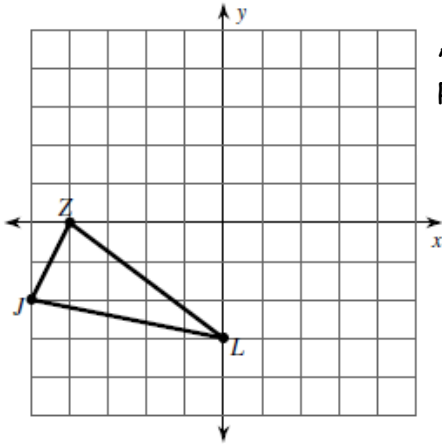


Day 5 - Homework Part 1

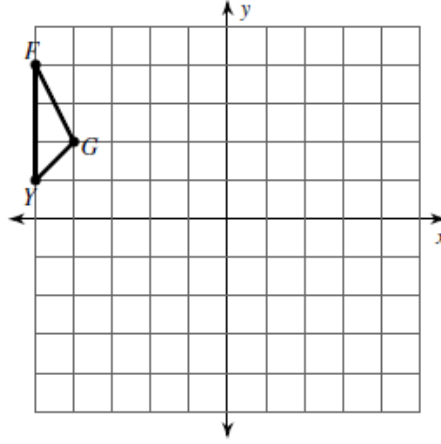
Graph the image of the figure using the transformation given AND write the algebraic rule.

1) rotation  $90^\circ$  counterclockwise about the origin



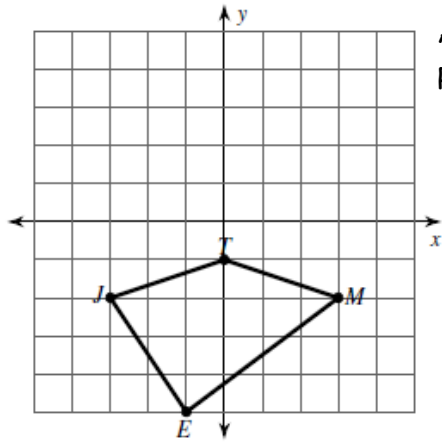
Algebraic Rule:

2) translation: 4 units right and 1 unit down



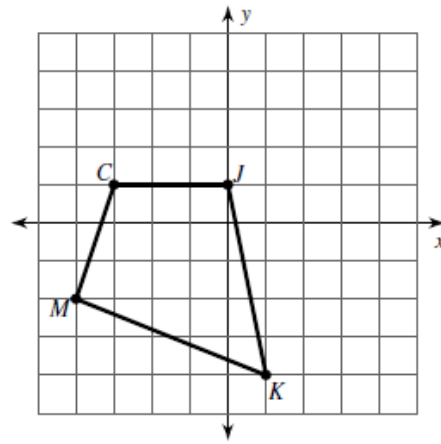
Algebraic Rule:

3) translation: 1 unit right and 1 unit up



Algebraic Rule:

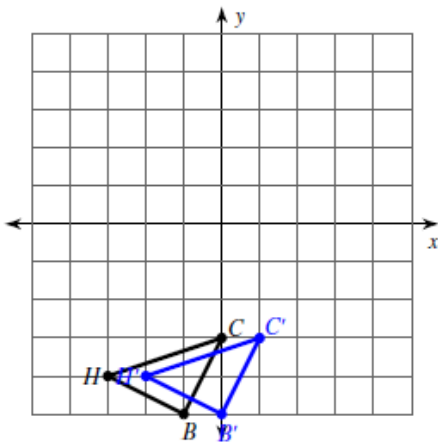
4) reflection across the x-axis



Algebraic Rule:

Write a verbal description and a motion rule, as requested, to describe each transformation.

