Chapter 9 Review

9.1 – Symmetry

Linear Symmetry

When parts of a figure are _____ images of each other around a line.

Rotational (Point) Symmetry

A figure is said to have rotational (or point) symmetry when you are able to _____ an object to see if it will eventually look the same before it can be _____ _____.

9.2 – Translations

Isometry

An isometry is a transformation that _____ the size and shape of a figure, meaning that the object is simply moved to a different location, turned, or flipped over. Shapes are thus _____.

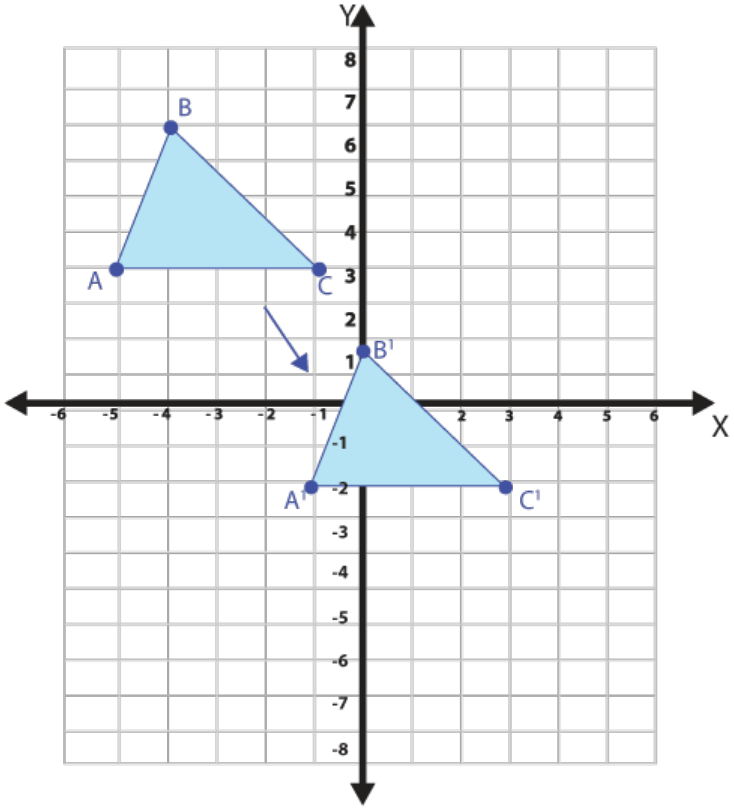
Translation

_____ a figure from one place to another without turning or flipping it. The new figure is congruent to the original one.

9.2 – Translations

Translation Rule

This describes how to move a shape (pre-image) to create a new shape (image) without changing its size or shape.



1) What is the translation rule for the following:

9.2 – Translations

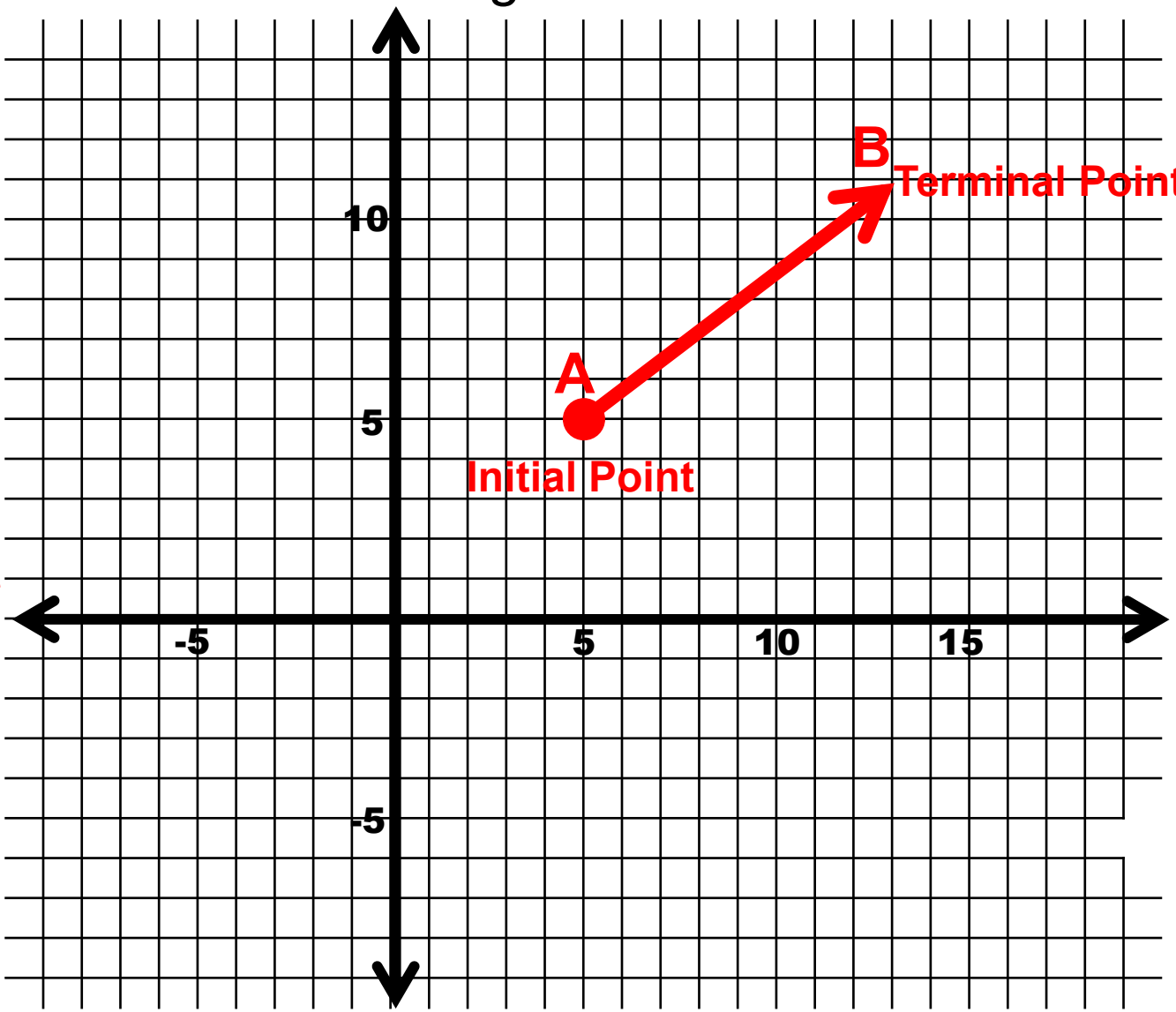
Vector

A quantity that has direction and magnitude

Name:

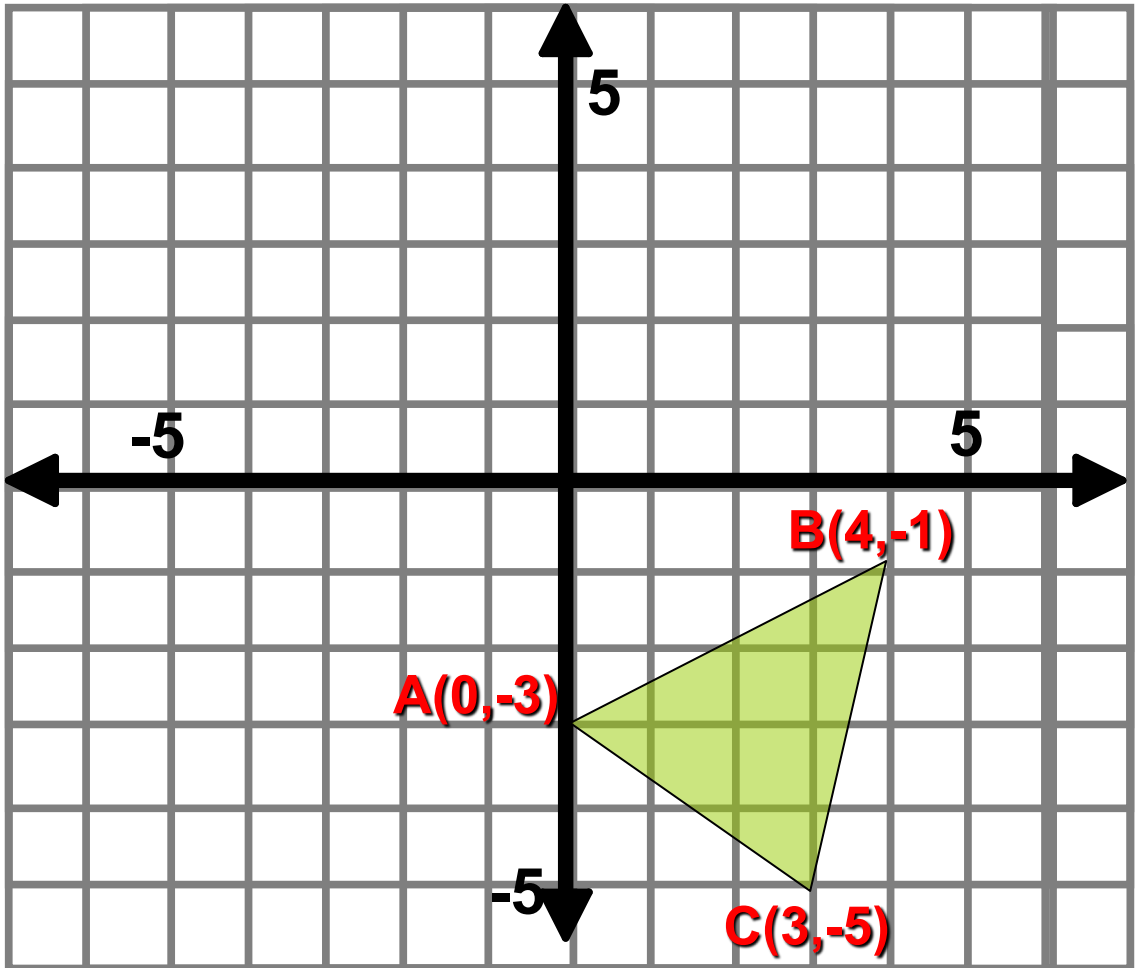
Magnitude:

Component Form:



9.2 – Translations

Vectors

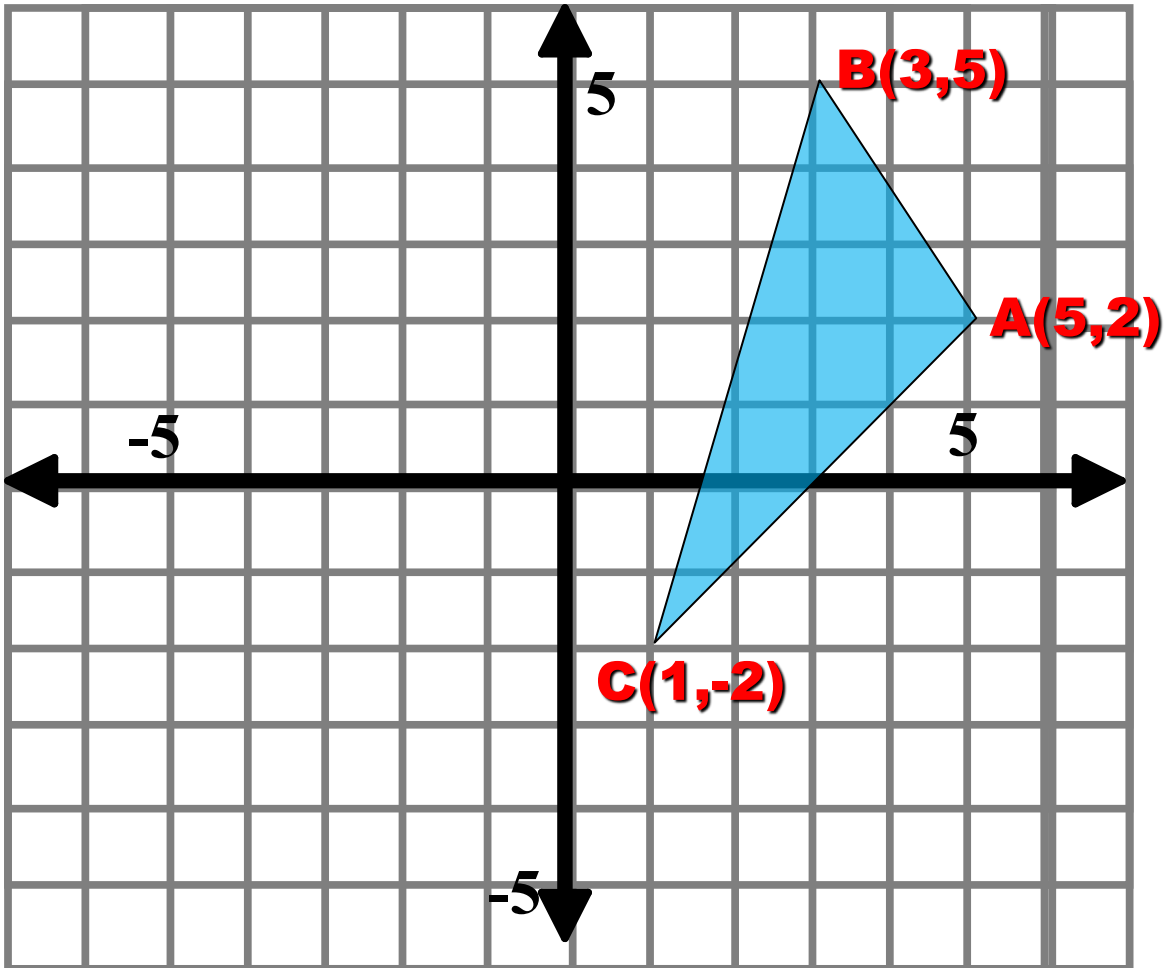


Translate using the components of the vector:

$$\langle -5, 6 \rangle$$

9.3 – Reflections

The mirror image of an object across a line or a point.



Rule:

Reflect x = -1

9.4 – Rotations

The turning of a figure on a coordinate plane.

Rules

Rotating 90° CCW (270° CW)

- Switch the ____ coordinate and the ____ coordinate.
- Change the first number to the _____ .

Rotating 180° CCW (or CW)

