Geometry 3312
Chapter 6 Transformations Day 2 Reflections HW

Name_____Key_____

1.  a)  What is the transformation rule for a reflection over the x-axis?

$(x, y) \rightarrow (X, -Y)$

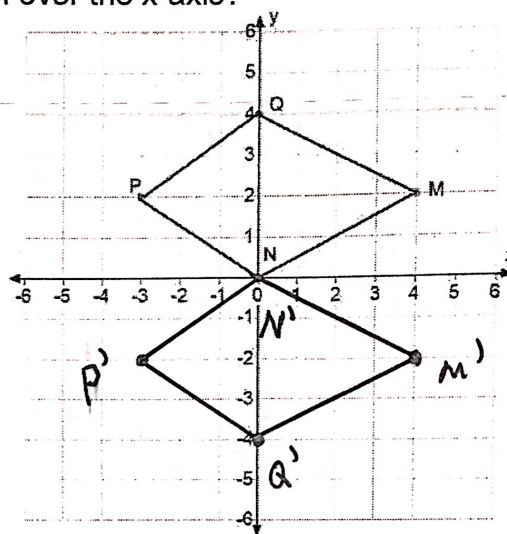b)  List the coordinates of MNPQ and M'N'P'Q' after the it is reflected over x-axis.

M $(4,2)$ → M' $(4,-2)$
N $(0,0)$ → N' $(0,0)$
P $(-3,2)$ → P' $(-3,-2)$
Q $(0,4)$ → Q' $(0,-4)$

c)  Graph M'N'P'Q'.

2.  a)  What is the transformation rule for a reflection over the y-axis?

$(x, y) \rightarrow (-X, Y)$

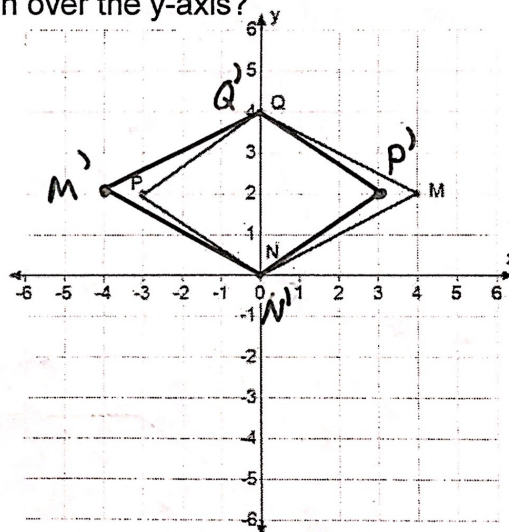b)  List the coordinates of MNPQ and M'N'P'Q' after the it is reflected over y-axis.

M $(4,2)$ → M' $(-4,2)$
N $(0,0)$ → N' $(0,0)$
P $(-3,2)$ → P' $(3,2)$
Q $(0,4)$ → Q' $(0,4)$

c)  Graph M'N'P'Q'.

3.  a)  What is the transformation rule for a reflection over the line y = x?

$(x, y) \rightarrow (Y, X)$

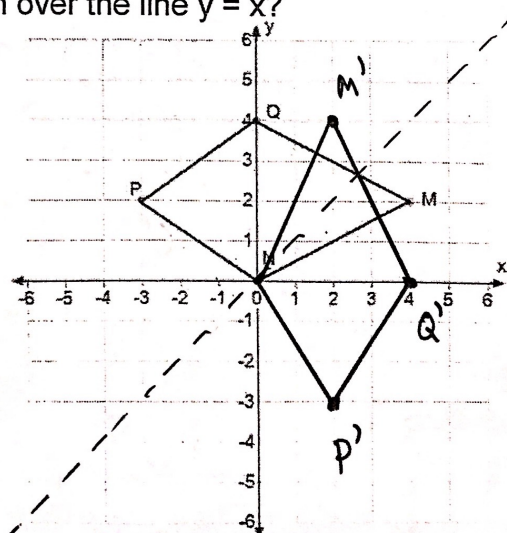b)  List the coordinates of MNPQ and M'N'P'Q' after the it is reflected over the line y = x.

M $(4,2)$ → M' $(2,4)$
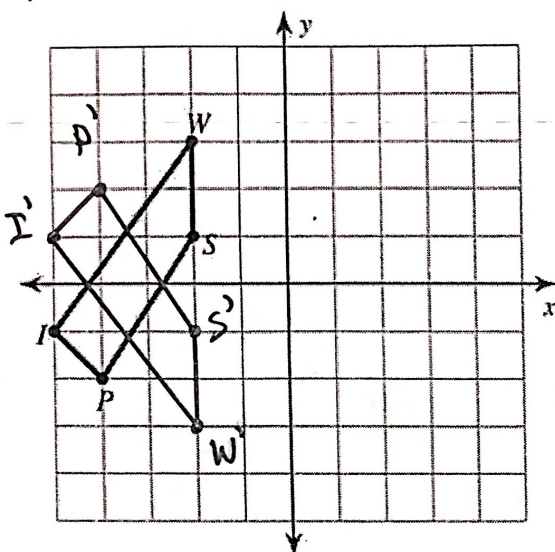N $(0,0)$ → N' $(0,0)$
P $(-3,2)$ → P' $(2,-3)$
Q $(0,4)$ → Q' $(4,0)$
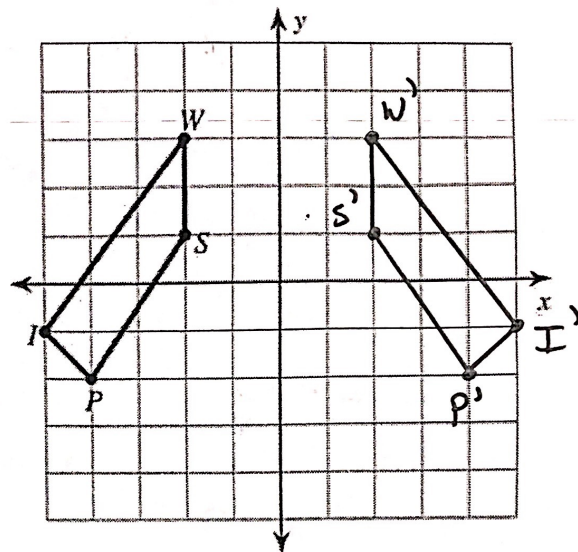
c)  Graph M'N'P'Q'.