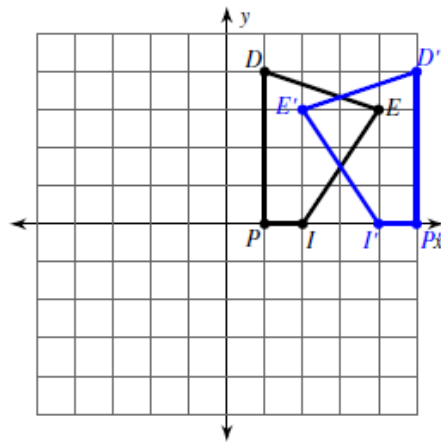
5)



Description:

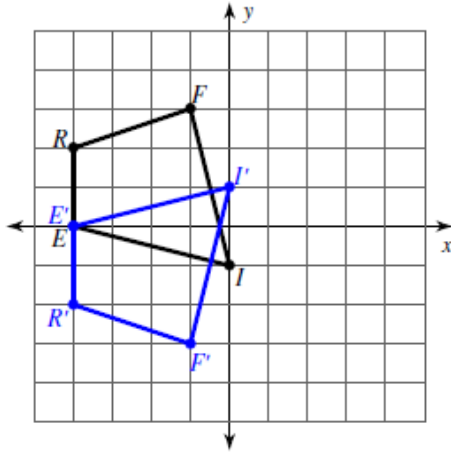
Algebraic Rule:

6)



Description:

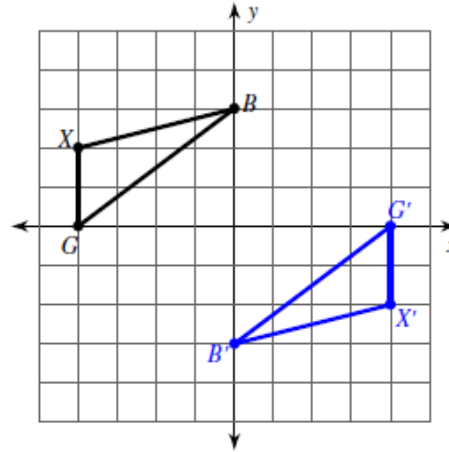
7)



Description:

Algebraic Rule:

8)



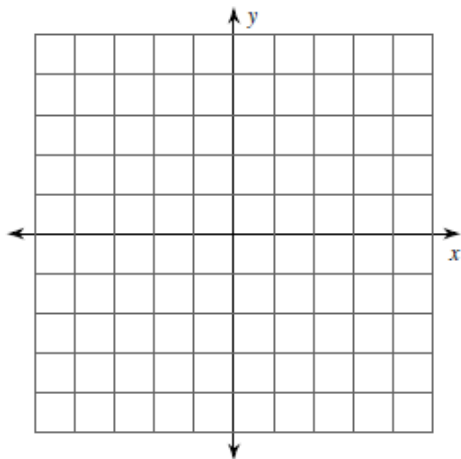
Description:

Algebraic Rule:

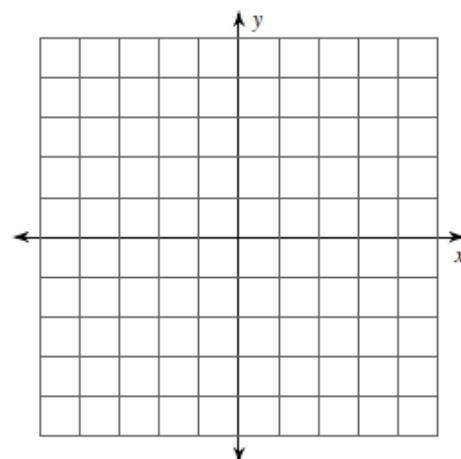
Graph the image of the figure using the transformation given and write the algebraic rule.

9) rotation  $90^\circ$  clockwise about the origin  
 $B(-2, 0)$ ,  $C(-4, 3)$ ,  $Z(-3, 4)$ ,  $X(-1, 4)$

10) reflection across  $y = x$   
 $K(-5, -2)$ ,  $A(-4, 1)$ ,  $I(0, -1)$ ,  $J(-2, -4)$



Algebraic Rule:



Algebraic Rule:

Find the coordinates of the vertices of the figure using the transformation given and write the algebraic rule, as requested.

