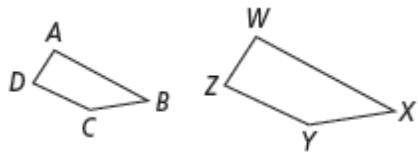
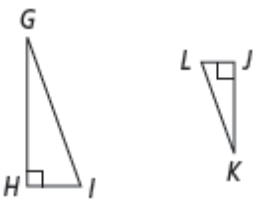


**Math 2 Unit 6 Worksheet 1**  
**Similar Polygons**

Name: \_\_\_\_\_  
 Date: \_\_\_\_\_ Per: \_\_\_\_\_

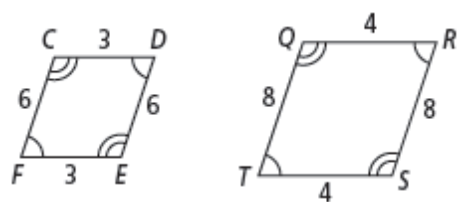
[1-2] List the pairs of congruent angles and the extended proportion that relates the corresponding sides for the similar polygons.

1.   $\angle A \cong$  \_\_\_\_\_  $\angle B \cong$  \_\_\_\_\_  
 $\angle C \cong$  \_\_\_\_\_  $\angle D \cong$  \_\_\_\_\_  
 $\frac{AB}{WX} = \frac{BC}{XY} =$  \_\_\_\_\_ = \_\_\_\_\_

2.   $\angle G \cong$  \_\_\_\_\_  $\angle H \cong$  \_\_\_\_\_  
 $\angle I \cong$  \_\_\_\_\_  
 $\frac{GH}{KJ} =$  \_\_\_\_\_ = \_\_\_\_\_

[3-6] Determine whether the polygons are similar.

- a) Give the scale factor of the left polygon to the right polygon.  
 If not similar, write 'not similar' for both 'a' and 'b' and explain.

3. 

a) SF = \_\_\_\_\_

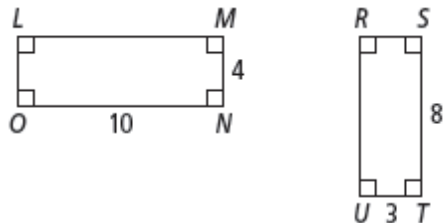
b)  $CDEF \sim$  \_\_\_\_\_

- b) Complete the statement of similarity.

4. 

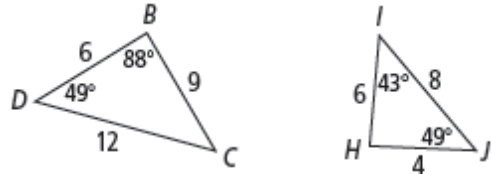
a) SF = \_\_\_\_\_

b)  $\triangle QRS \sim$  \_\_\_\_\_

5. 

a) SF = \_\_\_\_\_

b)  $LMNO \sim$  \_\_\_\_\_

6. 

a) SF = \_\_\_\_\_

b)  $\triangle BCD \sim$  \_\_\_\_\_

7. In the diagram below,  $\triangle NOP \sim \triangle WXY$ . Find each of the following:

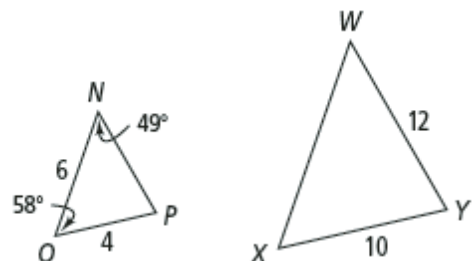
a) the scale factor of  $\triangle NOP$  to  $\triangle WXY =$  \_\_\_\_\_

b)  $m\angle X =$  \_\_\_\_\_

c)  $m\angle Y =$  \_\_\_\_\_

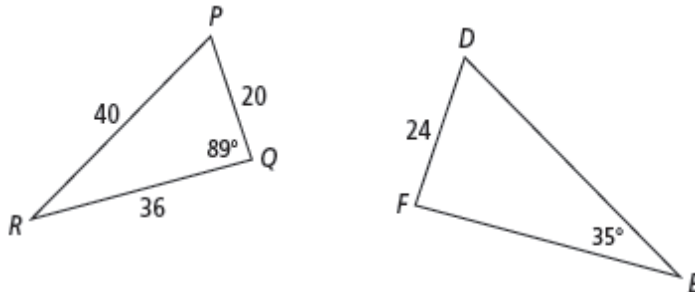
d)  $WX =$  \_\_\_\_\_

e)  $NP =$  \_\_\_\_\_



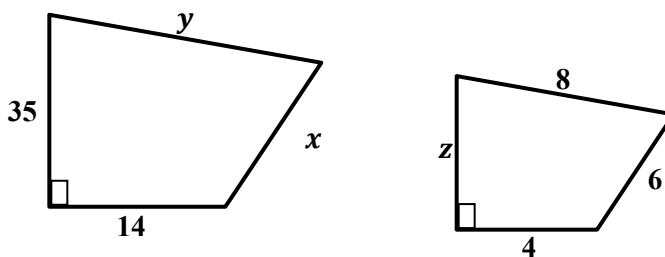
8. In the diagram below,  $\triangle PRQ \sim \triangle DEF$ . Find each of the following:

- a) the scale factor of  $\triangle PRQ$  to  $\triangle DEF = \underline{\hspace{2cm}}$
- b)  $m\angle D = \underline{\hspace{2cm}}$
- c)  $m\angle R = \underline{\hspace{2cm}}$
- d)  $m\angle P = \underline{\hspace{2cm}}$
- e)  $DE = \underline{\hspace{2cm}}$
- f)  $FE = \underline{\hspace{2cm}}$



9. The quadrilaterals shown are similar. Find the scale factor of the larger quadrilateral to the smaller, then find the values of  $x$ ,  $y$ , and  $z$ .