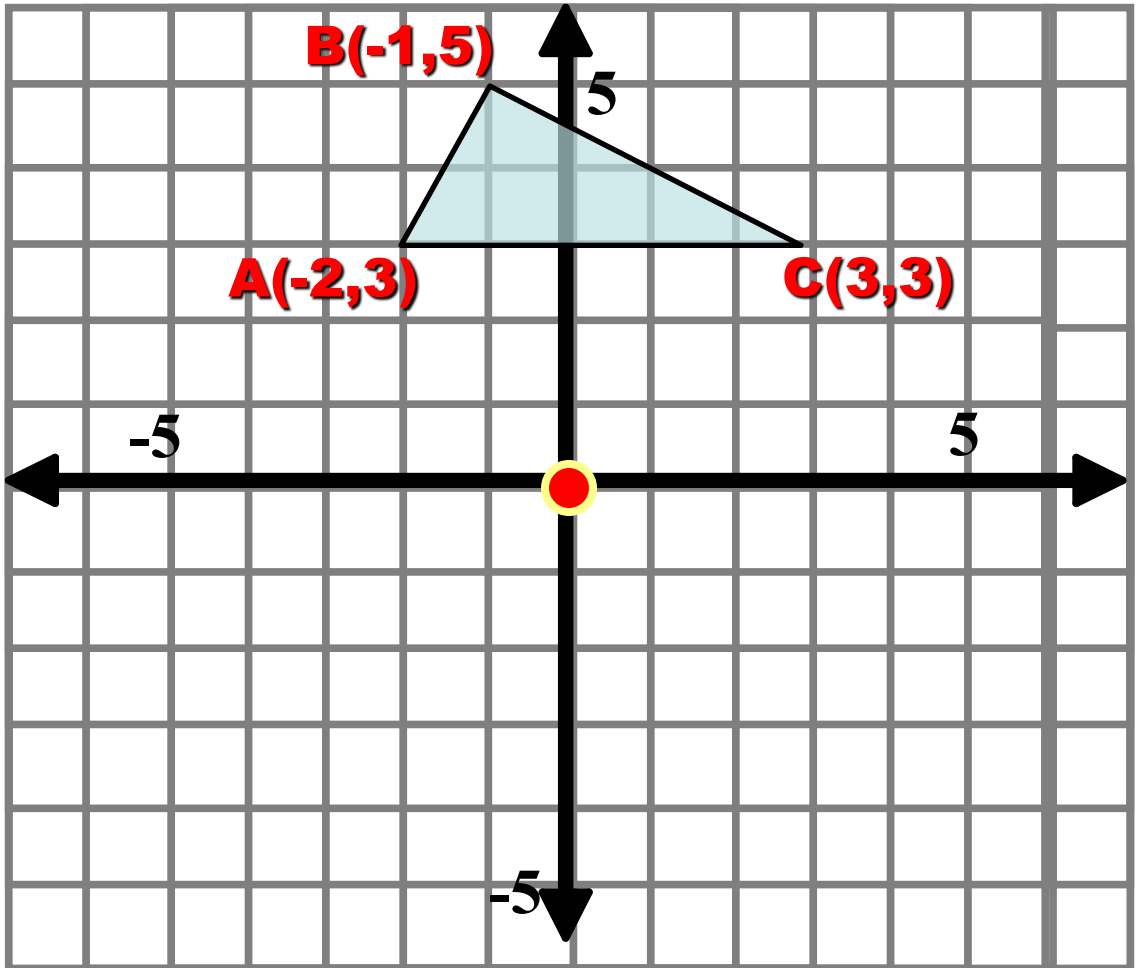
- Change the first and second number to the _____ .

Rotating 270° CCW (90° CW)

- Switch the ____ coordinate and the ____ coordinate.
- Change the second number to the _____ .

9.4 – Rotations

Rotate the figure 270° counter-clockwise around the origin



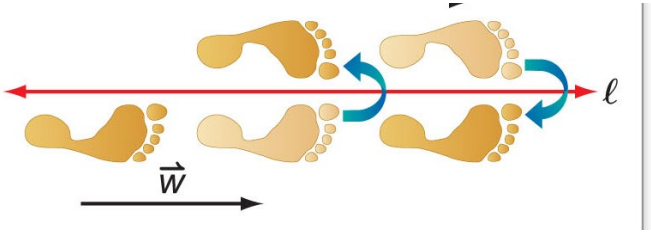
9.5 – Composition of Transformations

This is when a transformation is applied to a figure, and then another transformation is applied to its _____,

Types

Glide Reflection

A combination of a _____ and a reflection.



Reflection over Parallel Lines

A reflection over two parallel lines is equivalent to a _____.

