test

1) What is the area of the triangle?

$A = \frac{bh}{2} = \frac{8(5)}{2} = \frac{40}{2}$

$20 cm^2$

2) Find the area of the trapezoid.



$A = \frac{(b_1 + b_2)h}{2}$

$A = \frac{(16+5)12}{2}$

$\frac{21(12)}{2}$

$A = 126 cm^2$

3) What is the diameter of a circle with an area of 25π yd^2?

$A = 25\pi$

$A = \pi r^2$

$\frac{25\pi}{\pi} = \frac{\pi r^2}{\pi}$

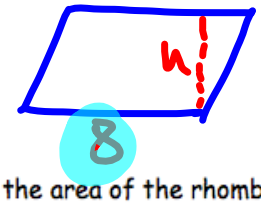
$\sqrt{25} = \sqrt{r^2}$

$5 = r$

$d = 2r$

$d = 10 yd$

4) A parallelogram has an 8-inch base. If the parallelogram has an area of 40 square inches, what is the height of the parallelogram?

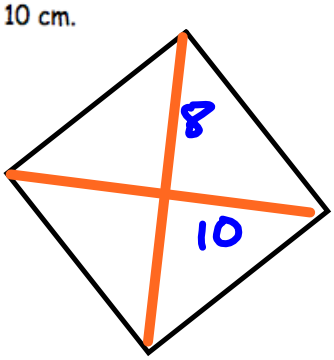


$A = bh$

$\frac{40}{8} = \frac{8h}{8}$

$h = 5$ in

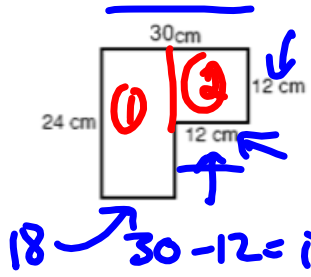
6) Find the area of the rhombus if the lengths of the diagonals are $d_1 = 8$ cm and $d_2 = 10$ cm.



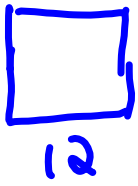
$A = \frac{d_1 \cdot d_2}{2}$

$A = \frac{8(10)}{2} = 40\text{ cm}^2$

7) Find the area of the figure. Assume all angles are right angles.



18 → 30 − 12 = 18



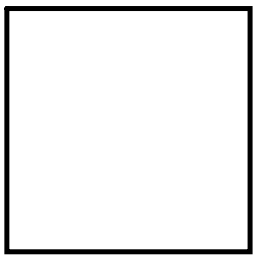
$A_1 = 24(18) = 432$

$A_2 = 12(12) = 144$

$A = 432 + 144$

$A = 576\ cm^2$

8) A square has a perimeter of 80 inches. Find the area of the square.



$P = 4x = 80$

$\frac{4x}{4} = \frac{80}{4}$

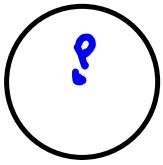
$x = 20$

$A = (\text{side})^2$

$A = 20^2$

$A = 400\ in^2$

11) Find the radius of circle P with $C = 46\pi$ cm.



$C = \pi d$

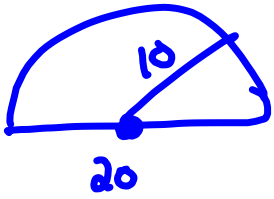
$46\pi = \pi d$

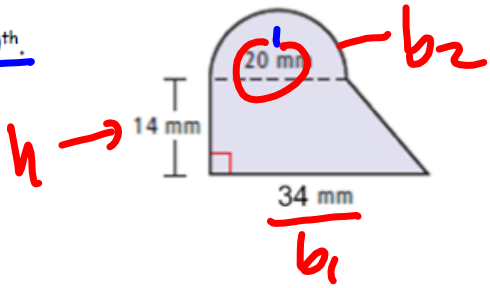
$\frac{46\pi}{\pi} = \frac{\pi d}{\pi}$

$d = 46$

$r = \frac{46}{2} = 23$ cm

12) Find the shaded area. Round to the nearest 10^{th}.





