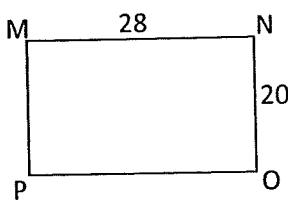
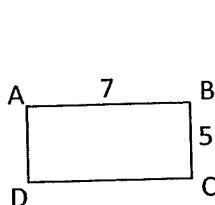


7.5 Similar Figures and Perimeter



1. Find the scale factor of rect ABCD to rect MNOP.

$$\begin{array}{r} 7 : 28 \\ 1 : 4 \end{array}$$

2. Find the perimeter of each rectangle.

$$\text{rect ABCD} = 24$$

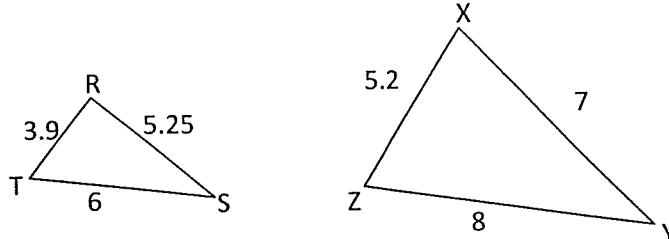
$$\text{rect MNOP} = 96$$

3. What is the ratio of the perimeter ABCD to MNOP?

$$\begin{array}{r} 24 : 96 \\ 1 : 4 \end{array}$$

4. What do you notice about the ratios?

Scale factor is same as ratios of perimeters



5. Find the scale factor of $\triangle RST$ to $\triangle XYZ$.

$$\begin{array}{r} 6 : 8 \\ 3 : 4 \end{array}$$

6. Find the perimeter of each triangle.

$$\triangle RST = 15.15$$

$$\triangle XYZ = 20.2$$

7. What is the ratio of the perimeter $\triangle RST$ to $\triangle XYZ$?

$$\begin{array}{r} 15.15 : 20.2 \\ 3 : 4 \end{array}$$

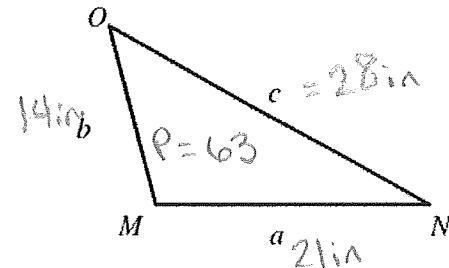
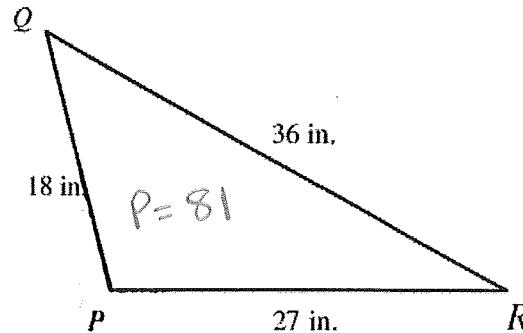
8. What do you notice about the ratios?

Scale factor is same as ratios of perimeters

Ratio of Perimeters:

Scale factor = ratio of perimeters

Ex1 Find a , b , & c , if $\Delta PQR \sim \Delta MON$ and the perimeter of ΔMON is 63 inches.



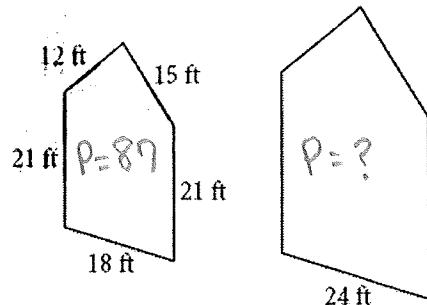
$$\text{scale factor} = \text{ratio of perimeters} \quad \frac{81}{63} = \frac{9}{7}$$

$$36 \left(\frac{7}{9}\right) = c$$

$$18 \left(\frac{7}{9}\right) = b$$

$$27 \left(\frac{7}{9}\right) = a$$

Ex 2 Find the perimeter of the larger pentagon if the two pentagons are similar.



$$\text{Scale factor} = \frac{18}{24} = \frac{3}{4}$$

$$87 \left(\frac{4}{3}\right) = P$$

$$116 \text{ ft} = P$$

Do pg. 419 #1, 2, 8-10, 12, 13