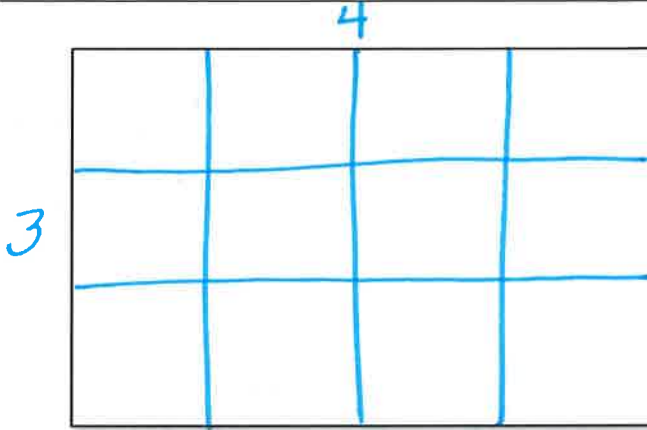


Area of a Square, Rectangle, and Triangle



Area is the measurement of all square units inside a shape.

units²

Area of a Square or Rectangle:

$$\begin{aligned} A &= b \cdot h \\ &= (4)(3) \\ &= 12 \text{ units}^2 \end{aligned}$$

Area of a Triangle:

$$\begin{aligned} A &= \frac{1}{2} b h \\ &= \frac{1}{2} (4)(3) \\ &= 6 \text{ units}^2 \end{aligned}$$

* You must always show @ least 3 steps for every problem

- 1) Formula
- 2) plug in what you know
- 3) solve + label

Area of a Parallelogram and Trapezoid

Parallelogram



$$A = b \cdot h$$

Trapezoid

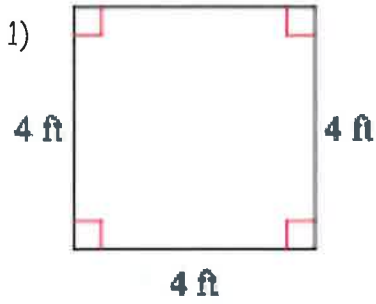


$$A = \frac{1}{2} (b_1 + b_2) h$$

These are NOT the height

- * height is always \perp to the base.
- * bases will always be \parallel to each other.

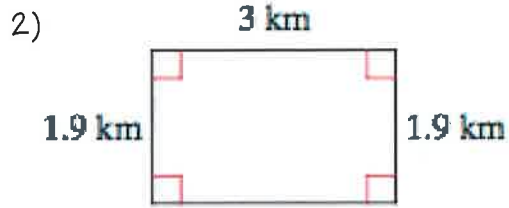
Finding the Area



$$A = b \cdot h$$

$$= (4)(4)$$

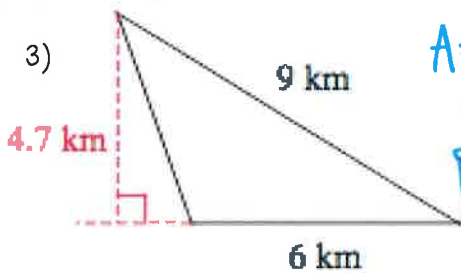
$$= 16 \text{ ft}^2$$



$$A = b \cdot h$$

$$= (3)(1.9)$$

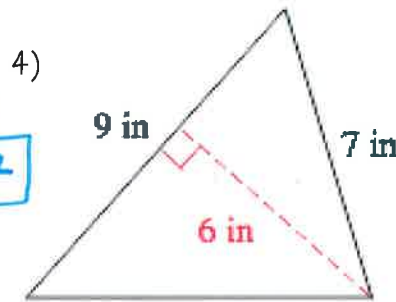
$$= 5.7 \text{ km}^2$$



$$A = \frac{1}{2} b h$$

$$= \frac{1}{2} (6)(4.7)$$

$$= 14.1 \text{ km}^2$$



$$A = \frac{1}{2} b h$$

$$= \frac{1}{2} (9)(6)$$

$$= 27 \text{ in}^2$$

5) The area of a triangle is 12 cm^2 . The height of the triangle is 6 cm. What is the length of the base?

