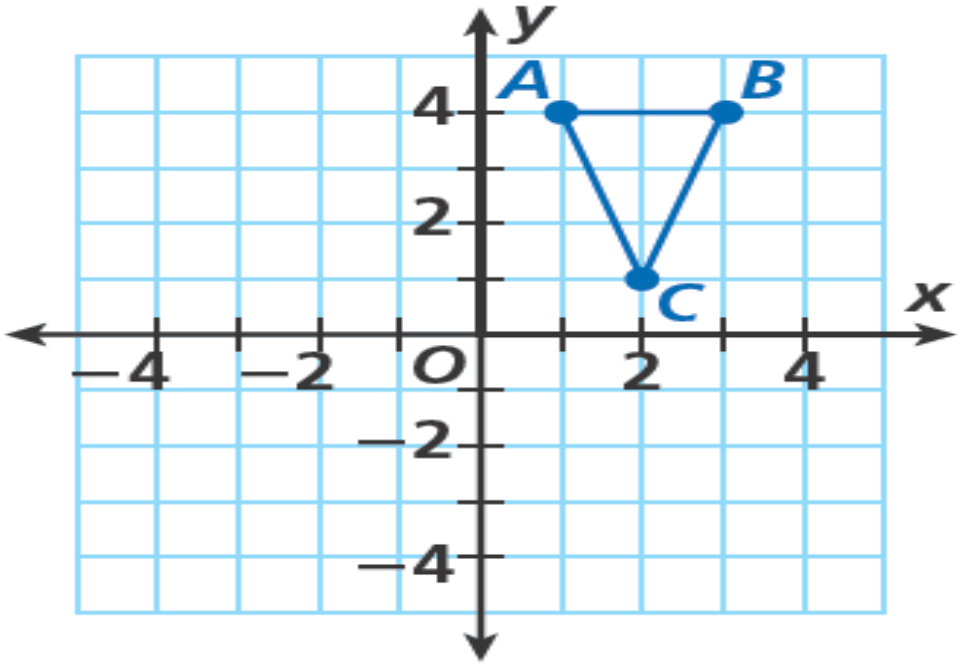
Reflection

A _____ is a change in a figure's position or size.

Translations _____, rotations _____, and reflections _____ are types of transformations.

A _____ flips a figure across a line to create a mirror image.



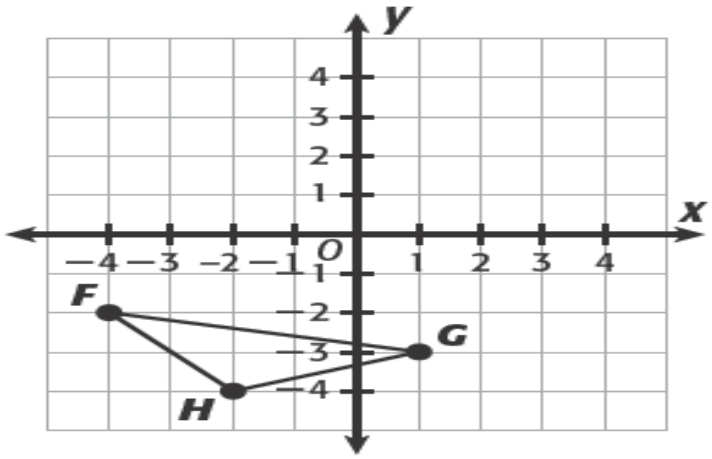
Type of Reflection	Arrow Notation (rule)

