2.1

Translations

COORDINATE PLANE

COORDINATES

y-axis

5
4
3
2
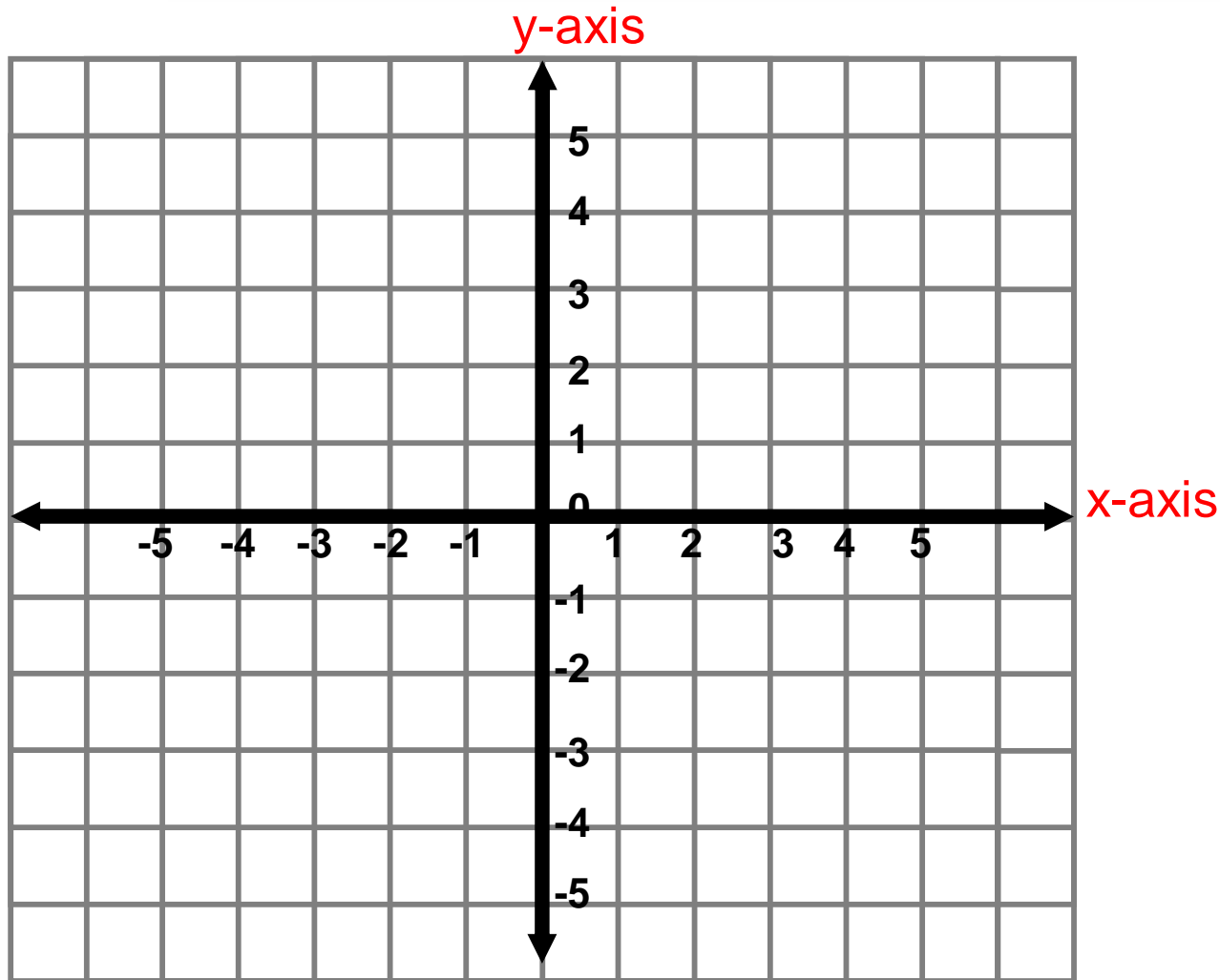