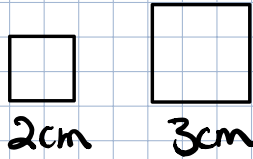


11/5/19

Be able to use special ratios to calculate perimeter and area.



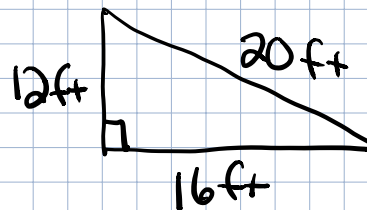
$$\text{Scale factor} = \frac{2}{3} \quad 2:3$$

$$P = 8 \text{ cm} \quad P = 12 \text{ cm}$$

$$\text{Ratio of Perimeters} = \frac{8}{12} = \frac{2}{3}$$

$$A = 4 \text{ cm}^2 \quad A = 9 \text{ cm}^2$$
$$\frac{2^2}{3^2} = \frac{4}{9}$$

$$\text{Ratio of Areas} = \frac{4}{9}$$



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

$$P = 48 \text{ ft}$$

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

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

$$\text{Scale Factor} = \frac{3}{12} = \frac{1}{4}$$

$$\text{Ratio of Perimeters} = \frac{12}{48} = \frac{1}{4}$$

$$\text{Ratio of Areas} = \frac{6}{96} = \frac{1}{16}$$

$$\frac{1^2}{4^2} = \frac{1}{16}$$

Ratio of Areas Equals Scale factor²

Two similar triangles

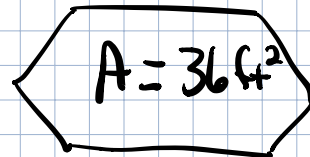
Scale Factor 1:3

Smaller triangle $P=21m$

Find larger perimeter.

$$\frac{1}{3} = \frac{21}{x}$$

$$x = 63m$$



Scale Factor 2:3

Find smaller area

$$\frac{4}{9} = \frac{x}{36}$$

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

$$\frac{2^2}{3^2}$$

Use
scale
factor
squared
for
area