11) rotation  $180^\circ$  about the origin  
 $E(2, -2)$ ,  $J(1, 2)$ ,  $R(3, 3)$ ,  $S(5, 2)$

12) reflection across  $y = 2$   
 $J(1, 3)$ ,  $U(0, 5)$ ,  $R(1, 5)$ ,  $C(3, 2)$

Vertices:

Vertices:

Algebraic Rule:

13) translation: 7 units right and 1 unit down  
 $J(-3, 1)$ ,  $F(-2, 3)$ ,  $N(-2, 0)$

14) translation: 6 units right and 3 units down  
 $S(-3, 3)$ ,  $C(-1, 4)$ ,  $W(-2, -1)$

Vertices:

Vertices:

Algebraic Rule:

Algebraic Rule:

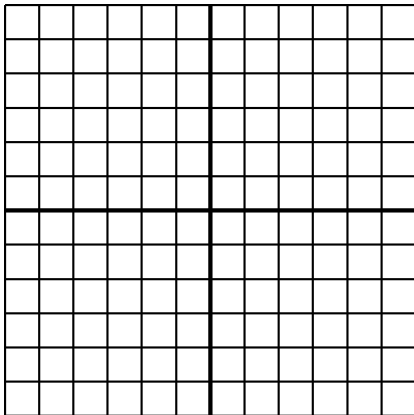
Unit 1 Transformations with Coordinates Review

**Part 1:** Graph the pre-image and image on the graph below AND label the vertices. Then, write a description of the transformation given by the coordinates below. Finally, write an algebraic rule for the transformation. (Hint: for help with the Algebraic Rules, look at earlier packet pages.)

- The coordinates of  $\triangle ABC$  are  
 A(2, 1), B(3, 5), C(0, 4).  
 1. The coordinates of  $\triangle A'B'C'$  are  
 A'(2, -1), B'(3, -5), C'(0, -4).

Description: \_\_\_\_\_

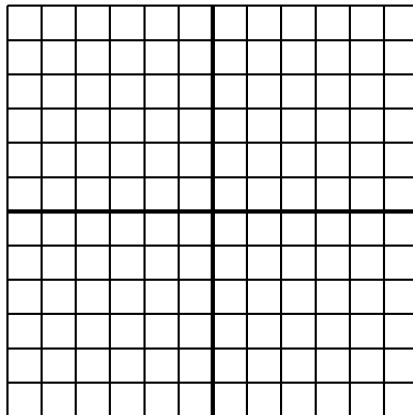
Algebraic Rule: \_\_\_\_\_



- The coordinates of  $\triangle ABC$  are  
 A(-2, 3), B(4, 0), C(-1, -4).  
 2. The coordinates of  $\triangle A'B'C'$  are  
 A'(0, 0), B'(6, -3), C'(1, -7).

Description: \_\_\_\_\_

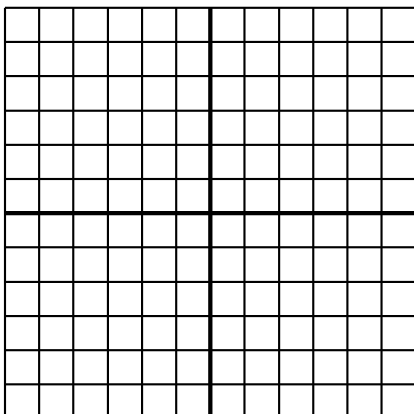
Algebraic Rule: \_\_\_\_\_



- The coordinates of  $\triangle ABC$  are  
 A(-3, -2), B(-2, 3), C(1, 3).  
 3. The coordinates of  $\triangle A'B'C'$  are  
 A'(-6, -4), B'(-4, 6), C'(2, 6).

