

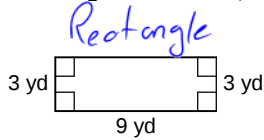
Mr. Hagen

Lesson #1 - Perimeter and Area of 2D Figures

Date Jan 31, 2018

Find the perimeter (if possible) and area of each.

1)



$$P = 2(l + w) \text{ or } P = 2l + 2w \quad A = lw$$

$$P = 2(9 + 3)$$

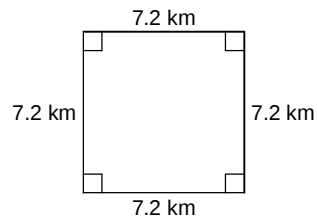
$$P = 2(12)$$

$$P = 24 \text{ yd}$$

$$A = (9)(3)$$

$$A = 27 \text{ yd}^2$$

2)



$$P = 4s$$

$$P = 4(7.2)$$

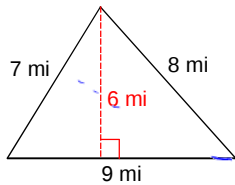
$$P = 28.8 \text{ km}$$

$$A = s^2$$

$$A = 7.2^2$$

$$A = 51.84 \text{ km}^2$$

3)



Triangles!

$$P = \text{sum of sides}$$

$$P = 7 + 8 + 9$$

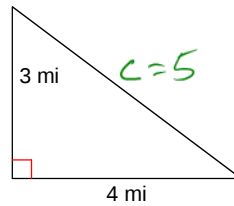
$$P = 24 \text{ mi}$$

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

$$A = \frac{(9)(6)}{2}$$

$$A = 27 \text{ mi}^2$$

4)



$$a^2 + b^2 = c^2$$

$$3^2 + 4^2 = c^2$$

$$9 + 16 = c^2$$

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

$$5 = c$$

$$P = \text{sum of sides}$$

$$P = 3 + 4 + 5$$

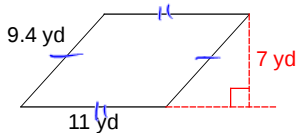
$$P = 12 \text{ mi}$$

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

$$A = \frac{(3)(4)}{2}$$

$$A = 6 \text{ mi}^2$$

5)



Parallelogram

$$P = \text{sum of sides}$$

$$P = 9.4 + 11 + 9.4 + 11$$

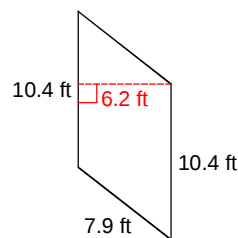
$$P = 40.8 \text{ yd}$$

$$A = bh$$

$$A = (11)(7)$$

$$A = 77 \text{ yd}^2$$

6)



$$P = \text{sum of all sides}$$

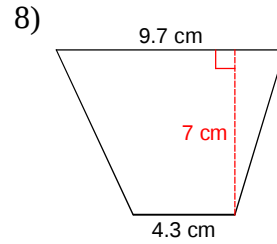
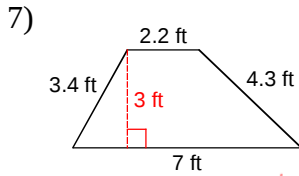
$$P = 10.4 + 7.9 + 10.4 + 7.9$$

$$P = 36.6 \text{ ft}$$

$$A = bh$$

$$A = (10.4)(6.2) = 64.48 \text{ ft}^2$$

Trapezoid



the horizontal lines

$$A = \frac{(a+b)h}{2}$$

$$A = \frac{(2.2+7)(3)}{2}$$

$$A = \frac{(9.2)(3)}{2}$$

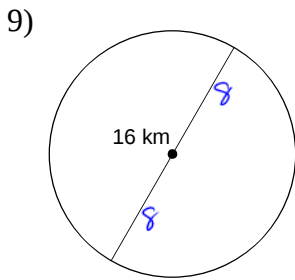
$$A = 13.8 \text{ ft}^2$$

P = sum of sides

$$P = 3.4 + 2.2 + 4.3 + 7$$

$$P = 16.9 \text{ ft}$$

Find the circumference and area of each circle. Round your answer to the nearest tenth.



$$C = \pi d \text{ or } C = 2\pi r$$

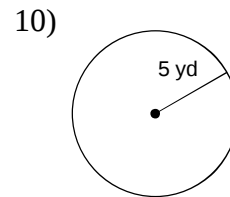
$$A = \pi r^2$$

$$C = (3.14)(16)$$

$$C = 50.24 \text{ km}$$

$$A = (3.14)(8^2) 64$$

$$A = 200.96 \text{ km}^2$$



Use the appropriate formula to find the missing piece.

