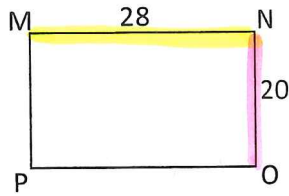
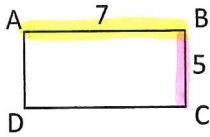


Name: _____

★Key★

Similar Figures and Perimeter Ratios



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

↳ SLR $\frac{AB}{MN} = \frac{7}{28} = \frac{BC}{NO} = \frac{5}{20} = \frac{1}{4}$

2. Find the perimeter of each rectangle. (P = add all sides)

rect ABCD = 24

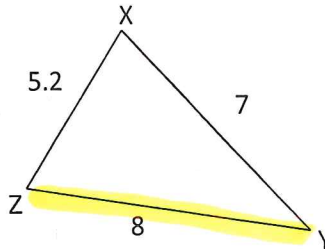
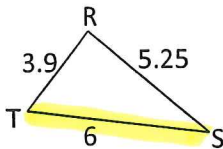
rect MNOP = 96

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

$\frac{24}{96} = \frac{1}{4}$ = perimeter ratio

4. What do you notice about the ratios?

SLR/scale factor is the same as the perimeter ratio



5. Find the scale factor of ΔRST to ΔXYZ .

$\frac{TS}{ZY} = \frac{6}{8} = \frac{3}{4}$

6. Find the perimeter of each triangle.

$\Delta RST = \underline{15.15}$

$\Delta XYZ = \underline{20.2}$

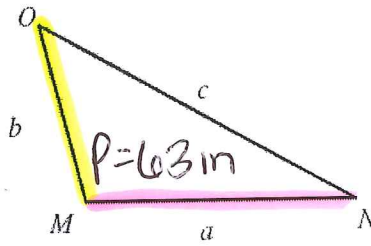
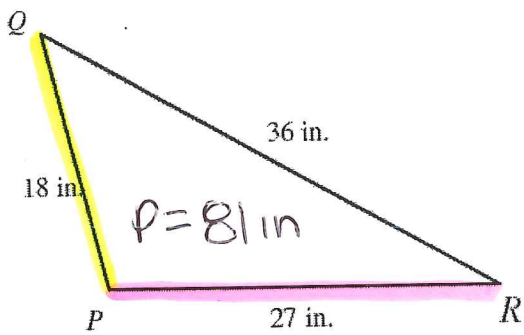
7. What is the ratio of the perimeter ΔRST to ΔXYZ ?

$\frac{15.15}{20.2} = \frac{3}{4}$

8. What do you notice about the ratios?

SLR/scale factor is the same as the perimeter ratio.

9. Find a , b , & c , if $\triangle PQR \sim \triangle MON$ and the perimeter of $\triangle MNO$ is 63 inches.



$$PR = \text{scale factor} = SLR = \frac{81}{63} = \left(\frac{9}{7}\right)$$

$$\frac{18}{b} = \frac{9}{7}$$

$$9b = 126$$

$$\boxed{b = 14 \text{ in}}$$

$$\frac{27}{a} = \frac{9}{7}$$

$$9a = 189$$

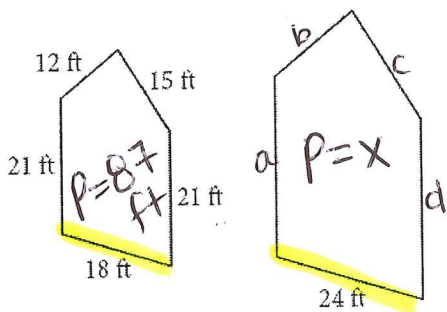
$$\boxed{a = 21 \text{ in}}$$

$$\frac{36}{c} = \frac{9}{7}$$

$$9c = 252$$

$$\boxed{c = 28 \text{ in}}$$

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



$$SLR / \text{scale factor} = \frac{18}{24} = \left(\frac{3}{4}\right)$$

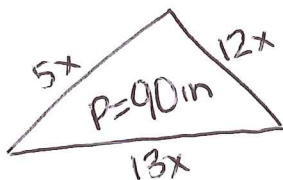
$$PR = SLR$$

$$\frac{87}{x} = \frac{3}{4}$$

$$3x = 348$$

$$\boxed{x = 116 \text{ ft}}$$

11. In a triangle, the ratio of the measures of 3 sides is 5:12:13 and the perimeter is 90 inches. Find the measure of each side.



Perimeter = add all sides

$$5x + 12x + 13x = 90$$

$$30x = 90$$

$$\underline{x = 3}$$

$$5(3) = 15 \text{ in}$$

$$12(3) = 36 \text{ in}$$

$$13(3) = 39 \text{ in}$$