1
0
-1
-2
-3
-4
-5

-5 -4 -3 -2 -1   1   2   3   4   5

x-axis

A
B
C
D
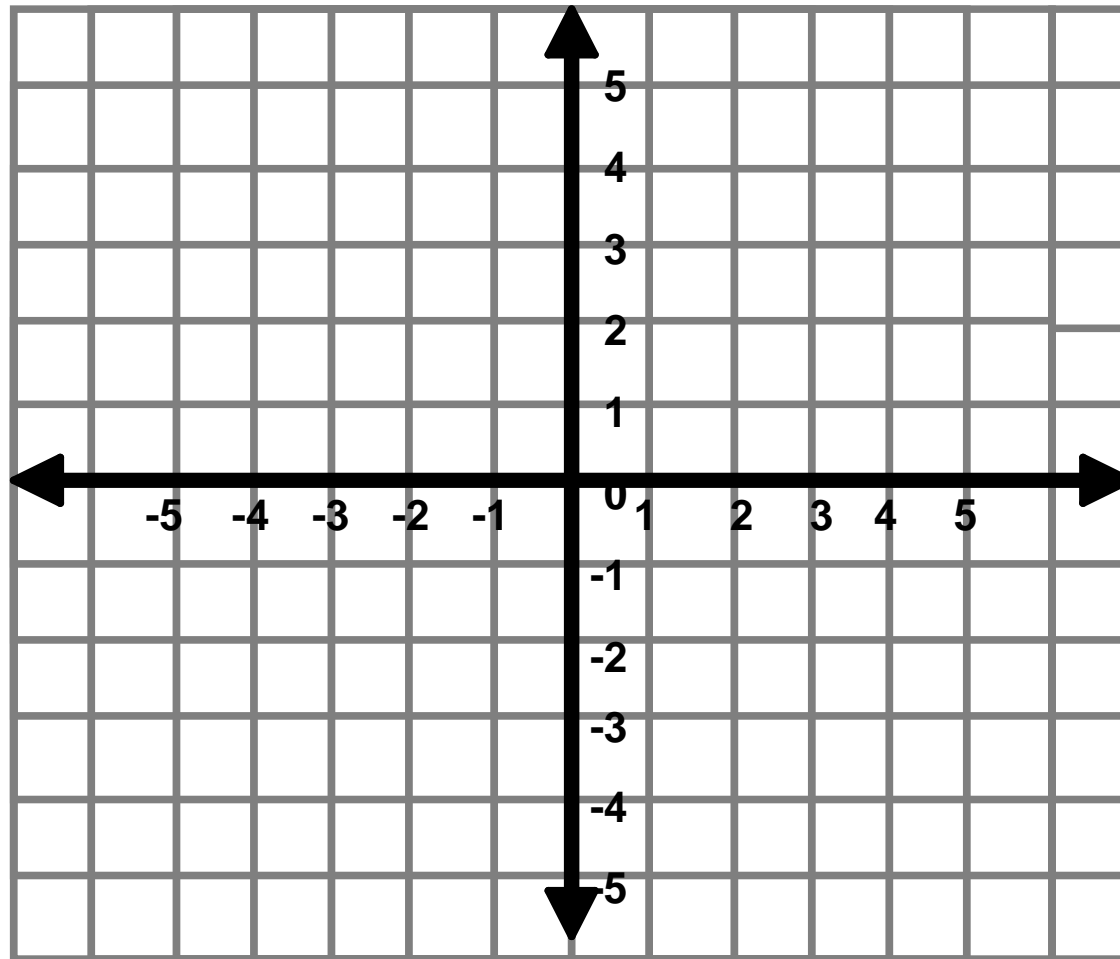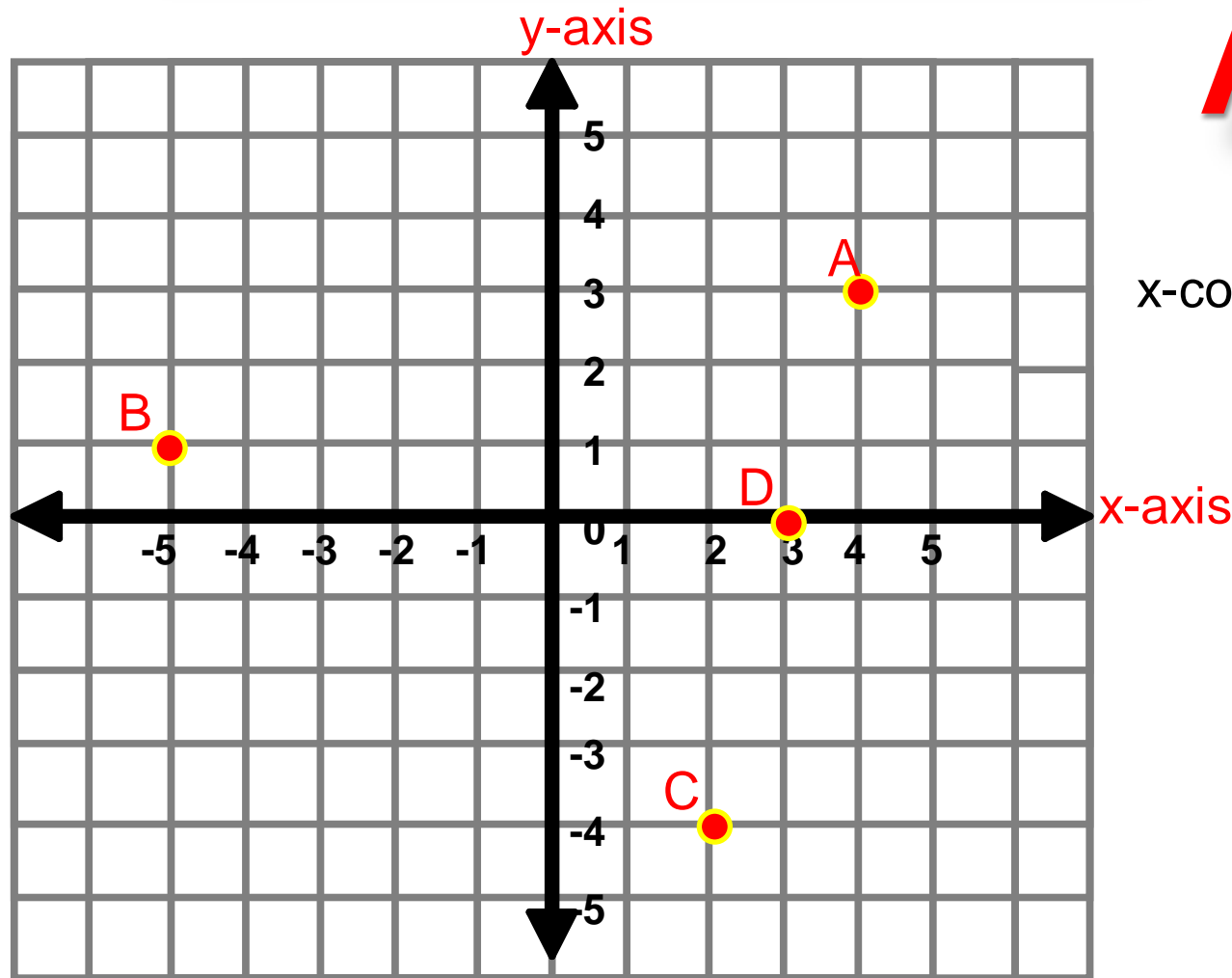
A(,)