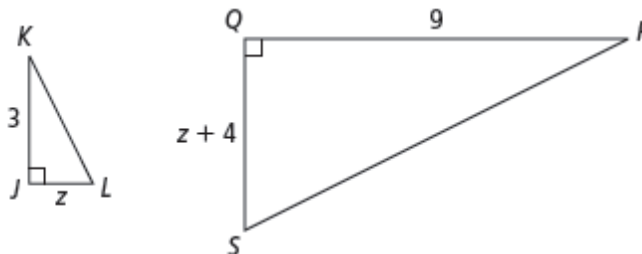
- a) the scale factor  $\underline{\hspace{2cm}}$
- b)  $x = \underline{\hspace{2cm}}$
- c)  $y = \underline{\hspace{2cm}}$
- d)  $z = \underline{\hspace{2cm}}$



10. Find the value of  $z$ . Give the scale factor of the polygons.

$\triangle JKL \sim \triangle QRS$

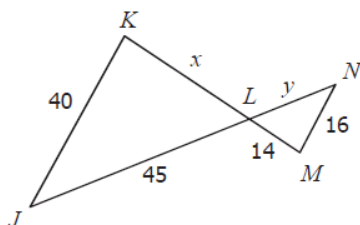
- a)  $z = \underline{\hspace{2cm}}$
- b) the scale factor of  $\triangle JKL$  to  $\triangle QRS = \underline{\hspace{2cm}}$



[11-20] Given the similar polygons, use a proportion to find the value of each variable.

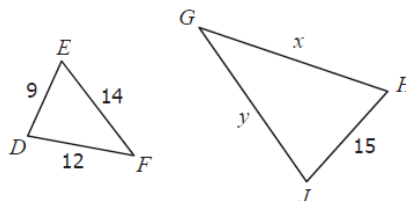
11.  $\triangle JKL \sim \triangle NML$

- a)  $x = \underline{\hspace{2cm}}$
- b)  $y = \underline{\hspace{2cm}}$



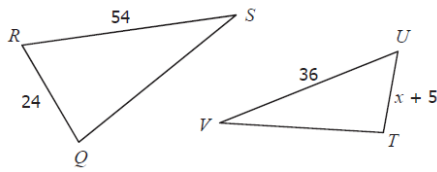
12.  $\triangle DEF \sim \triangle HJG$

- a)  $x = \underline{\hspace{2cm}}$
- b)  $y = \underline{\hspace{2cm}}$



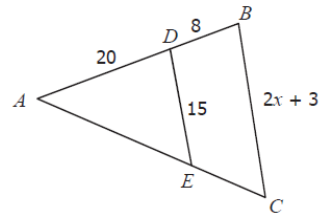
13.  $\triangle QRS \sim \triangle TUV$

a)  $x = \underline{\hspace{2cm}}$



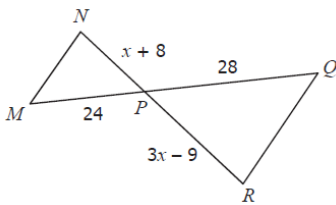
14.  $\triangle ABC \sim \triangle ADE$

a)  $x = \underline{\hspace{2cm}}$



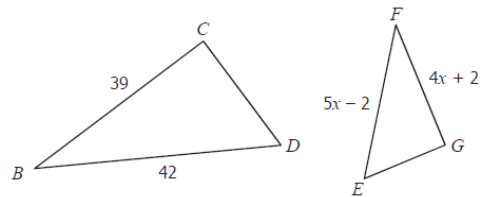
15.  $\triangle MNP \sim \triangle QRP$

a)  $x = \underline{\hspace{2cm}}$



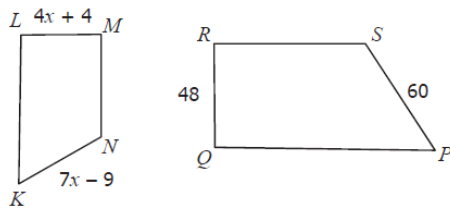
16.  $\triangle BCD \sim \triangle FGE$

a)  $x = \underline{\hspace{2cm}}$



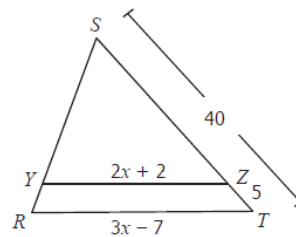
17.  $\triangle KLMN \sim \triangle PQRS$

a)  $x = \underline{\hspace{2cm}}$



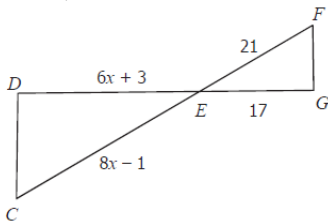
18.  $\triangle RST \sim \triangle YSZ$

a)  $x = \underline{\hspace{2cm}}$



19.  $\triangle CDE \sim \triangle FGE$

a)  $x = \underline{\hspace{2cm}}$



20. If  $\triangle KLM \sim \triangle PQR$  with a scale factor of 3:5, find the perimeter of  $\triangle PQR$

a) perimeter  $\triangle PQR = \underline{\hspace{2cm}}$