Description: \_\_\_\_\_

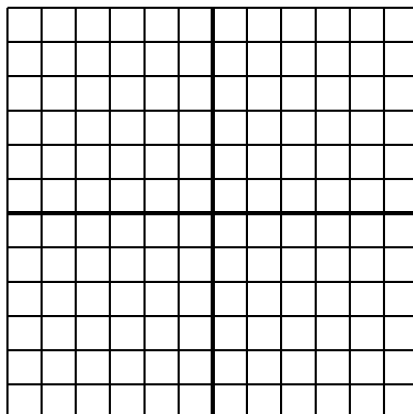
Algebraic Rule: \_\_\_\_\_



- The coordinates of  $\triangle ABC$  are  
 A(-3, 1), B(-2, -1), C(2, 2).  
 4. The coordinates of  $\triangle A'B'C'$  are  
 A'(-6, 2), B'(-4, -2), C'(4, 4).

Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_



The coordinates of  $\triangle ABC$  are

A(-1, 1), B(0, 3), C(-3, 1).

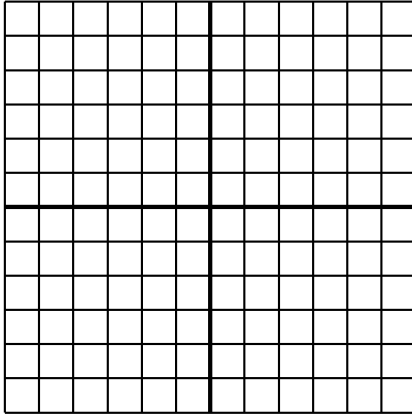
5.

The coordinates of  $\triangle A'B'C'$  are

A'(1, 1), B'(3, 0), C'(1, 3).

Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_



The coordinates of  $\triangle ABC$  are

A(-3, 0), B(-2, 3), C(1, -3).

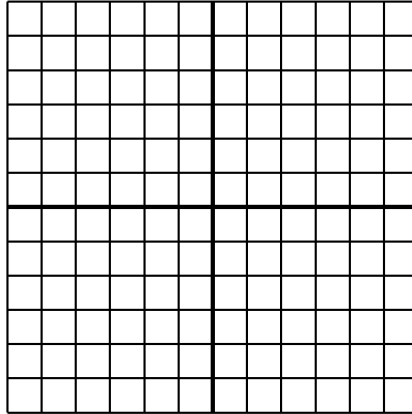
6.

The coordinates of  $\triangle A'B'C'$  are

A'(6, 0), B'(4, -6), C'(-2, 6).

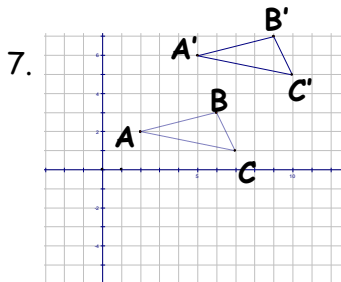
Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_



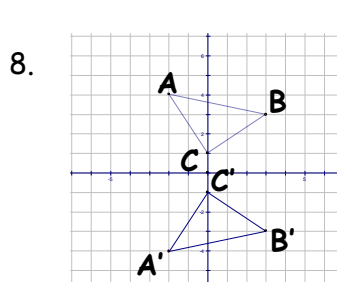
**Part 2: Describe the transformations on the graph verbally and by writing an algebraic rule.**

**Hint: The triangle with dotted lines is the preimage.**



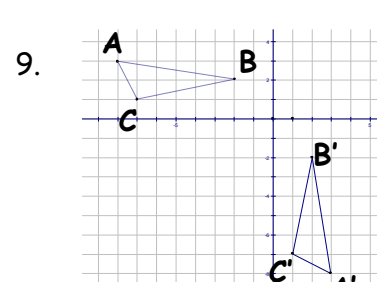
Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_



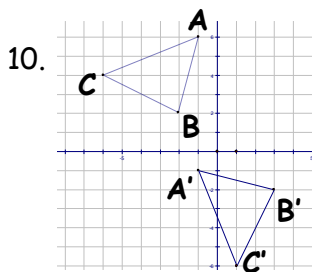
Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_



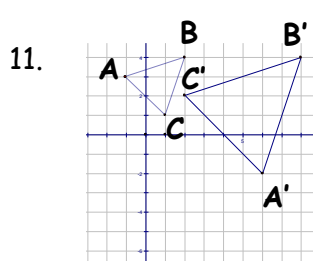
Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_



