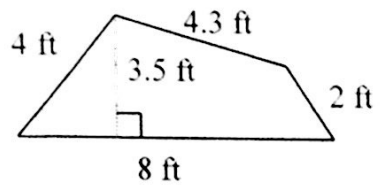


Math 7/7+ Unit 10 2D Review

Draw a picture, write a formula and use your formula to solve each problem. Use 3.14 for  $\pi$  and round to the tenths. Remember to include the correct units!

18.3 ft 1. Find the perimeter of the quadrilateral below.



$P = \text{add all sides}$

$$\begin{array}{r} 4.0 \\ 4.3 \\ 2.0 \\ + 8.0 \\ \hline 18.3 \end{array}$$

1029.9 ft<sup>2</sup> 2. The world's tallest Ferris wheel in Osaka, Japan stands 369 feet tall. Its wheel has a diameter of 328 feet. Find the circumference of the Ferris wheel.

$$C = \pi d$$

$$C = 3.14(328)$$

$$C = 1029.92$$

180.8 m<sup>2</sup> 3. Find the area of a triangle with a base of 20.5 meters and a height of 17.64 meters.

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(20.5)(17.64)$$

$$A = 180.81$$

168.8 in<sup>2</sup> 4. Find the area of a trapezoid with base<sub>1</sub> 20.4 inches, base<sub>2</sub> 14.4 inches, and a height of 9.7 in.

$$A = \frac{1}{2}h(b_1 + b_2)$$

$$A = \frac{1}{2}(9.7)(20.4 + 14.4)$$

$$A = \frac{1}{2}(9.7)(34.8)$$

$$A = 168.78$$

8 m 5. A rose garden in a city park is 12.5 meters wide. If the area of the garden is 100 square meters, what is the length of the garden?

$$A = lw$$

$$\frac{100}{12.5} = \frac{l(12.5)}{12.5}$$

$$8 = l$$

58.9 m<sup>2</sup> 6. A rectangular room measures 6.2 meters by 9.5 meters. How many square meters of carpeting are needed to cover the floor of this room?

$$A = lw$$

$$A = (6.2)(9.5)$$

$$A = 58.9$$

141.3 in<sup>2</sup> 7. The Pizza Pie sells a large pizza with a diameter of 18 inches and a medium pizza with a diameter of 12 inches. How many more square inches are in the large pizza?

$$A = \pi r^2$$

$$A = (3.14)(9)^2$$

$$A = 254.34$$

$$A = \pi r^2$$

$$A = (3.14)(6)^2$$

$$A = 113.04$$

$$Lg = 254.34$$

$$Med = 113.04$$

$$\hline 141.342$$

\$903 8. A triangular sail has a base of 7 meters and a height of 12 meters. If canvas costs \$21.50 a square meter, find the cost of canvas to make the sail.

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2}(7)(12)$$

$$A = 42$$

$$21.5(42) =$$

$$903$$

9. Find the circumference and area of a circle with a diameter of 25 inches.

$d = 25$   $r = 12.5$

$$C = 78.8 \text{ in}$$

$$C = \pi d$$

$$C = (3.14)(25)$$

$$C = 78.75$$

$$A = 490.6 \text{ in}^2$$

$$A = \pi r^2$$

$$A = (3.14)(12.5)^2$$

$$A = 490.625$$

13.8 ft<sup>2</sup> 10. Bob cuts a circle out of an 8-foot square to make a circular table. What is the area of the regions of the square he does not use for the circular table? Hint: after drawing a picture shade the regions he will not use for the table.

$$A = lw$$

$$A = 8 \cdot 8$$

$$A = 64$$

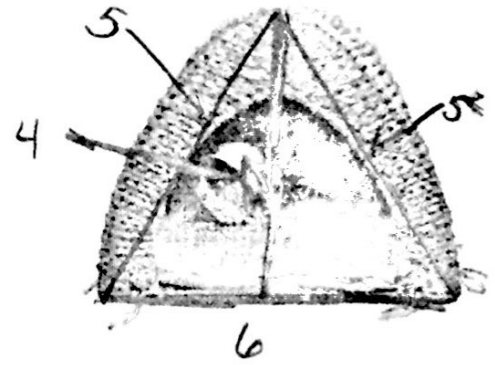
$$A = \pi r^2$$

$$A = (3.14)(4)^2$$

$$A = 50.24$$

$$\begin{array}{r} 64.00 \\ - 50.25 \\ \hline 13.75 \end{array}$$

Baxter, the cat, has an isosceles-triangle shaped house. The base of his house is 6 feet, the height is 4 feet and the sides are 5 feet. Use the triangle shaped front view of the house to answer the following questions.



How much wood is needed to make the frame of Baxter's house? Perimeter = add sides

$$6 + 5 + 5 = 16 \text{ ft}$$

What is the area of Baxter's house (the 2D triangle front view)?

$$A = \frac{1}{2}bh$$

$$A = \frac{1}{2} \cdot 4 \cdot 6$$

$$A = 12 \text{ ft}^2$$

His owners decide to triple the dimensions of his house. How much wood will they need to make the frame of Baxter's house?

$$18 + 15 + 15 = 48 \text{ ft}$$

How many times more wood do his owners need to make the frame of his new house?

$$48 \div 16 = 3 \text{ times}$$

What is the area of Baxter's new house (the 2D triangle front view)?

$$A = \frac{1}{2} \cdot 12 \cdot 18$$

$$A = 108 \text{ ft}^2$$

How many times bigger is the area front view of Baxter's new house?

$$\times 9$$



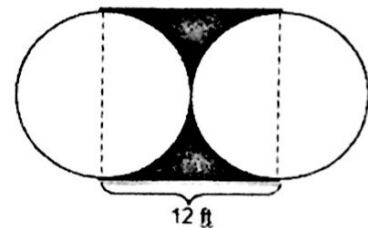
18 meters

Area of square:  $324 \text{ m}^2$   $18 \cdot 18$

Area of circle:  $254.34 \text{ m}^2$   $3.14(9)^2$

Area of shaded region:  $69.66 \text{ m}^2$   $324 - 254.34$

12.



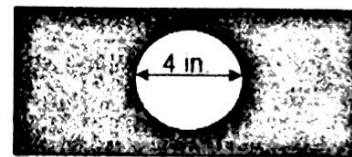
Area of Square:  $144 \text{ ft}^2$   $12 \cdot 12$

Area of ~~Square~~ Circles:  $113.04 \text{ ft}^2$   $3.14(6)^2$

Area of shaded region:  $30.96 \text{ ft}^2$   $144 - 113.04$

3.

7 in



16 in

Area of rectangle:  $112 \text{ in}^2$   $16 \cdot 7$

Area of circle:  $12.56 \text{ in}^2$   $3.14(2)^2$

Area of shaded region:  $99.44 \text{ in}^2$   $112 - 12.56$