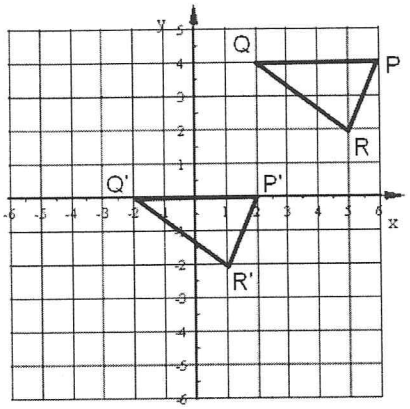
Geometry Chapter 9 Review Fall 2013

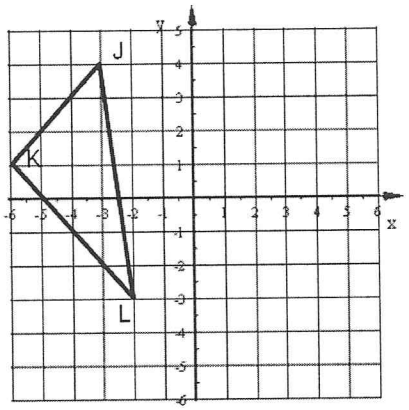
.1. Find the coordinates of $\triangle TUV$ after the following translation:

$T(3,-2)$ $U(4,6)$ $V(-1,3)$ $(x,y) \rightarrow (x-8, y+14)$

2. Write a rule for the translation shown below

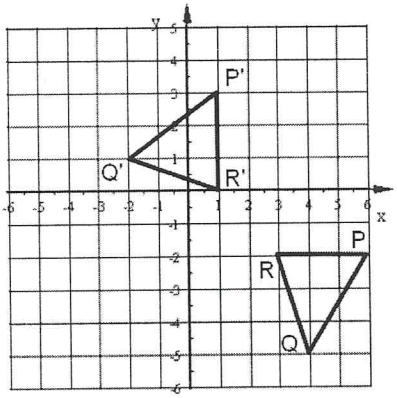


3. Draw the image of $\triangle JKL$ after reflecting over the line $x = -1$

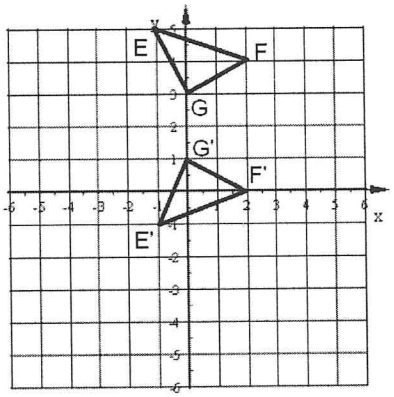


4. Draw the line of reflection and write its equation for the reflections shown.

a)



b)



5. For each of the below, find the coordinates of the image of point $X(3,-2)$ after each reflection.

a) Reflect X over the x-axis.

b) Reflect X over the y-axis.