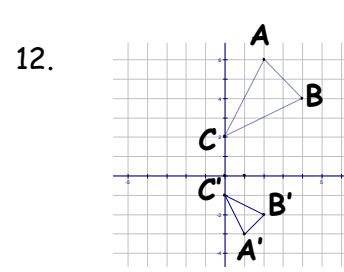
Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_



Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_

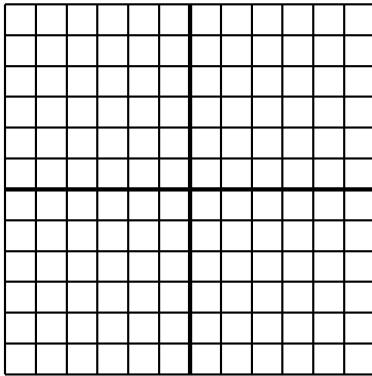


Description: \_\_\_\_\_

Algebraic Rule: \_\_\_\_\_

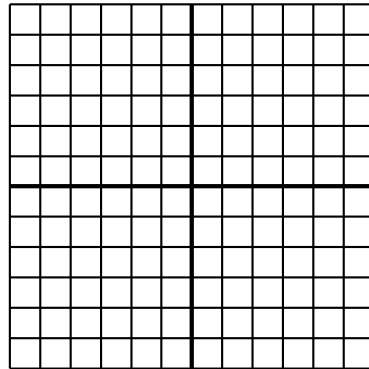
**Part 3:** Given the description, write an algebraic rule to represent the transformation. Then graph the pre-image and image on the graph below. Use  $\triangle ABC$  with  $A(2, -2)$ ,  $B(3, 1)$ , and  $C(1, 2)$ .

13)  $\triangle ABC$  is dilated by 2



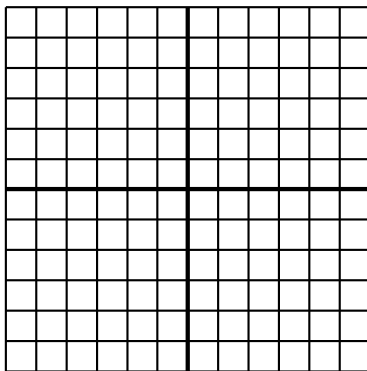
Algebraic Rule: \_\_\_\_\_

14)  $\triangle ABC$  is moved up 4 and 2 to the right



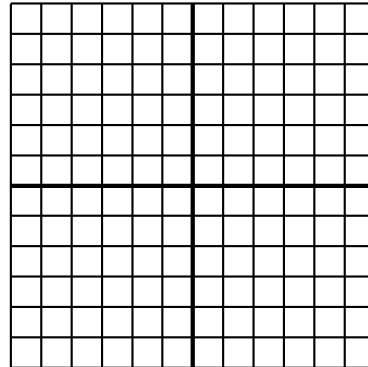
Algebraic Rule: \_\_\_\_\_

15)  $\triangle ABC$  is rotated  $180^\circ$  then stretched dilated by a factor of two.



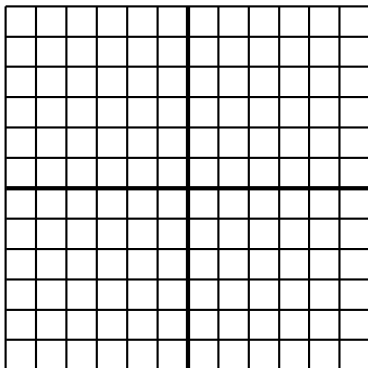
Algebraic Rule: \_\_\_\_\_

16)  $\triangle ABC$  is reflected over the y-axis then enlarged by two.



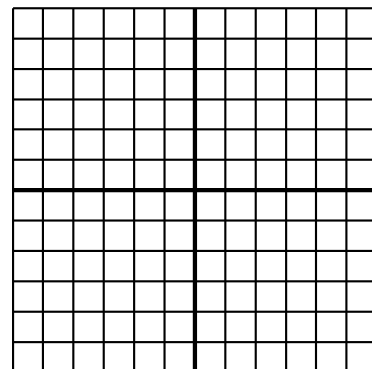
Algebraic Rule: \_\_\_\_\_

17)  $\triangle ABC$  is reflected over  $y = -x$  and moved up 2



Algebraic Rule: \_\_\_\_\_

18)  $\triangle ABC$  is reflected over the x-axis, then dilated by  $\frac{1}{2}$ , then moved down 2 and left 1.

