

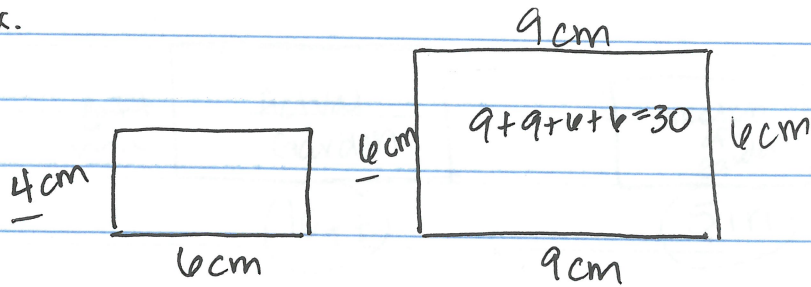
Scale Factor - Perimeter and Area

Scale Factor: $a:b$

Ratio of Perimeter: $a:b$

Ratio of Areas: $a^2:b^2$

Ex.



$$\text{Scale Factor: } 4:6 = \boxed{2:3}$$

$\div 2 \div 2$

$$\text{Ratio of Perimeters: } \boxed{2:3}$$

$$20:30$$

$\div 10 \div 10$

$$\boxed{2:3}$$

in^2 ← area of figure.

in

Ratio of Areas: $2^2:3^2$

$$24:54$$

$\div 6 \div 6$

$$\boxed{4:9}$$

$$\boxed{4:9}$$

Ex. Scale Factor is $3:4$. The small figure has an area of 18 in^2 . Find the larger figure's area.

$$3^2:4^2$$

$\textcircled{9:16}$

$$\frac{9}{16} = \frac{18 \text{ in}^2}{x}$$

$$\frac{3}{4} = \frac{18}{x}$$

← Perimeter

$$\frac{9x}{9} = \frac{288}{9}$$

$$\boxed{x = 32 \text{ in}^2}$$