1. Graph the reflection of triangle *FGH* across the *y*-axis.

List coordinates of the preimage _____, _____, _____,

List coordinates of the image _____, _____, _____,

Arrow notation _____

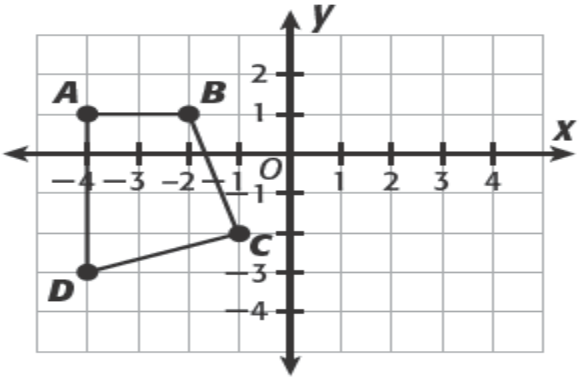


2. Graph the reflection of quadrilateral *ABCD* across the *x*-axis.

List coordinates of the preimage _____, _____, _____, _____

List coordinates of the image _____, _____, _____, _____

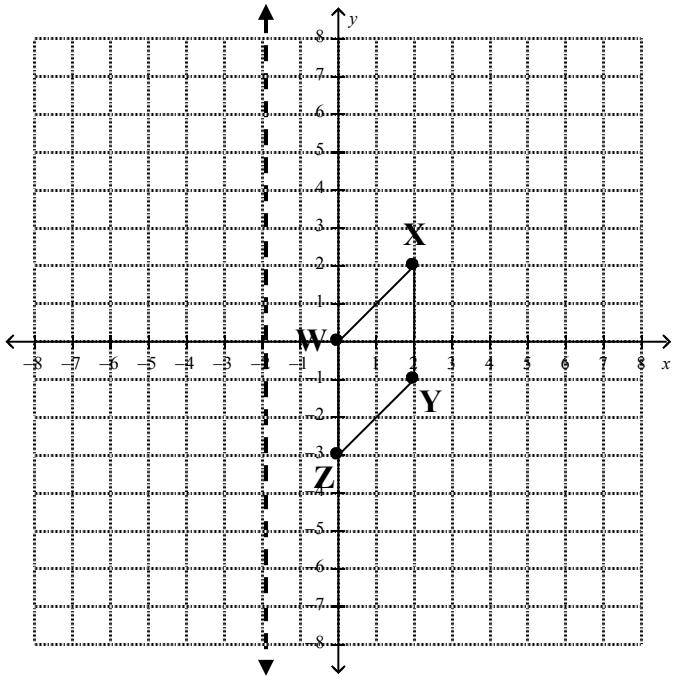
Arrow notation _____



3. Find the reflection of the quadrilateral *WXYZ* across the dotted line.

What is the equation of the dotted line?

Label the image *W' X' Y' Z'*.



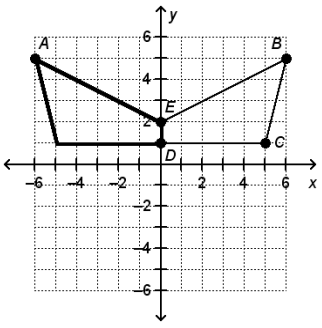
4. Give the coordinates of (1, 4) after a reflection across