- 11) A triangle has a height of 22cm and an area of 143cm^2 . What is the length of the base?

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

$$143 = \frac{b(22)}{2}$$

$$\frac{143}{11} = \frac{b(11)}{11}$$

$$\rightarrow 13 = b$$

- 12) A large pizza has an area of 201in^2 . What is the diameter, in inches, of the pizza.

$$A = \pi r^2$$

$$\frac{201}{3.14} = \frac{(3.14)}{3.14} r^2$$

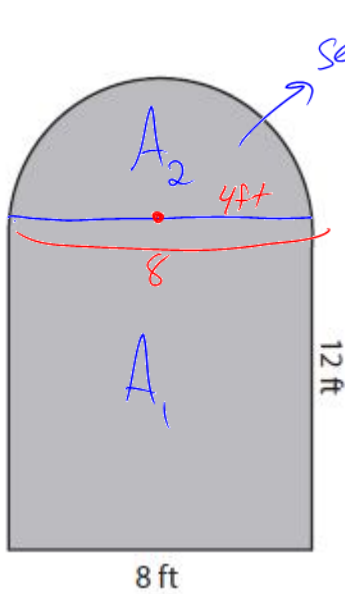
$$\sqrt{64.01} = \sqrt{r^2}$$

$$\rightarrow 8 = r$$

$$\therefore \text{diameter is } 16 \text{ in}$$

1. Calculate the area of the compound shapes:

a)



$$A_1 = lw$$

$$A_1 = (8)(12)$$

$$A_1 = 96 \text{ ft}^2$$

$$A_2 = \frac{\pi r^2}{2}$$

$$A_2 = \frac{(3.14)(4)^2}{2}$$

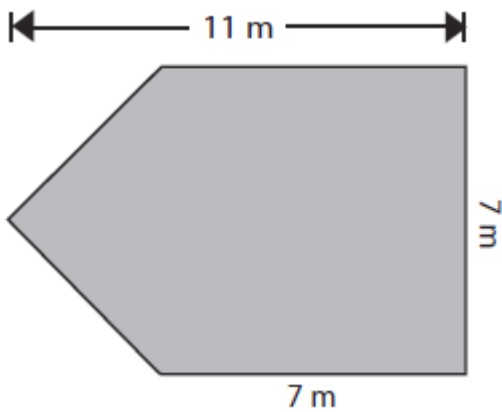
$$A_2 = \frac{(3.14)(16)}{2}$$

$$A_2 = 25.12 \text{ ft}^2$$

$$A = A_1 + A_2$$

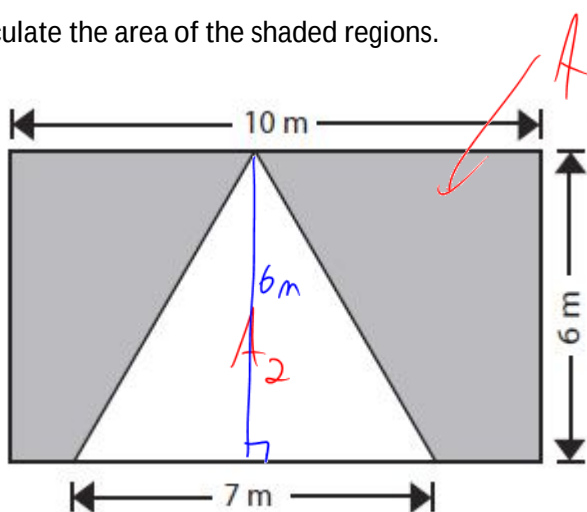
$$A = 96 + 25.12 = 121.12 \text{ ft}^2$$

b)



2. Calculate the area of the shaded regions.

a)



$$A_{\square} = lw$$

$$A_{\square} = (10)(6)$$

$$A_{\square} = 60m^2$$

$$A_{\Delta} = \frac{bh}{2}$$

$$A_{\Delta} = \frac{(7)(6)}{2}$$

$$A_{\Delta} = 21m^2$$

$$A = 60 - 21$$

$$A = 39m^2$$

b)