c) Reflect X over the line $y = 2$

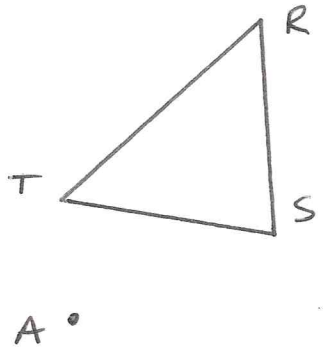
d) Reflect X over the line $y = x + 3$

6. Using graph paper, draw the image of $\triangle XYZ$ after each rotation.

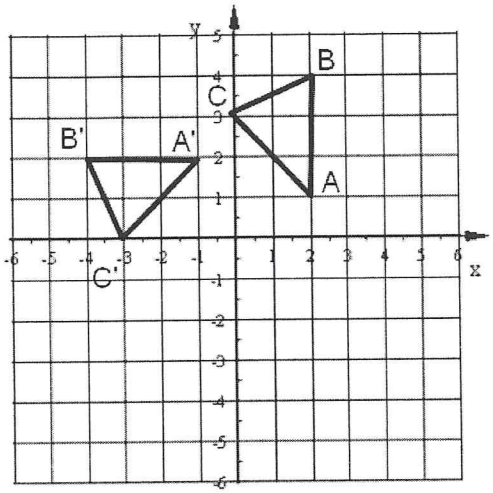
$X(3,0)$ $Y(3,4)$ $Z(5,2)$

a) 180° b) 90° CCW c) 90° CW

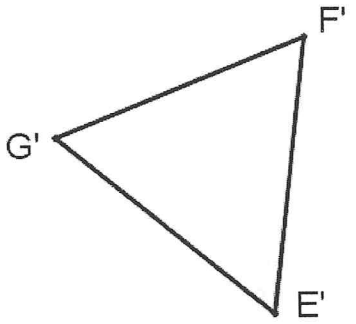
7. Draw the image of $\triangle RST$ after rotating 60° CW about pt A.

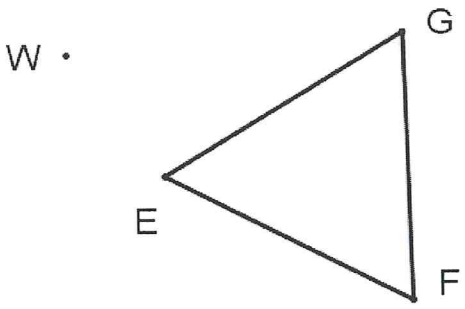


8. Describe the rotation of $\triangle ABC$ shown below. Give distance & direction.



9. Describe the rotation that maps $\triangle EFG$ onto it's image by giving the distance and direction. The center of rotation is pt. W. The rotation was a multiple of five.

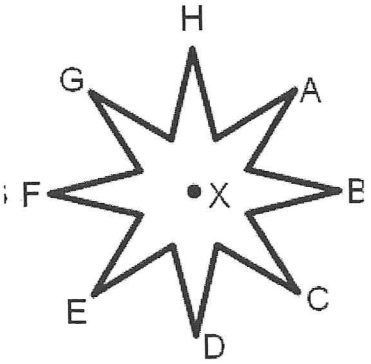




10. Describe the rotation about Pt. X that does the following:

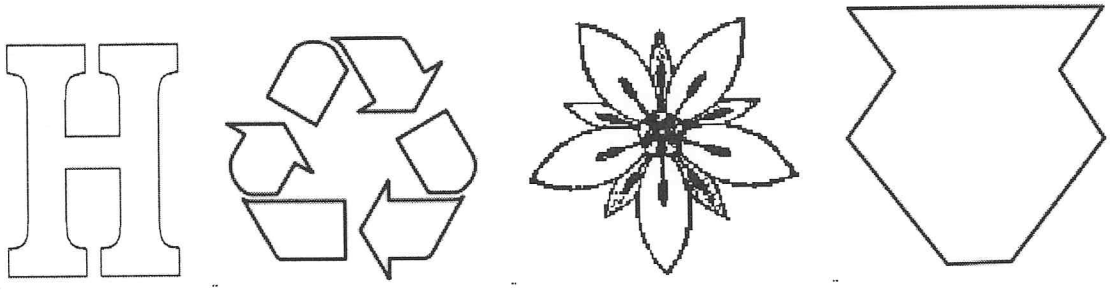
a) Maps Pt D onto Pt B

b) Maps Pt F onto Pt A

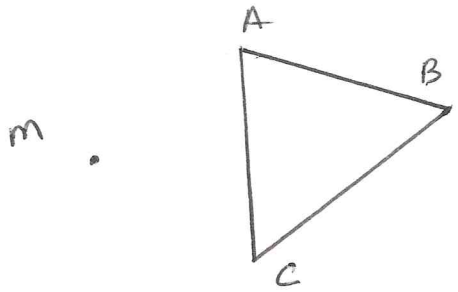


11. Tell if each figure has reflectional and/or rotational symmetry.
If it has reflectional symmetry draw the line(s) of symmetry
If it has rotational symmetry state the angle of rotation.