x-coordinate

y-coordinate

PLOTTING POINTS

y-axis

5	
4	
3	
2	
1	
0	

-5 -4 -3 -2 -1   1   2   3   4   5   x-axis

-1
-2
-3
-4
-5

A(5,2)
B(-3,-4)
C(-1,5)
D(3,-5)
E(4,6)
F(0,0)
G(4,0)
H(0,-3)

What are Transformations?
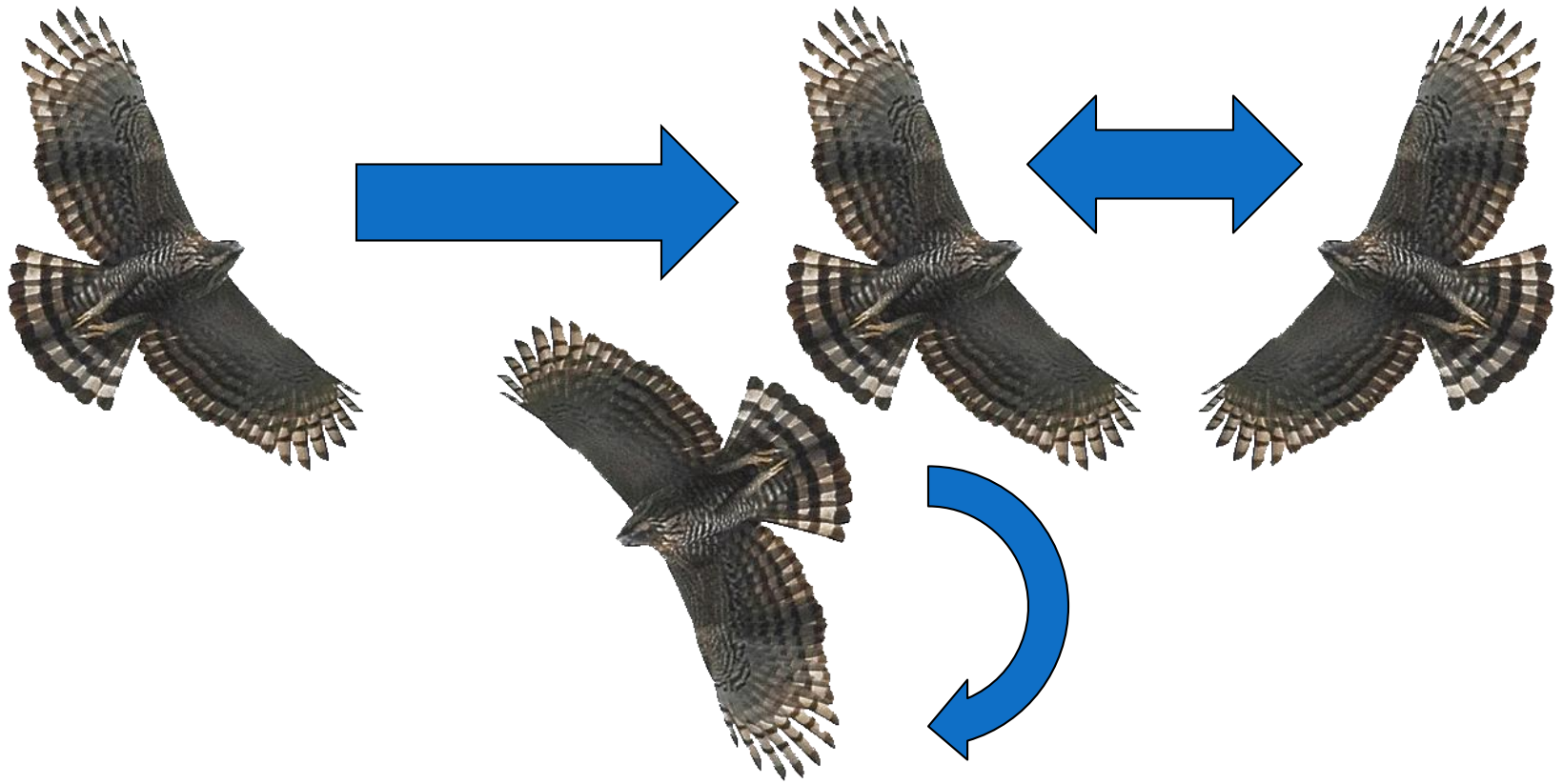