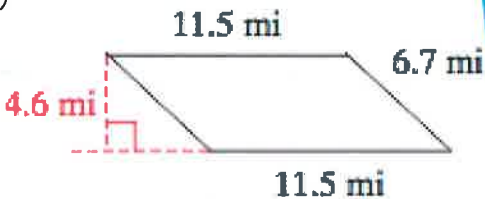
$$A = \frac{1}{2} b h$$

$$12 = \frac{1}{2} b (6)$$

$$12 = 3b$$

$$4 \text{ cm} = b$$

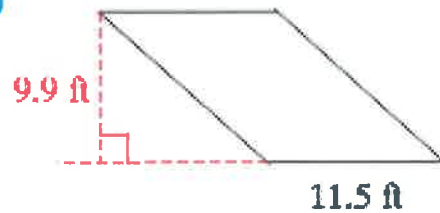
6ea)



$$A = b \cdot h$$

$$= (11.5)(4.6)$$

$$= 52.9 \text{ mi}^2$$



$$A = b \cdot h$$

$$= (11.5)(9.9)$$

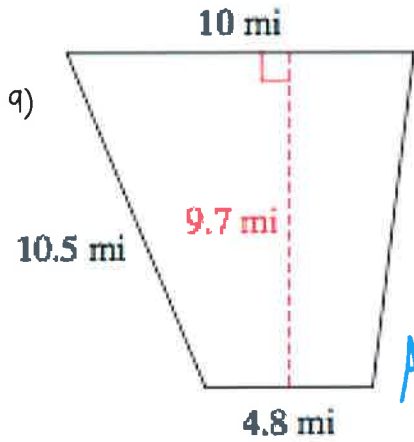
$$= 113.85 \text{ ft}^2$$

8) The area of a parallelogram is 48 in^2 . The height is 8 in. What is the base?

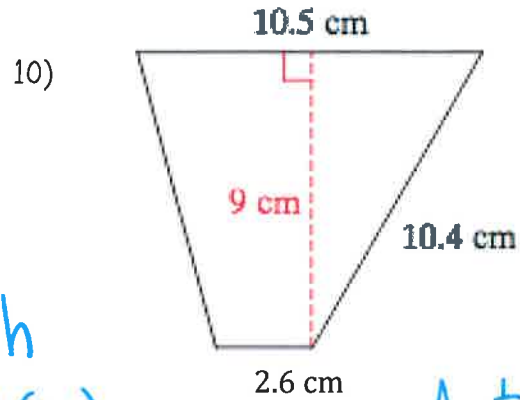
$$A = b \cdot h$$

$$48 = 8 \cdot h$$

$$6 \text{ in} = h$$



$$\begin{aligned}
 A &= \frac{1}{2}(b_1 + b_2)h \\
 &= \frac{1}{2}(10 + 4.8)(9.7) \\
 &= \frac{1}{2}(14.8)(9.7) \\
 &= 71.78 \text{ Mi}^2
 \end{aligned}$$



$$\begin{aligned}
 A &= \frac{1}{2}(b_1 + b_2)h \\
 &= \frac{1}{2}(10.5 + 2.6)(9) \\
 &= \frac{1}{2}(13.1)(9) \\
 &= 58.95 \text{ cm}^2
 \end{aligned}$$

11) The area of a trapezoid is 24 cm^2 . The height is 4 cm and one base is 7 cm. What is the other base?

$$\begin{aligned}
 A &= \frac{1}{2}(b_1 + b_2)h \\
 24 &= \frac{1}{2}(7 + b_2)(4) \\
 24 &= 2(7 + b_2) \\
 24 &= 14 + 2b_2 \\
 10 &= 2b_2 \\
 5 \text{ cm} &= b_2
 \end{aligned}$$