**4,**   Reflect the quadrilateral below over each of the following lines.
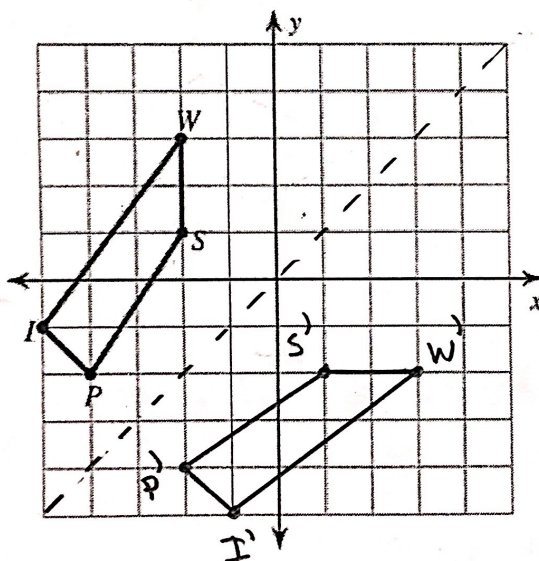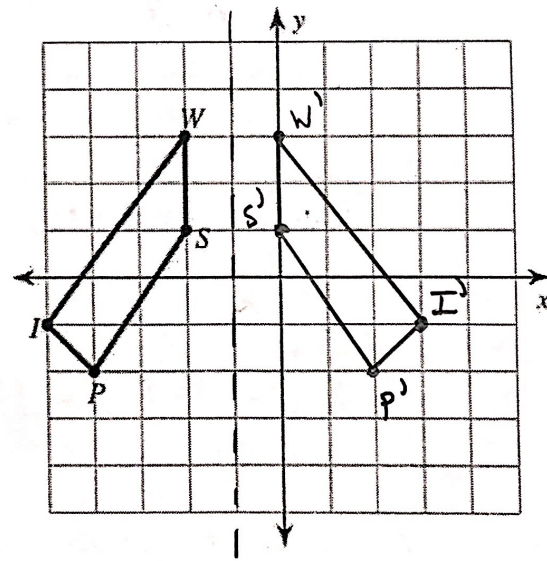
**a)**   Over the x-axis.

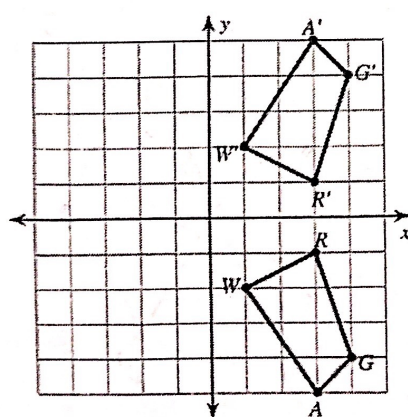**b)**   Over the y-axis.



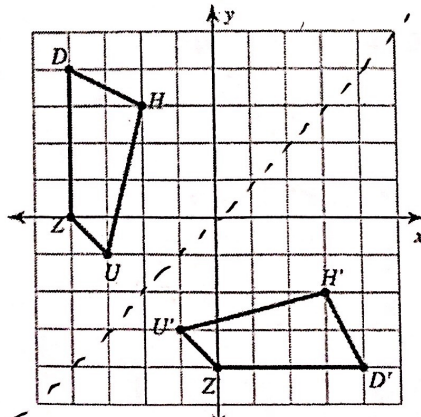**c)**   Over the line y = x.

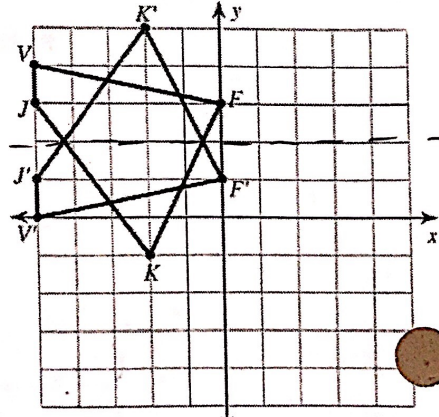**d)**   Over the line x = -1.



**5.**   Name the line of reflection for each reflection.



Line of Reflection: $y = 0$
X-axis

Line of Reflection: $y = x$

Line of Reflection: $y = 2$