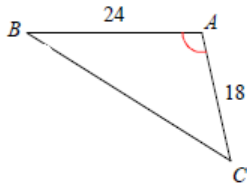
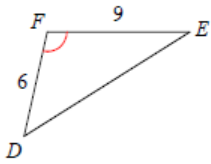


Algebraic Rule: \_\_\_\_\_

Day 6 Homework - Similarity Practice

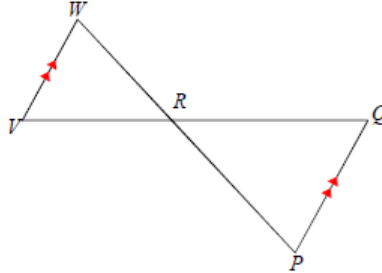
State if the triangles in each pair are similar. If so, state how you know they are similar and complete the similarity statement.

1)



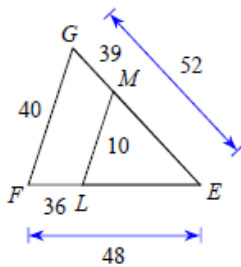
$\triangle ABC \sim$  \_\_\_\_\_ by \_\_\_\_\_

2)



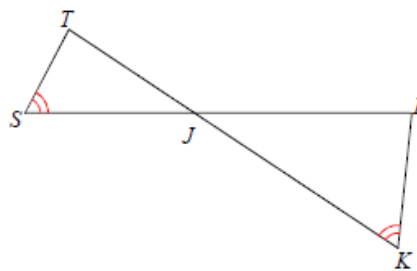
$\triangle RQP \sim$  \_\_\_\_\_ by \_\_\_\_\_

3)



$\triangle EFG \sim$  \_\_\_\_\_ by \_\_\_\_\_

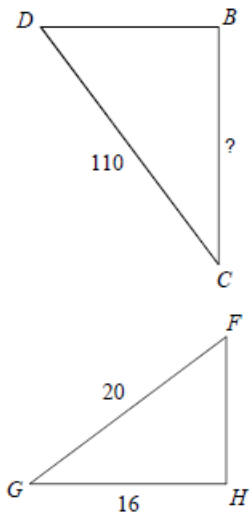
4)



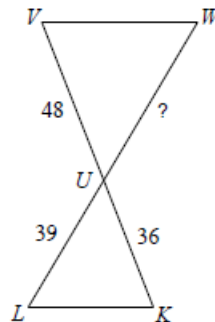
$\triangle JKL \sim$  \_\_\_\_\_ by \_\_\_\_\_

Given the information below, solve for the length of the missing segment in the similar triangles.

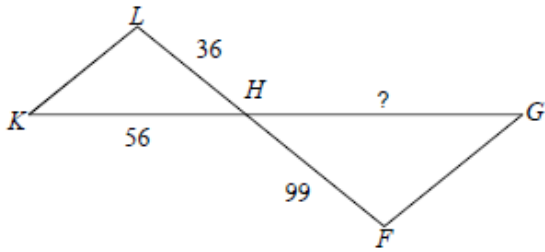
9)  $\triangle DBC \sim \triangle FHG$



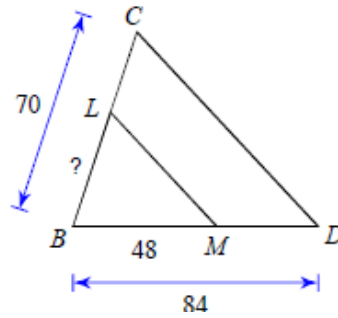
10)  $\overline{VW} \parallel \overline{KL}$



11)  $\triangle LHK \sim \triangle FHG$



12)  $\overline{LM} \parallel \overline{CD}$



13) Given  $\triangle CBA \sim \triangle FED$ . Find  $x$ ,  $y$ , and the measure of each angle.

