

Name _____

Math 8R

Date _____

Period _____

Transformations Notes

I. Reflections (flip, opposite direction)

- A) When you reflect over the x-axis: change the y-coordinate
- B) When you reflect over the y-axis: change the x-coordinate
- C) When you reflect over the origin: change both the x and y-coordinates

II. Symmetry

- A) Line Symmetry: Horizontal \longleftrightarrow or vertical \updownarrow (fold to test)
- B) Point: Turn the figure upside down to check



III. Translations (slide, same direction)

- A) Move the amount of spaces it tells you and in the direction it tells you.

IV. Dilation (same shape, different size)

- A) Symbol: $D_{\#}$, where the $\#$ is the scale factor
- B) **Multiply** the values by the scale factor

V. Rotation (turn)

- A) Clockwise  or counterclockwise 
- B) 90° = on its side
- 180° = upside down
- C) Rules:
 - 90° counterclockwise: $(x, y) \rightarrow (-y, x)$
 - 180° : $(x, y) \rightarrow (-x, -y)$
 - 90° clockwise: $(x, y) \rightarrow (y, -x)$

VI. Congruent (Rigid) - When the original figure and its image are the same shape and same size.

Similar (Non-Rigid) - When the original figure and its image are the same shape but different sizes!

** Do not forget to label all points when graphing and the new figure must have primes. Ex: A'