Vocabulary

Translation

_____ a figure from one place to another
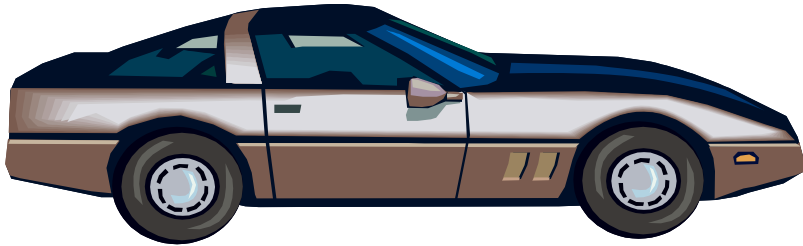
Translations on a Coordinate Plane
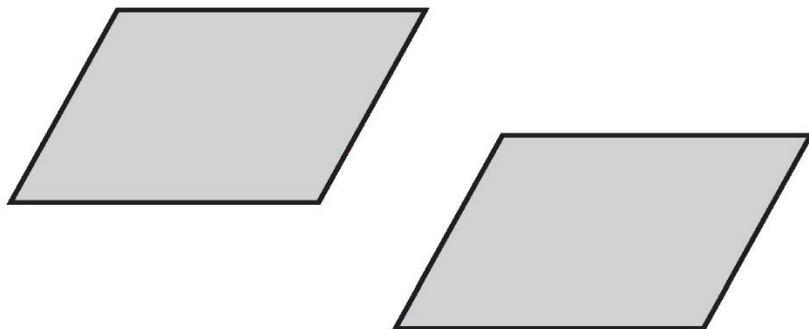

B(-1,5)

5

A(-5,3)

-5

C(-2,1)

5

-5
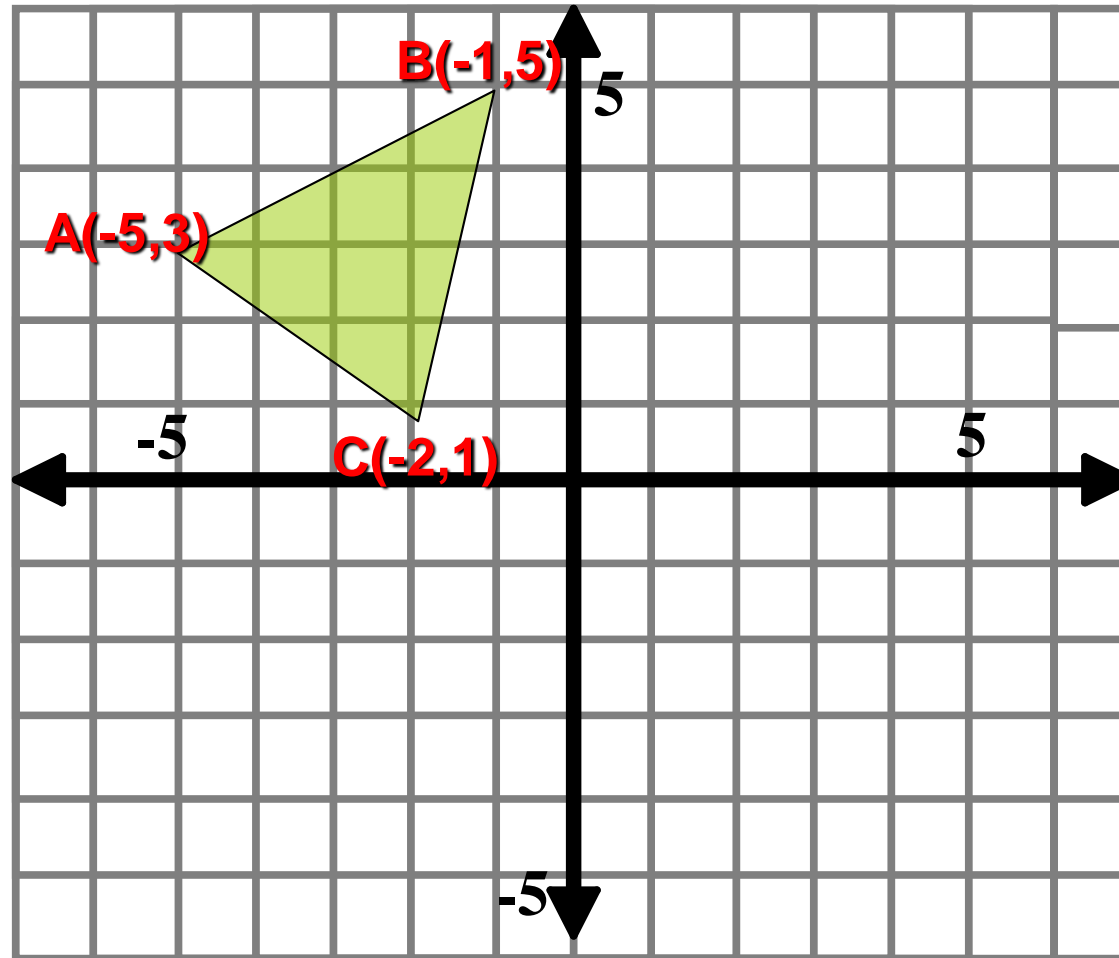
Rule:

$(x,y) \rightarrow (x+6, y-5)$
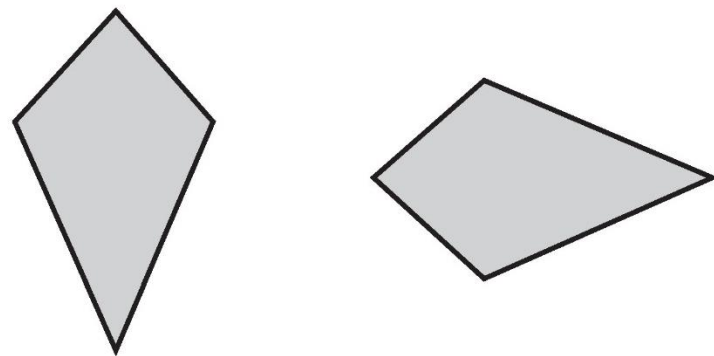
$(x,y) \rightarrow (x-8, y-2)$

Practice

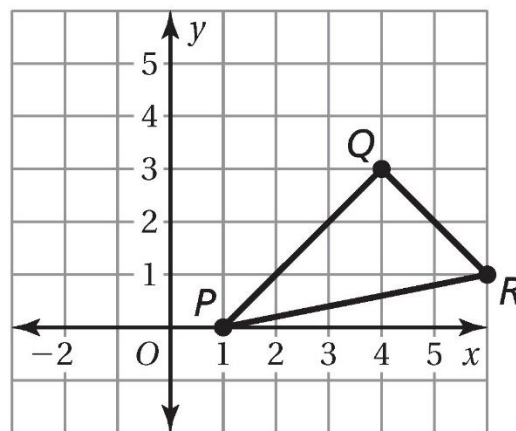**Tell whether the right figure is a translation of the left figure.**

1.

2.