$A_{\odot} = \frac{\pi r^2}{2} = \frac{\pi(10)^2}{2} = 50\pi$

$A_{\square} = \frac{(b_1 + b_2)h}{2} = \frac{(34+20)14}{2} = \frac{54(14)}{2}$

$A_{\square} = 378$

$A = 50\pi + 378$

$A = 535.1\ mm^2$

13) Which is the best estimate for the shaded area of the figure? The grid has squares with side lengths of 4 inch.

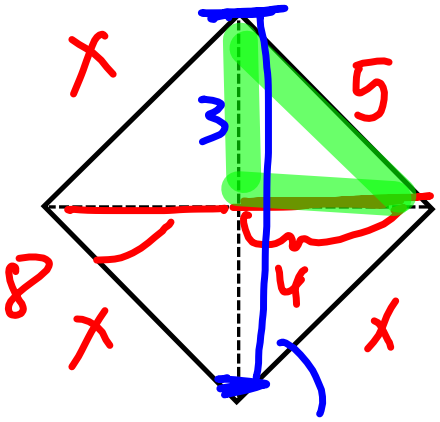
1+1+1+1+2+1+1.5+1

9.5

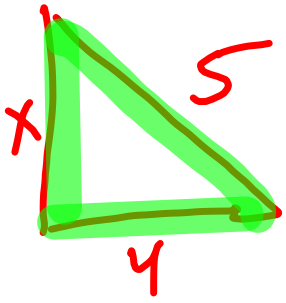
17) How many meters in 4 miles?

$$4\,\text{mi} \cdot \frac{1.609\,\text{km}}{1\,\text{mi}} \cdot \frac{1000\,\text{m}}{1\,\text{km}} = 6436\,\text{m}$$

18) The perimeter of a rhombus is 20 centimeters. The length of one diagonal is 8 centimeters. Find the area of the rhombus. (DRAW A PICTURE!)



$\frac{20}{4} = 5$



$x^2 + 4^2 = 5^2$

$x = 3$

$d_1 = 6$

$d_2 = 8$

$A = \frac{d_1 d_2}{2} = \frac{6 \cdot 8}{2} = 24\,\text{cm}^2$

19) Name a 3 - dimensional figure that does not have a vertex. cylinder

20) What is the classification of a 3-dimensional figure if the base is a square and the lateral faces are triangular? pyramid

21) Half of a sphere is a hemisphere.

22) In a square pyramid, state the number of: (fill in each of the 3 answers)

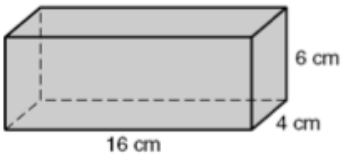
a) faces = 5 b) vertices = 5 c) edges = 8

23) Find the volume of the prism.

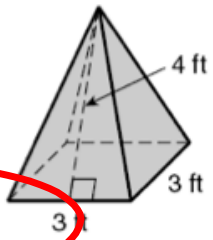
$V = lwh$

$V = 16(4)(6)$

$384\,cm^3$



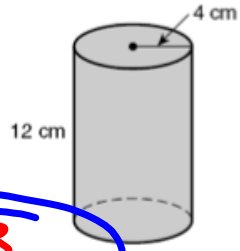
24) Find the volume of the pyramid.



$V = \frac{Bh}{3}$ $\frac{(3.3)4}{3} = \frac{9.4}{3}$

$V = 12\,ft^3$

25) Find the volume of the right cylinder in terms of π?

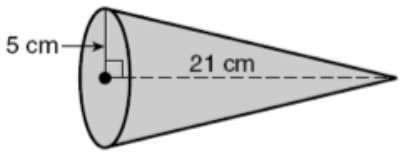


$V = \pi r^2 h$ $= \pi(4)^2(12)$

$\pi(16)(12)$

$V = 192\pi\,cm^3$

26) What is the volume of the cone to the nearest hundredth?



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

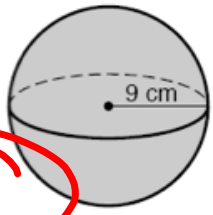
$V = \frac{\pi(5)^2(21)}{3}$

$\frac{\pi(25)(21)}{3} = 175\pi$

549.7787

$549.78\,cm^3$

27) What is the volume of the sphere in terms of π?

