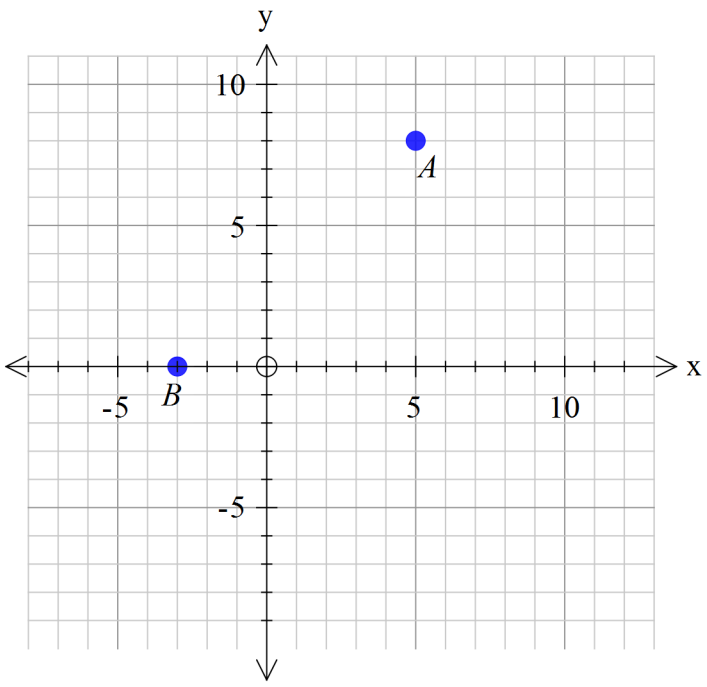
Integrated II Unit 7
Transformations Study Guide

Name _____
Date _____ Period: ____

1. Use the figure to the right. B is the image of point A.



a. Point A is called the _____

b. Write the translation vector that moves point A to point B.

c. Write the translation from point A to point B using coordinate notation.

d. Suppose point B was obtained by reflecting point A over a line. Draw the mirror line *m* on the graph.

e. Describe the relationship between line *m* and segment AB.

2. The quadrilateral A(-2, 2), B(5, 2), C(1, -1), D(5, -1) is translated using the transformation $(x, y) \rightarrow (x + 3, y - 4)$ Give the coordinates of the image.

3. Use coordinate geometry to prove or disprove that quadrilateral *ABCD* in #2 is a parallelogram.

4. Use coordinate geometry to prove or disprove the diagonals of quadrilateral *ABCD* in #2 are congruent.

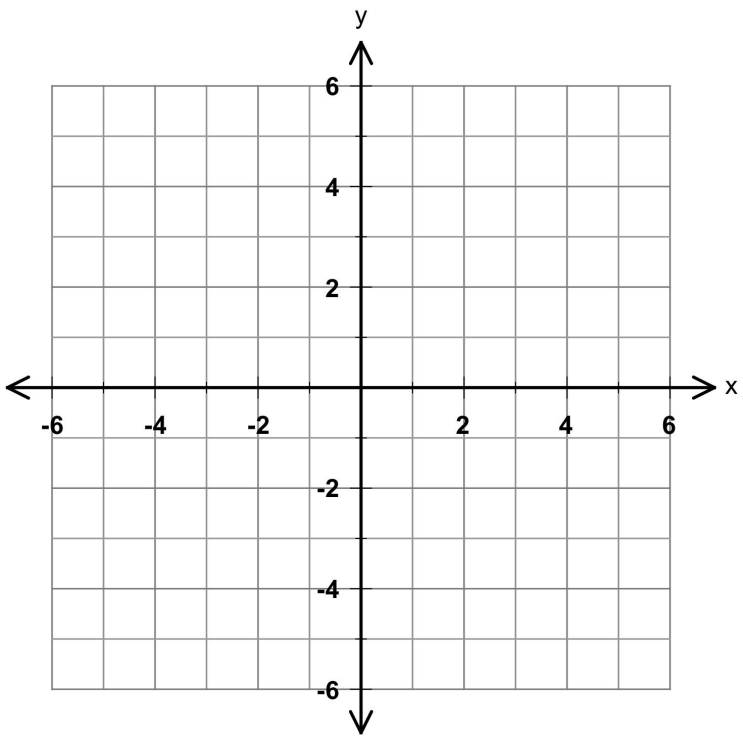
5. ΔABC has vertices A(-2, -2), B(1, 5) and C(3, -1)

a. Graph ΔABC on the coordinate grid.

b. Reflect ΔABC across the line y = x. Label the reflected triangle appropriately. Write the coordinates of the image below.

c. Reflect ΔABC across the x-axis. Label the reflected triangle ΔDEF. Write the coordinates of the image below.

d. Translate ΔABC using the translation vector <–2, –4>. Label this triangle ΔXYZ.



6. ΔABC has vertices A(2, 1), B(3, 4), and C(4, 2).

a. Graph and label ΔABC on the coordinate grid.

b. Rotate ΔABC 90° counterclockwise about the origin to create $\Delta A'B'C'$ Be sure to label it. Write the coordinates below.

c. Reflect $\Delta A'B'C'$ across the x-axis to create $\Delta "B"C"$. Be sure to label it. Write the coordinates below.

d. Describe a single transformation that would take ΔABC to $\Delta "B"C"$. Use either vector notation or coordinate notation.