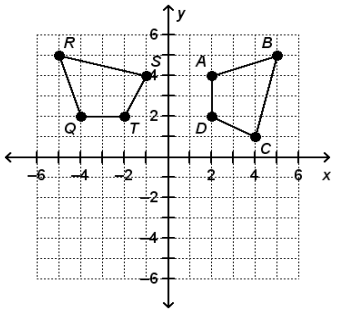
Arrow Notation_____

x-axis _____

y-axis _____

5. Is this a reflection?

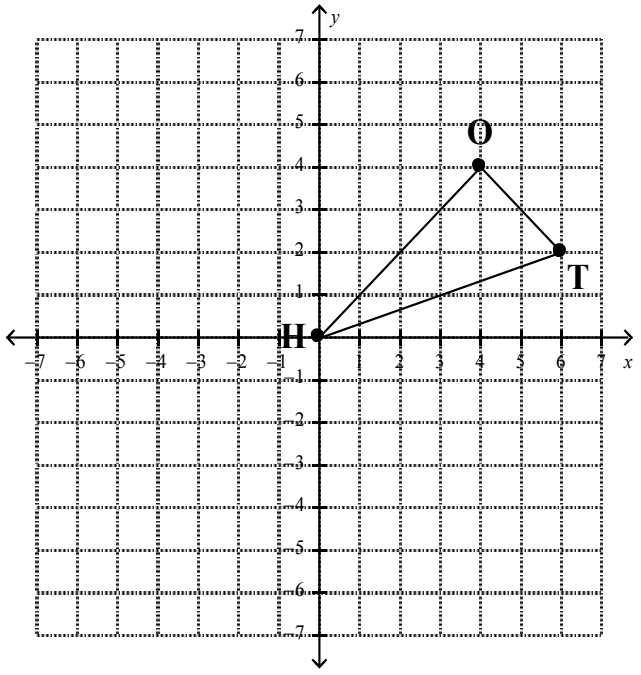




Reflection Practice **Name** _____

1. Find the reflection of the triangle *HOT* over the *x-axis*.

Write the coordinates of *H'O'T'*. Is the image similar or congruent? How do you know?



2. The table below shows the coordinates of triangle *PQR*.

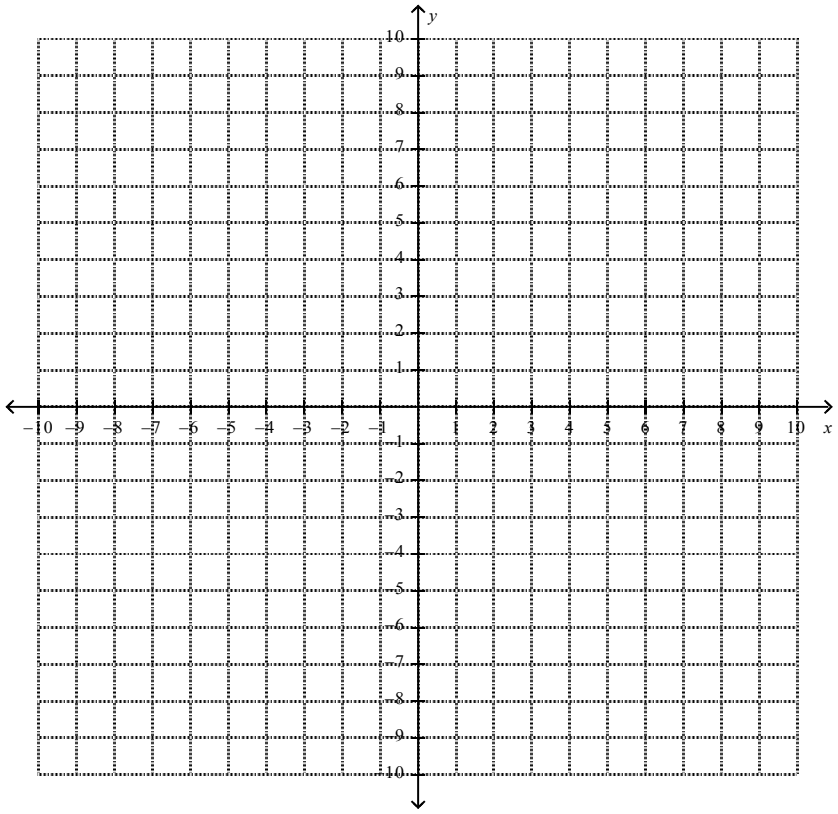
Triangle *PQR*		**Triangle *P'Q'R'***	
P	(-3, 2)	***P'***	
Q	(-3, 6)	***Q'***	
R	(-7, 7)	***R'***	

Part A

Fill in the table above for the coordinates of *P', Q',* and *R'* after a reflection over the *y*-axis.

Arrow notation _____

Part B On the grid below, draw triangle PQR and triangle *P'Q'R'*.