$m\angle A = 7x + 2y$

$m\angle D = 24^\circ$

$m\angle C = 30^\circ$

$m\angle F = 8x + 2y$

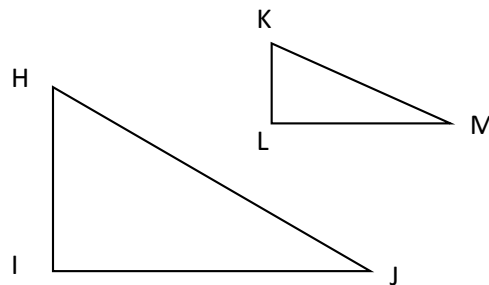
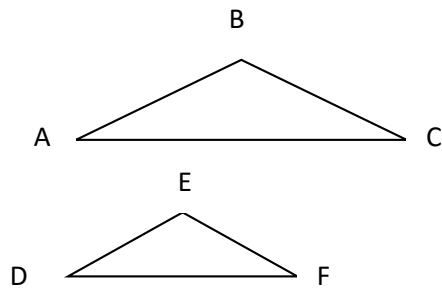
14) Given  $\triangle HIJ \sim \triangle KLM$ . Find  $x$ ,  $y$ , and the measure of each angle.

Angle  $H = 20^\circ$

Angle  $K = 4x - y$

Angle  $J = -2x - 2y$

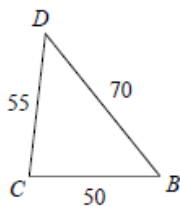
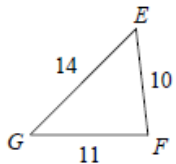
Angle  $M = 10^\circ$



Day 7 - Homework

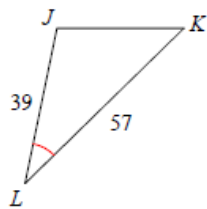
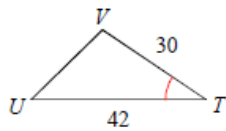
Are the triangles similar? If so, complete the similarity statement and explain why they are similar. If not, explain why.

5)



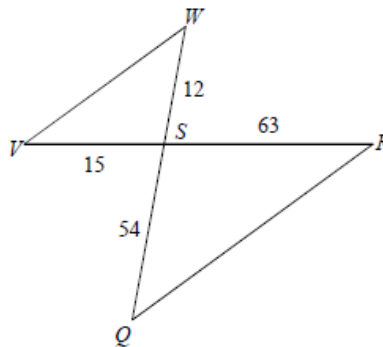
$\triangle BCD \sim$  \_\_\_\_\_  
by \_\_\_\_\_

6)



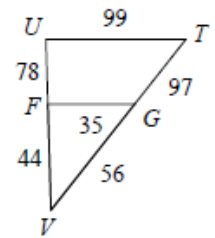
$\triangle LKJ \sim$  \_\_\_\_\_  
by \_\_\_\_\_

7)



$\triangle SRQ \sim$  \_\_\_\_\_  
by \_\_\_\_\_

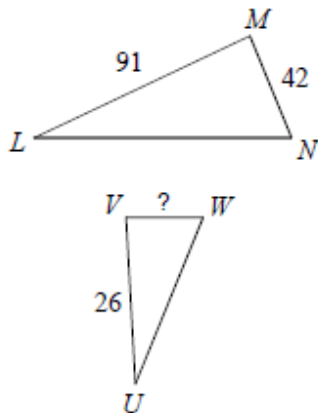
8)



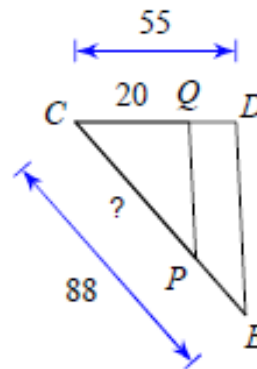
$\triangle VUT \sim$  \_\_\_\_\_  
by \_\_\_\_\_

Given the information below, solve for the length of the missing segment in the similar triangles.