a) b) c) d)

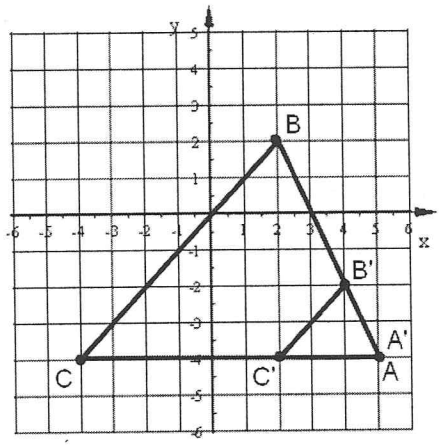


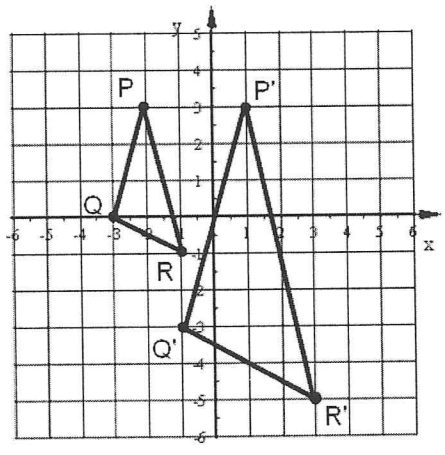
12. Dilate $\triangle ABC$ with a scale factor 3:1 using point M as the center of dilation.



13. Find the coordinates of the center of dilation and the scale factor for each.

a) b)

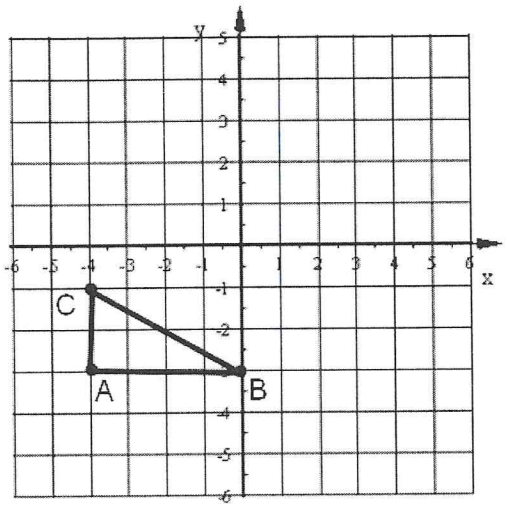




14. Find the coordinates of the image of $\triangle WXY$ after each dilation. The center of dilation is $(0,0)$
$W(-4,2)$ $X(12,4)$ $Y(8,8)$

a) Scale factor is 5:1 b) Scale factor is 1:4

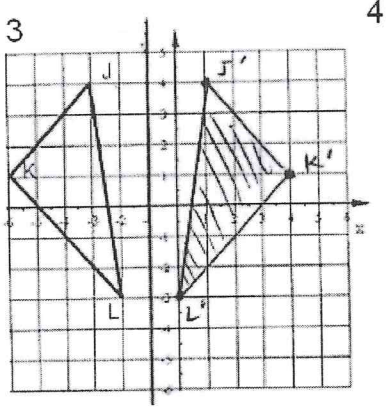
15. Draw and label the image of $\triangle ABC$ after a dilation with scale factor 2:1. The center of dilation is the point $(-5,-4)$



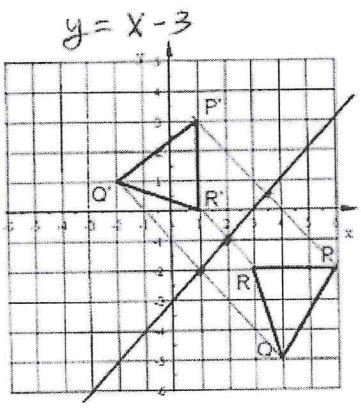
Geometry Chapter 9 Review Fall 2013 **ANSWERS**