Part C

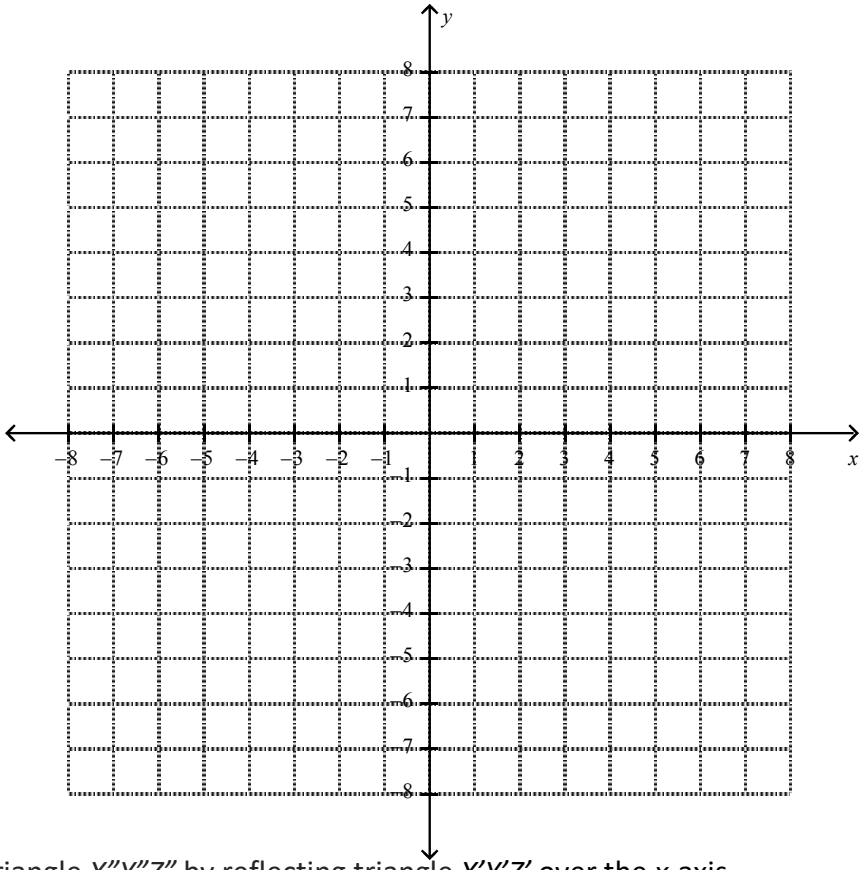
On the lines below, explain how you determined the location of *R'*.

_____

3. Triangle *XYZ* has vertices *X* (2, 1), *Y* (6,1), and *Z* (4, 4).

On the graph, draw the image of triangle *XYZ* after a translation two to the left. Label the image *X'Y'Z'*

Arrow notation _____



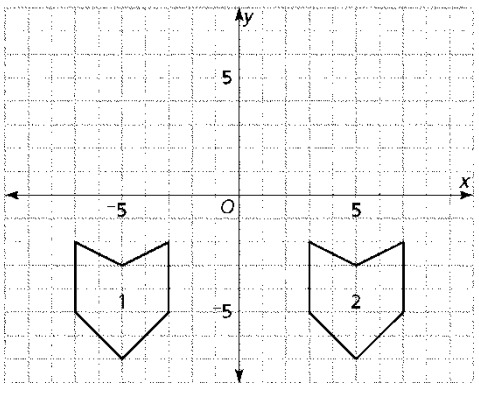
Now create triangle *X"Y"Z"* by reflecting triangle *X'Y'Z'* over the *x*-axis.

What will be the coordinates of triangle *X"Y"Z"* ? Is the new image similar or congruent?

