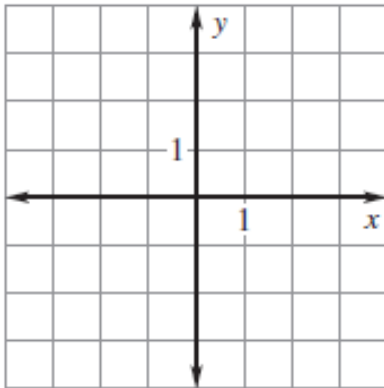**Coordinate notation for reflections on the axes:**

   Reflection in x-axis: $(x,y) \rightarrow (x,-y)$ *Multiply y-coordinate by -1
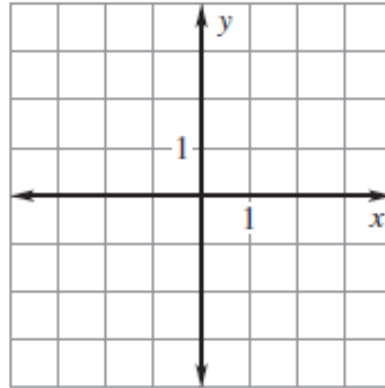
   Reflection in y-axis: $(x,y) \rightarrow (-x,y)$ *Multiply x-coordinate by -1

Example 1: Please reflect the triangle with vertices A(1, 1), B(1, 3), C(3, 2) over the indicated axis.
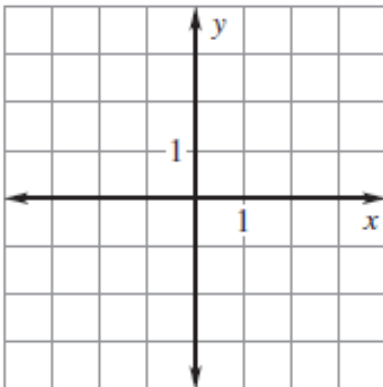
a. x – axis

b. y - axis

Coordinate notation for reflections on the lines y=x and y=-x:

   Reflection in y = x: $(x,y) \rightarrow (y,x)$ *Switch x and y coordinates
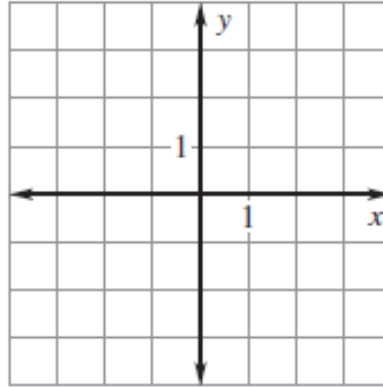
   Reflection in y = -x: $(x,y) \rightarrow (-y,-x)$ *Switch x and y coordinates and multiply by -1

Example 2: Please reflect the triangle with vertices A(1, -2), B(3, -3), C(2, -4) over the indicated line.
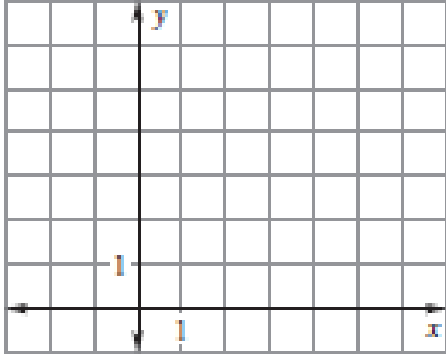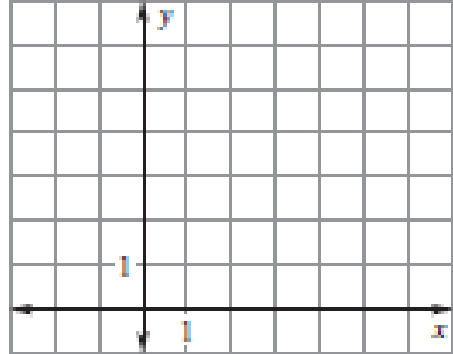
a. y = x

b. y = - x

Example 3: The vertices of $\triangle ABC$ **are A(1, 2), B(3, 0) and C(5, 3). Please reflect over the indicated line.**
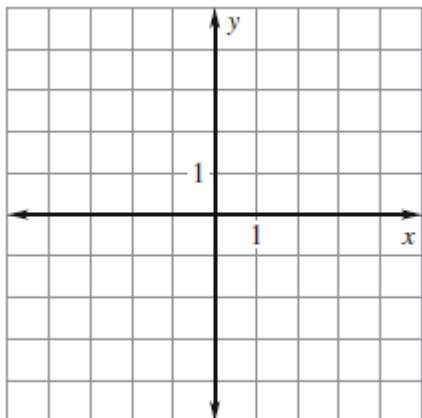
a. x = 2

b. y = 3

Now You Try!

Reflect triangle ABC with vertices A(1, 1), B(-1, -3), and C(2, -2) over the indicated line.

1. y = -x

2. y = 1