.1. $T'(-5,12)$ $U'(-4,20)$ $V'(-9,17)$ 2. $(x,y) \rightarrow (x-4, y-4)$

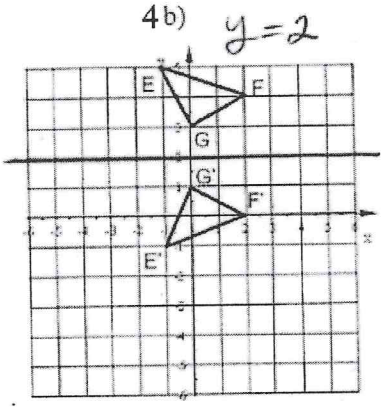
3



4a)

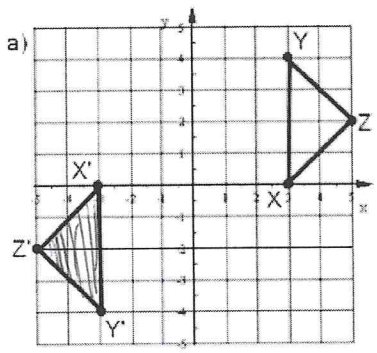


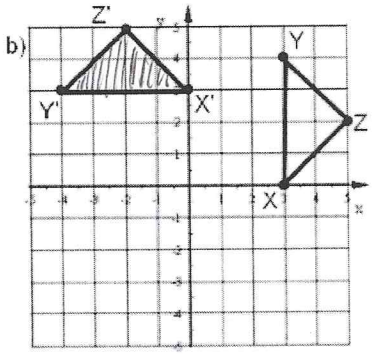
4b)

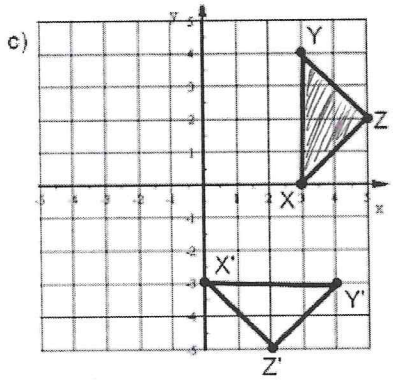


5. a) $X'(3,2)$ b) $X'(-3,-2)$ c) $X'(3,6)$ d) $X'(-5,6)$

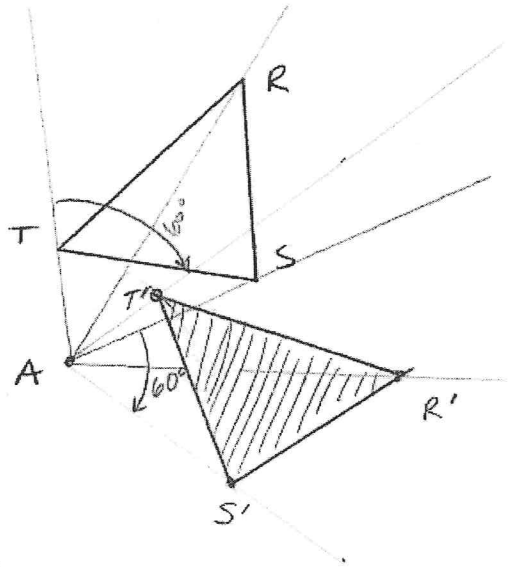
6.







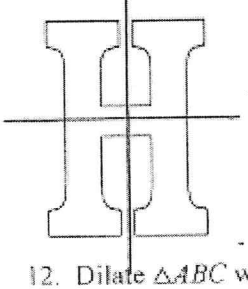
7.