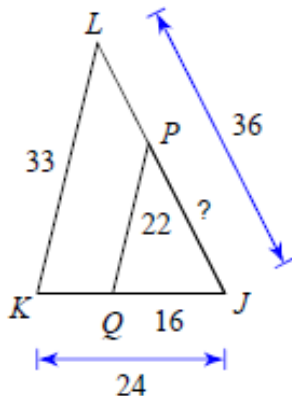
13)  $\triangle LMN \sim \triangle UVW$



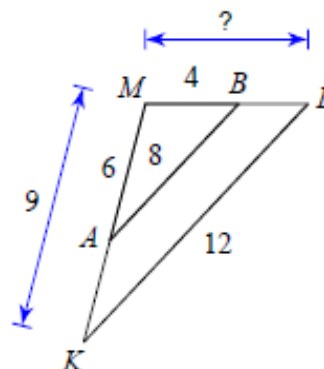
14)  $\overline{QP} \parallel \overline{DE}$



15)  $\overline{LK} \parallel \overline{PQ}$

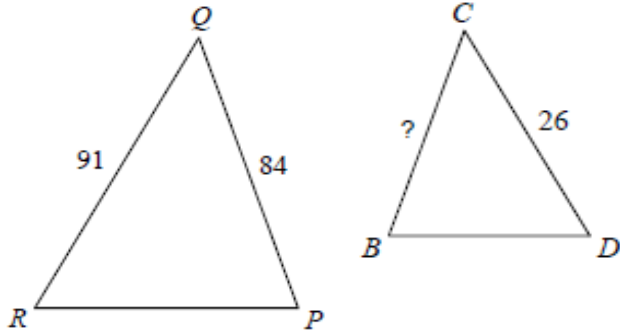


16)  $\overline{BA} \parallel \overline{LK}$

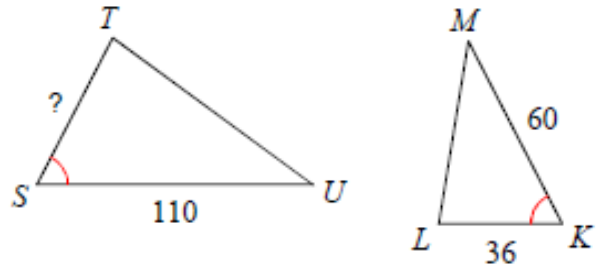




17)  $\triangle PQR \sim \triangle BCD$



18)  $\triangle TUS \sim \triangle MLK$



Solve each extended proportion for  $x$  and  $y$  with  $x > 0$  and  $y > 0$ .

19)  $\frac{x}{5} = \frac{9}{y} = \frac{y}{25}$

20)  $\frac{x}{6} = \frac{x+10}{18} = \frac{4x}{y}$

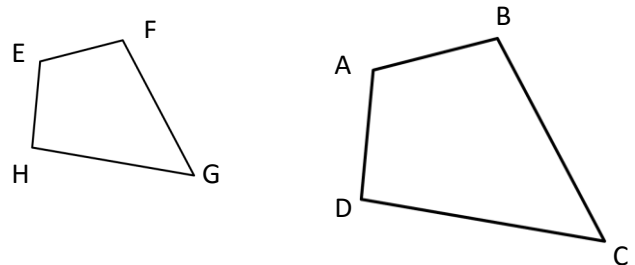
21) The two quadrilaterals below are similar. Find  $x$ ,  $y$ , and the measure of each angle.

Angle  $B = 10^\circ$

Angle  $F = 4x + 2y$

Angle  $C = 10x - 10y$

Angle  $G = 130^\circ$



22) Quadrilateral "MORE" is similar to Quadrilateral "SALT". Match the descriptions below with a value given in the list on the right by writing its letter in the box provided.

The length of segment TL

ER corresponds to this segment

MO corresponds to this segment

EM corresponds to this segment

The length of segment MO

RO corresponds to this segment

a. TS

b. TL

c. 6 cm

d. 7.5 cm

e. SA

f. LA