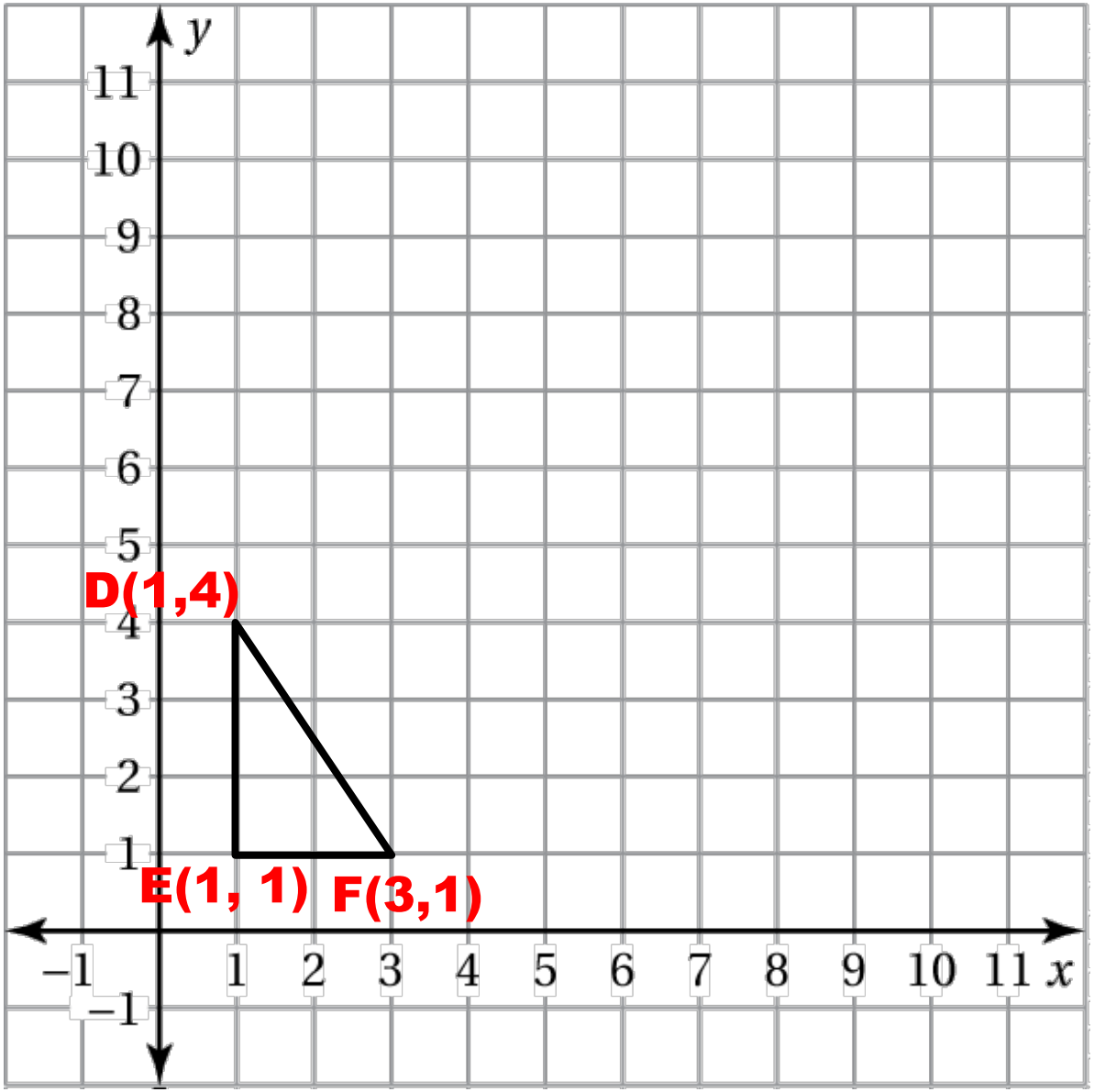
Reflection over Two Intersecting Lines

A reflection over two intersecting lines is equivalent to a _____.

9.6 – Dilations

A type of transformation that produces a _____ figure by either _____ or _____ the size of the figure.

The vertices of a triangle are D (1, 4), E (1, 1), ad F (3, 1). Draw its image after a dilation with a scale factor of 2. Identify the type of dilation.



9.7 – Tessellations

- Know what a tessellation is
- Know and apply these notable tessellations:
  - Regular Tessellation
  - Semi-Regular Tessellation
  - Monohedral Tessellation
  - Translational Tessellation
  - Glide Reflection Tessellation
  - Rotational Tessellation
- Know how to name a semi-regular tessellation.