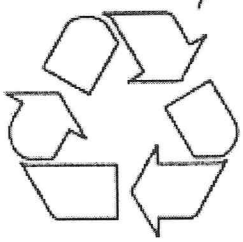
8. 90° CCW 9. 110° CCW 10. a. 90° CCW b. 135° CW

11.

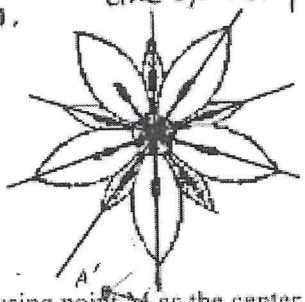
a) 180° Rotational Line Symmetry

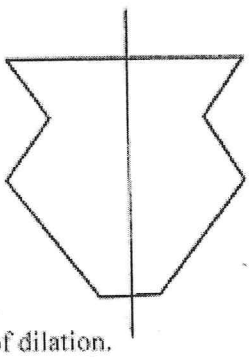


b) 120° ROTATIONAL NO LINE Symm.



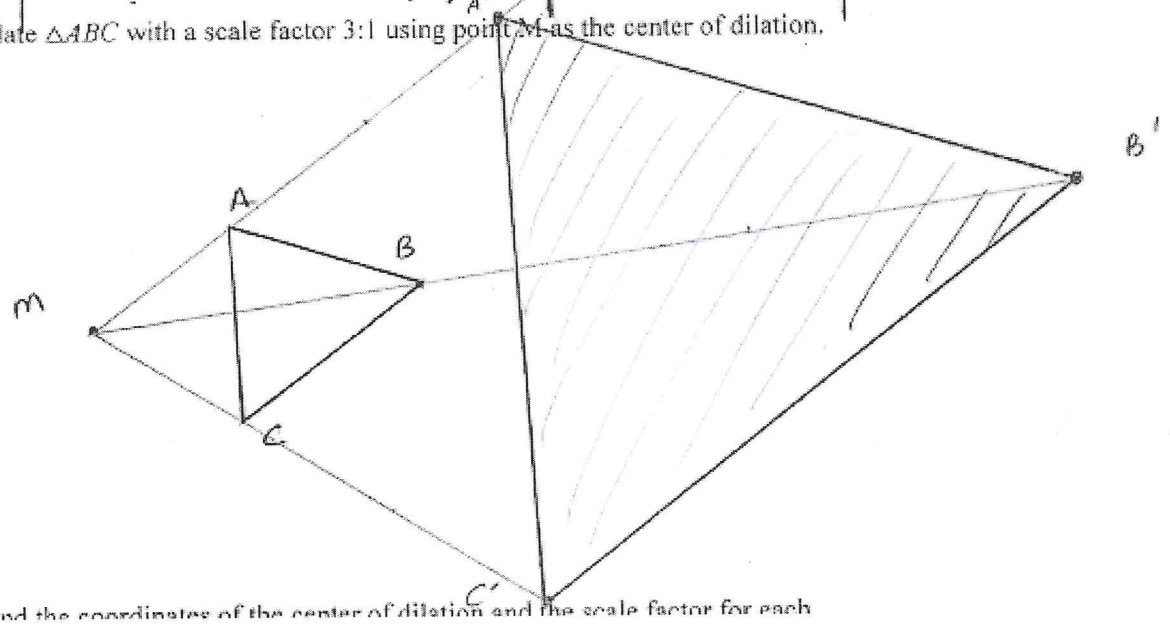
c) 72° ROTATIONAL Line Symmetry





only reflectional symmetry
no Rotational Symm.

12. Dilate $\triangle ABC$ with a scale factor 3:1 using point M as the center of dilation.



13. Find the coordinates of the center of dilation and the scale factor for each

13. a) Center is $(5,-4)$ Scale Factor is 1:3 b) Center is $(-5,3)$ Scale Factor is 2:1

14. a) $W'(-20,10)$ $X'(60,20)$ $Y'(40,40)$ b) $W'(-1,-0.5)$ $X'(3,1)$ $Y'(2,2)$

15.