3. Translate the triangle 3 units left and 2 units up. What are the coordinates of the image?
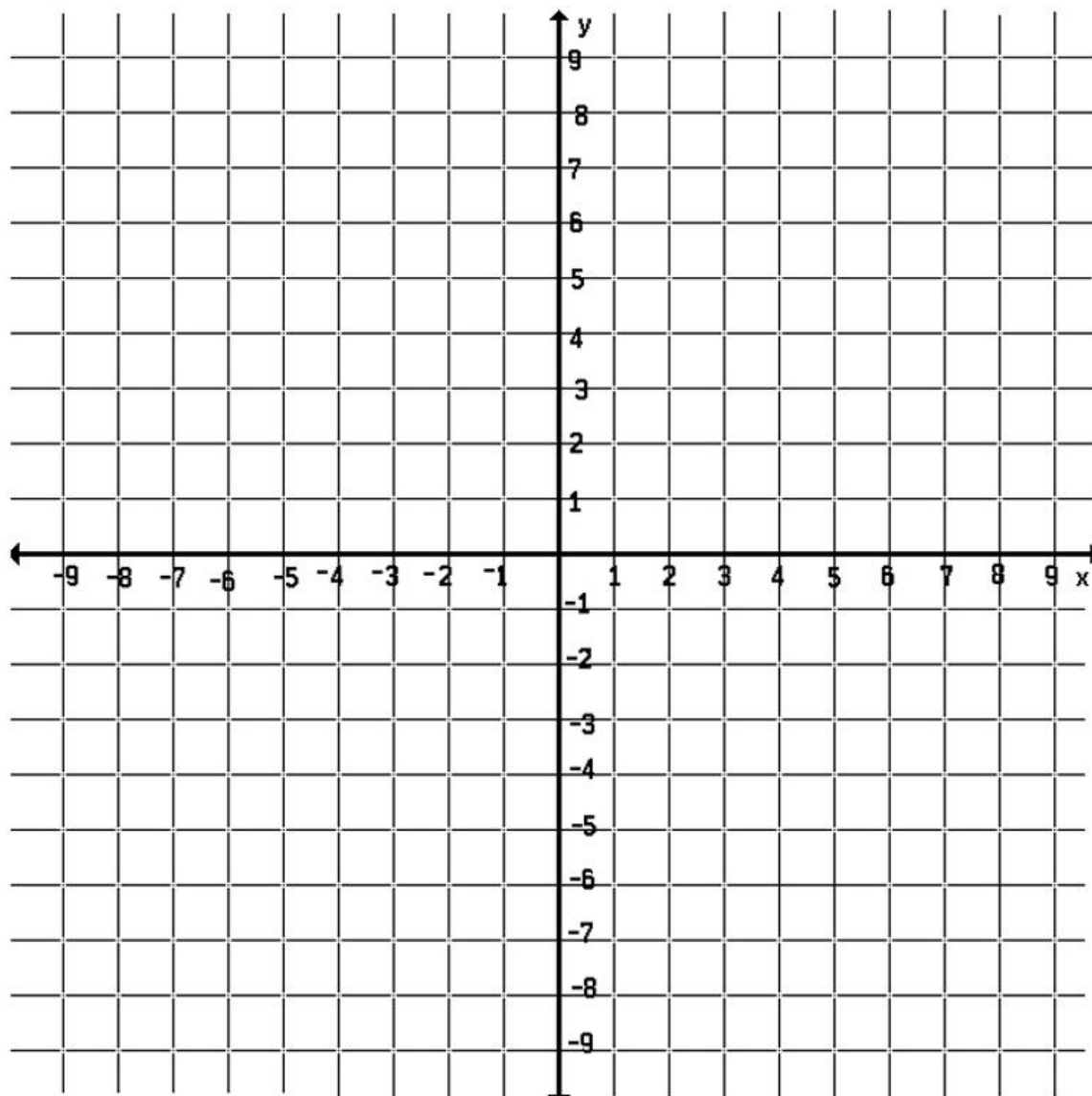
Practice

