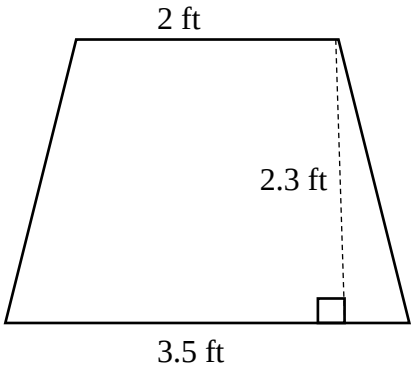
Area of Trapezoids

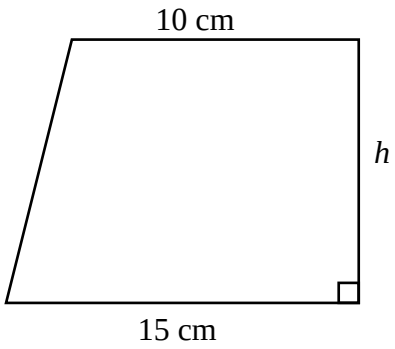
1. Determine the area of the trapezoid shown.



$$A_{trapezoid} = \frac{(a+b)h}{2}$$
$$= \frac{(2\ ft + 3.5\ ft) \times 2.3\ ft}{2}$$
$$= \frac{5.5\ ft\ \times\ 2.3\ ft}{2}$$
$$= 6.3\ ft^2$$

The area of the trapezoid is approximately 6.3 ft^2.

2. The area of the trapezoid shown is 163.8 cm^2. Determine the height.



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

$$163.8\ cm^2 = \frac{(10\ cm + 15\ cm)h}{2}$$

$$163.8\ cm^2 = \frac{25\ cm \times h}{2}$$

$$163.8\ cm^2 = 12.5\ cm \times h$$

$$\frac{163.8\ cm^2}{12.5\ cm} = \frac{\cancel{12.5\ cm} \times h}{\cancel{12.5\ cm}}$$

$$13.1\ cm = h$$

The trapezoid's height is approximately 13.1 cm.