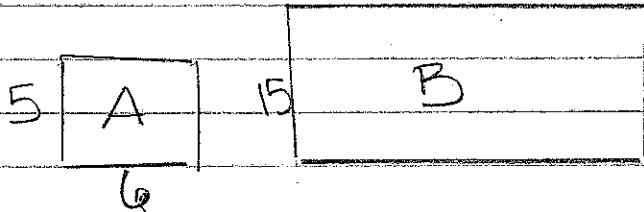


2.7 AREA & PERIMETER OF SIMILAR FIGURES

PERIMETER of SIMILAR FIGURES

$$\text{Perimeter}_B = \text{Perimeter}_A \cdot \text{scale factor}$$



(A) $5 + 5 + 6 + 6 =$
perimeter = 22

(B) Perimeter ?

dilated original

$$B = 22 \cdot \frac{15}{5}$$

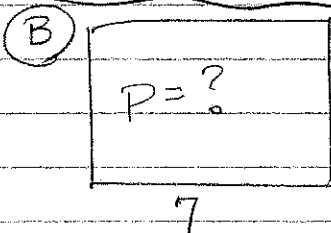
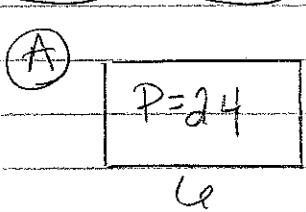
what's the scale factor?

$$\frac{15}{5} = 3$$

$$B = 22 \cdot 3$$

$$B = 66$$

(sm to big = scale = more than factor 1)

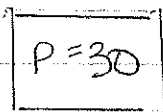


$\frac{7}{6}$ big

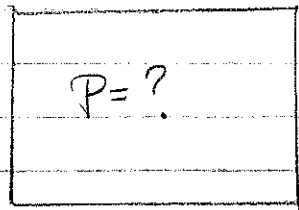
$\frac{6}{7}$ sm

$$B = 24 \cdot \frac{7}{6}$$

$$B = 28$$



6

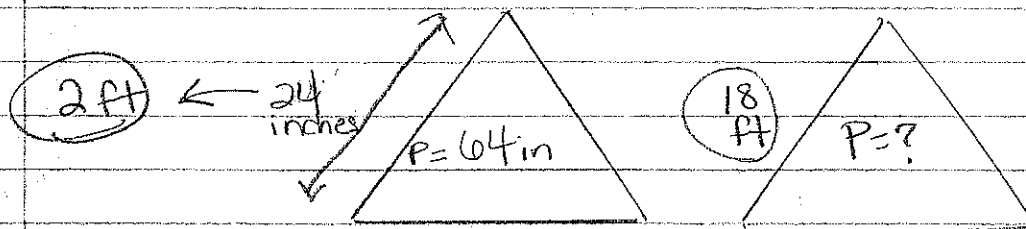


25

$$B = 30 \cdot \frac{25}{6}$$

$$B = \frac{30}{1} \cdot \frac{25}{1} = 125$$

$$B = 125$$



$$\text{scale factor} = \frac{18}{2} = 9$$

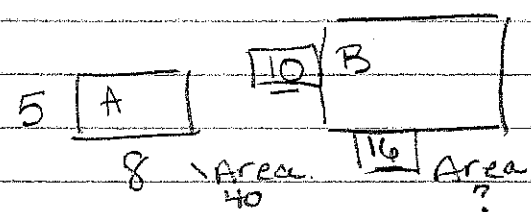
$$B = 64 \cdot 9 = 576$$

(big to sm = scale = less than factor 1)

AREA
OF SIMILAR

$$\text{Area}_B = \text{Area}_A \cdot (\text{scale factor})^2$$

Area = L · W



scale factor:
double the dimensions
= 2

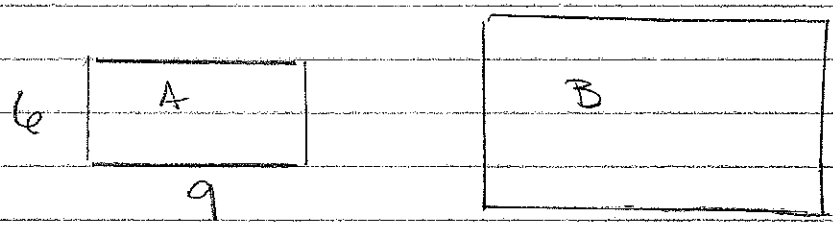
$$B = 40 \cdot (2)^2$$

$$5 \cdot 2 = 10$$

$$8 \cdot 2 = 16$$

$$B = 160$$

scale factor
2



$$B = 54 \cdot (2)^2$$

$$B = 54 \cdot 4$$

$$B = 216$$