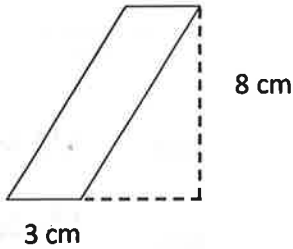


Lesson 8-3 Notes

Area of Triangles and Trapezoids

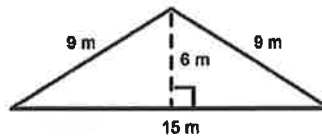
Review: Write the formula and find the area of the parallelogram and triangle below.

Formula: $b \cdot h$



$$3 \times 8 = \boxed{24 \text{ cm}^2}$$

Formula: $\frac{1}{2} b \cdot h$



Base: 15 m

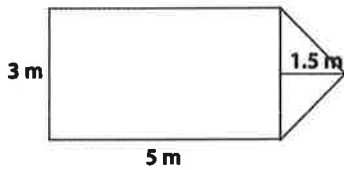
Height: 6 m

Area: 45 m²

$$\frac{1}{2}(15 \cdot 6) =$$

$$\frac{1}{2}(90) = 45$$

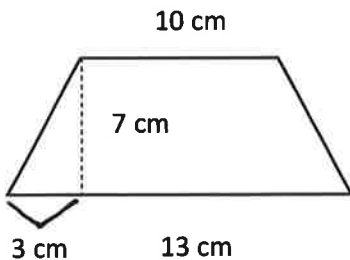
CHALLENGE: Find the area of the figures below.



$$\square = 5 \times 3 = 15 \text{ m}$$

$$\triangle = \frac{1}{2}(b \cdot h) = \frac{1}{2}(3 \cdot 1.5) = \frac{1}{2}(4.5)$$

$$= \boxed{2.25 \text{ m}^2}$$



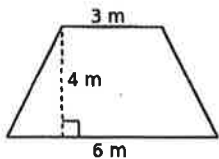
$$\frac{1}{2}(16 + 10) \cdot 7$$

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

$$\frac{1}{2}(182) = \boxed{91 \text{ cm}^2}$$

$$\text{Area of a Trapezoid: } \frac{1}{2}(b_1 + b_2) \cdot h$$

Identify the base and height of each trapezoid below. Then find the area of each.

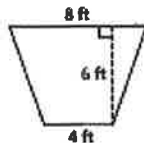


Base 1: 6 m

Base 2: 3 m

Height: 4 m

Area: 18 m²

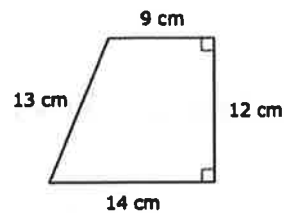


Base 1: 4 ft

Base 2: 8 ft

Height: 6 ft

Area: _____



Base 1: 14 cm

Base 2: 9 cm

Height: 12 cm

Area: 138 cm²

$$\frac{1}{2}(6+3) \cdot 4$$

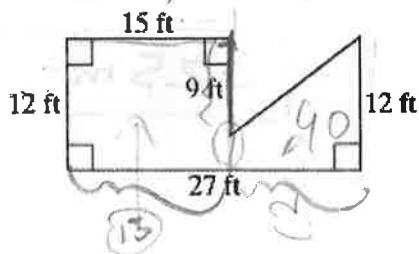
$$\frac{1}{2}(9) \cdot 4 = \frac{1}{2}(36) = \boxed{18 \text{ m}^2}$$

$$\frac{1}{2}(4+8) \cdot 6$$

$$\frac{1}{2}(12) \cdot 6$$

$$\frac{1}{2}(72) = \boxed{36 \text{ ft}^2}$$

CHALLENGE: Find the area of the figures below.



Handwritten calculations for the challenge figure:

$$15 \times 12 = 180$$

$$180 + 90 = 270$$