The vertices of a triangle are $A(-2, 0)$, $B(0, 3)$, and $C(2, 2)$. Draw the figure and its image after the translation.
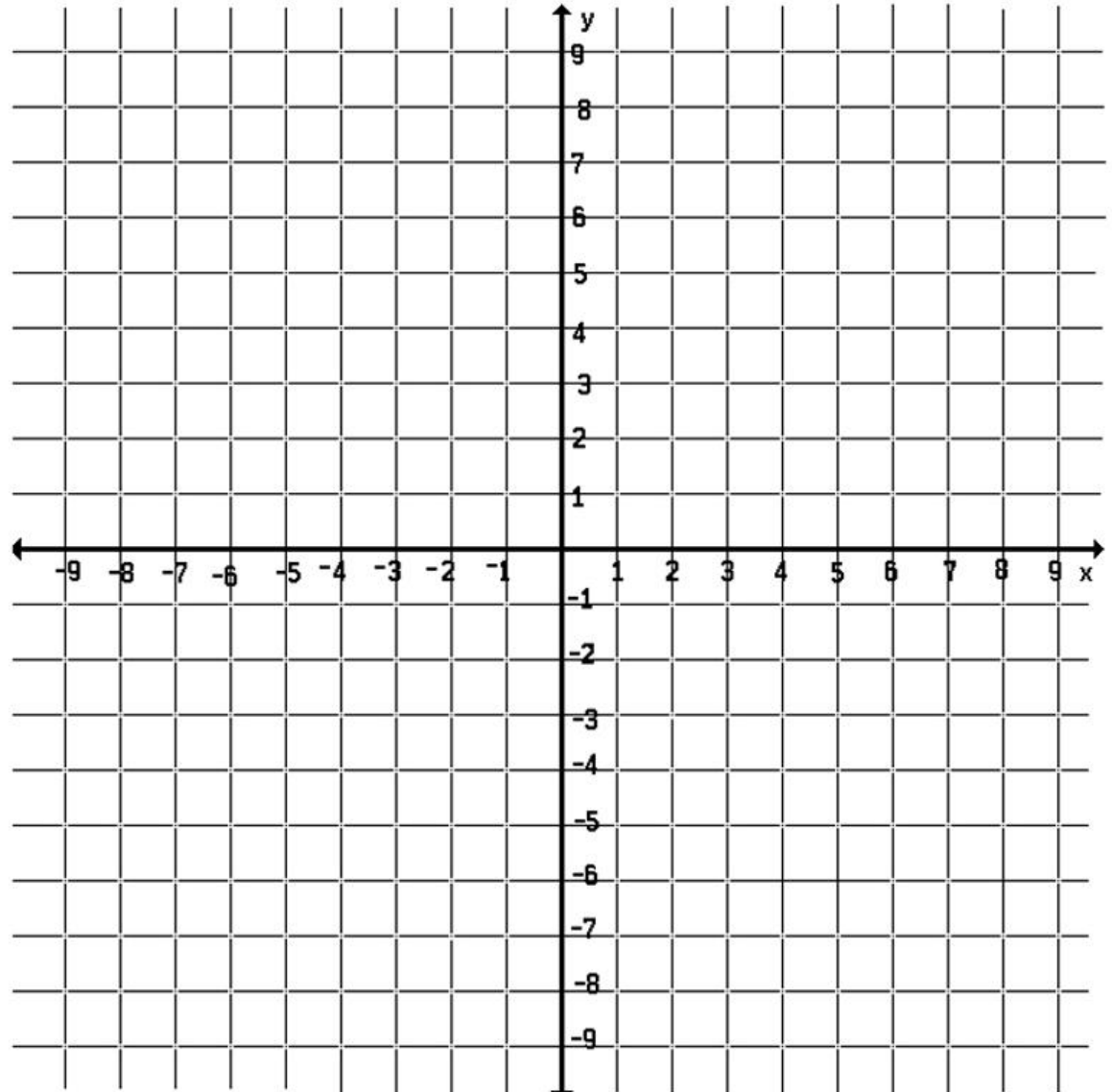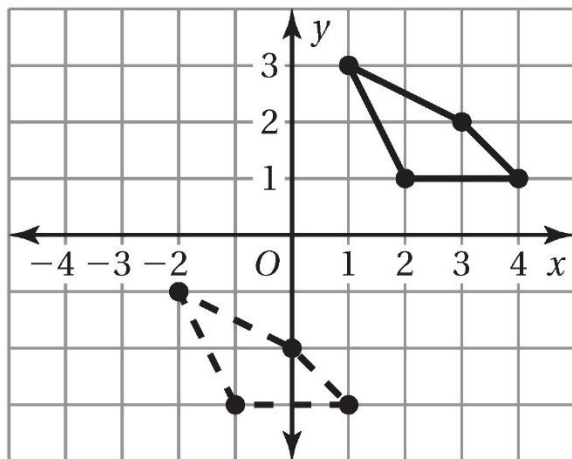
4. 4 units down

Practice

The vertices of a triangle are $A(-2, 0)$, $B(0, 3)$, and $C(2, 2)$. Draw the figure and its image after the translation.

5. 2 units right and 1 unit up

6. Describe the translation from the solid line figure to the dashed line figure.

Describe the translation of the point to its image.

7) $(1, 5) \rightarrow (-1, 1)$

8) $(-2, -3) \rightarrow (-2, 4)$