4. Describe a reflection that would move shape 1 to match shape 2.

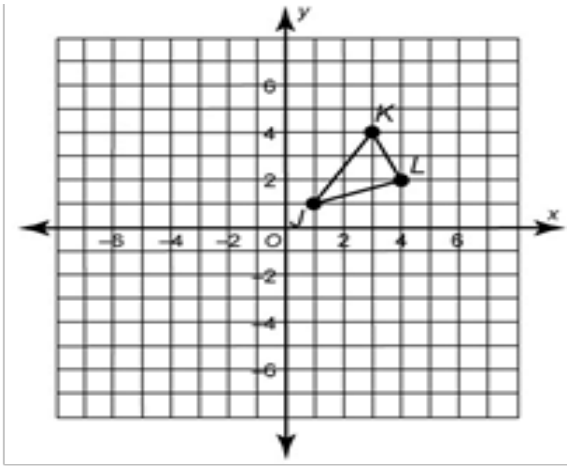
_____

_____

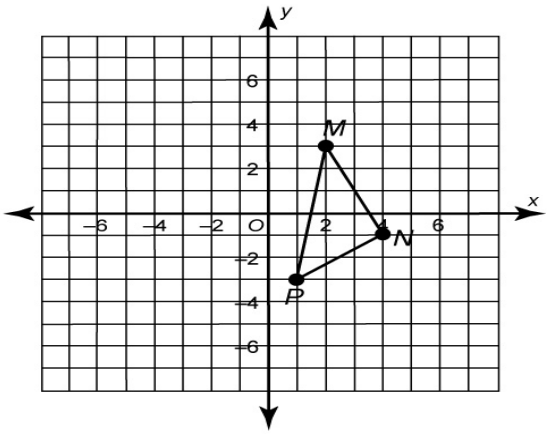


Graph each reflection.

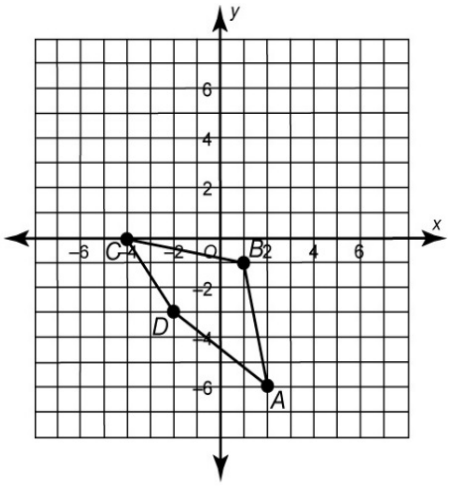
5. across the *x*-axis



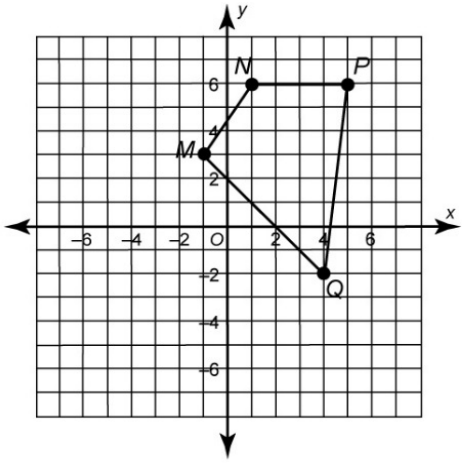
across the *y*-axis



6. across the *x*-axis



across the *y*-axis



7. A parallelogram has vertices $A(-1, 3)$, $B(4, 3)$, $C(6, -1)$, and $D(1, -1)$.
After a transformation, the coordinates of the image are $A'(1, 3)$, $B'(-4, 3)$, $C'(-6, -1)$, and $D'(-1, -1)$.

Describe the transformation. _____

8. $\overline{AB}$ has endpoints $A(-2, 4)$ and $B(-7, 4)$. Match each transformation of $\overline{AB}$ with the endpoints of the corresponding image $\overline{A'B'}$.

____ Reflection across *x*-axis

____ Reflection across *y*-axis

____ Translation 4 units to the right

____ Translation 2 units down

A $A'(2, 4)$ and $B'(-7, 4)$
B $A'(2, 4)$ and $B'(-3, 4)$
C $A'(-2, -4)$ and $B'(-7, -4)$
D $A'(2, 4)$ and $B'(7, 4)$
E $A'(-4, -2)$ and $B'(-4, -7)$
F $A'(-2, 2)$ and $B'(-7, 2)$
G $A'(-2, 4)$ and $B'(-7, 4)$
H $A'(4, 2)$ and $B'(4, 7)$

Review:

9. Solve and check: $-2(m-30) = -6m$

10. Solve: $8z - 22 = 3(3z + 11) - z$