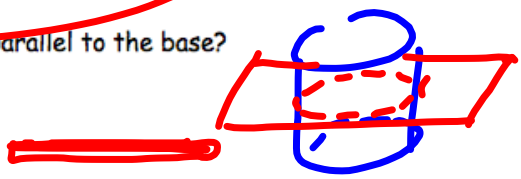


$\frac{4}{3}\pi r^3 = \frac{4}{3}\pi(9)^3$

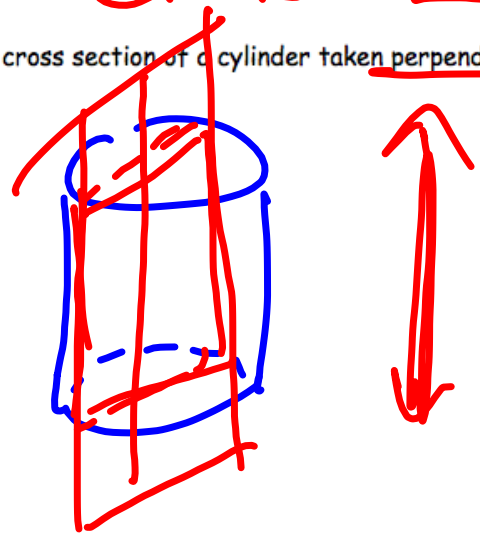
$972\pi \text{ cm}^3$

28) What is the cross section of a cylinder taken parallel to the base?

Circle

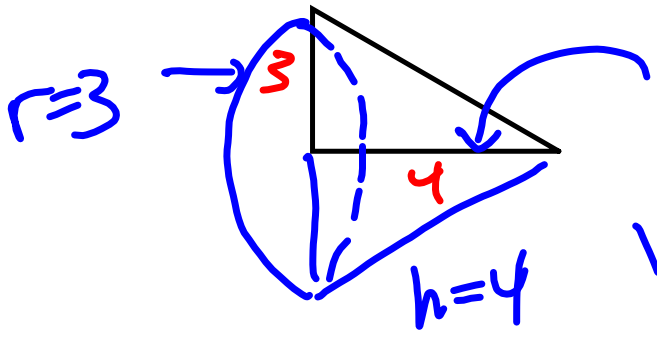


29) What is the cross section of a cylinder taken perpendicular to the base?



Rectangle

30) A right triangle with legs lengths 3 and 4 is revolved around the side of length 4. Draw the resulting shape and find the volume.



Cone

$V = \frac{\pi r^2 h}{3} = \frac{\pi(3)^2(4)}{3}$

$V = 12\pi \text{ units}^3$ $\frac{\pi 9(4)}{3}$

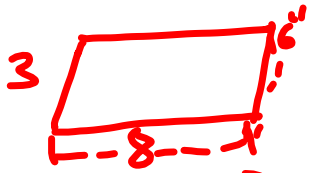
31) The density of brass is 549 lb/ft^3. If you have a brass figure with volume of 0.4 ft^3, how much is it worth if brass costs \$1.12 per ounce?

$$.4 \text{ ft}^3 \cdot \frac{549 \text{ lb}}{1 \text{ ft}^3} = 219.6 \text{ lbs}$$

$$219.6 \text{ lbs} \cdot \frac{16 \text{ oz}}{1 \text{ lb}} = 3513.6 \text{ oz}$$

$$3513.6 \text{ oz} \cdot \frac{\$1.12}{1 \text{ oz}} = \$3935.23$$

32) A brick patio measures 3 ft. by 8 ft. by 6 inches. Find the volume of the bricks. If the density of the bricks is 135 pounds per cubic foot, what is the weight of the patio in pounds?



$6'' = \frac{1}{2}ft$

$.5\ ft$

$V = l \cdot w \cdot h$

$V = 3 \cdot 8 \cdot .5$

$V = 24 \cdot .5$

$V = 12\ ft^3$

$135\ \frac{lb}{ft^3}$

$12\ ft^3 \cdot \frac{135\ lb}{ft^3}$

$1620\ lbs$

33) Denver, CO has a population of 649,495 and an area of 155 square miles. What is the population density of Denver?

$\frac{People}{mi^2}$

$\frac{649,495\ people}{155\ mi^2}$

$4190\ \frac{people}{mi^2}$

Study for test tomorrow!