

Warm-Up

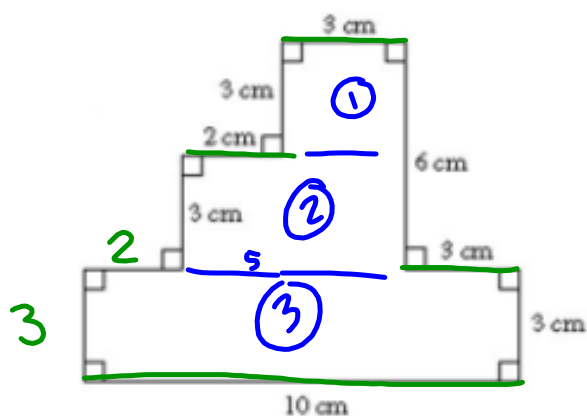
Find the area and perimeter of the figure to the right.

$$P = 38 \text{ cm}$$

$$A = \textcircled{1} \quad \textcircled{2} \quad \textcircled{3}$$

$$9 \quad + 15 \quad + 30$$

$$A = 54 \text{ cm}^2$$



7.3 Trapezoids and Parallelograms

Definition

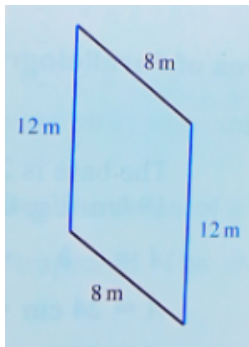
4 sided 2 slant sides
1 set // sides

4 sided
2 sets // sides

Perimeter Formula

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

Ex 1 Find the perimeter



$$P = 12 + 8 + 12 + 8$$

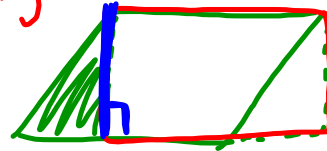
$$20 + 20$$

$$P = 40 \text{ m}$$

Area of a Parallelogram

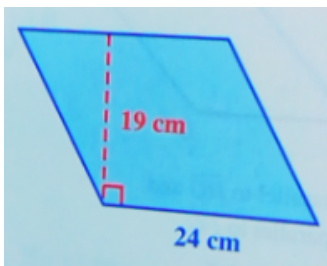
$$A = b \cdot h$$

has to be
a right \angle



Ex 2 Find the Area

a)

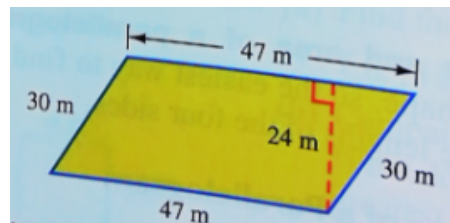


$$A = b \cdot h$$

$$(24)(19)$$

$$A = 456 \text{ cm}^2$$

b)



$$A = b \cdot h$$

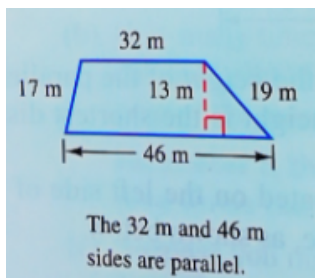
$$(47)(24)$$

$$A = 1128 \text{ m}^2$$

Perimeter of a Trapezoid

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

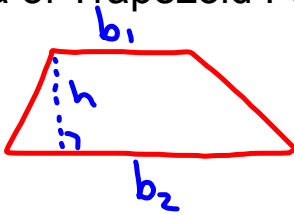
Ex 3 Perimeter of a Trapezoid



$$P = 46 + 17 + 32 + 19$$

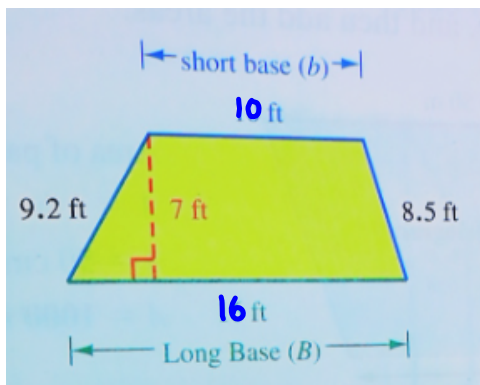
$$P = 114 \text{ m}$$

Area of Trapezoid Formula



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

Ex 4 Area of Trapezoid



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

$$\frac{1}{2} (7)(16 + 10)$$

$$\frac{1}{2} (7)(26)$$

$$(7)(13)$$

$$A = 91 \text{ ft}^2$$

Ex 5 Area of Composite Figure

① Parallelogram

$$A = b \cdot h$$

$$A = (50)(20)$$

$$A = 1000 \text{ m}^2$$

② Trapezoid

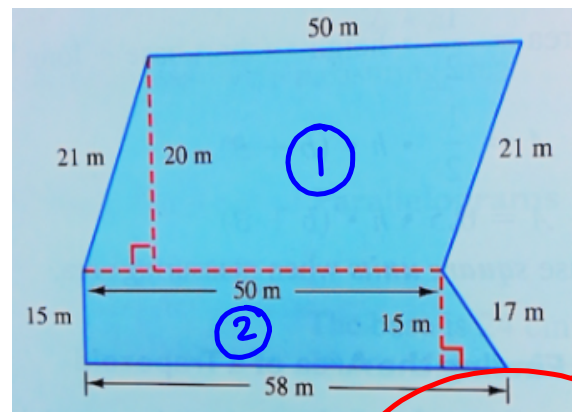
$$A = \frac{1}{2} h (b_1 + b_2)$$

$$\frac{1}{2} (15)(58 + 50)$$

$$\frac{1}{2} (15)(108)$$

$$(15)(54)$$

$$810 \text{ m}^2$$

Total Area
1810 m²

Ex 6 Application

Suppose the above figure represents a floor plan of a hotel lobby. What is the cost of labor to install tile on the floor if the labor charge is \$35.11 per square meter?

$$(1810)(35.11) \rightarrow \$63,549.10$$