Reflections and Dilations Guided Notes

Name _____ Per. __

1. When a graph is reflected over the x-axis, the _____-coordinates change to their opposites.

2. When a graph is reflected over the y-axis, the _____-coordinates change to their opposites.

3. The point (5, 4) is reflected over the y-axis. What are the coordinates of the new point?

4. The point (-8, 2) is reflected over the x-axis. What are the coordinates of the new point?

△ABC is graphed below. It has the coordinates A(2, 2), B(2, 6) and C(4, 2). For each reflection below, graph the resulting image and label the vertices. List the coordinates.
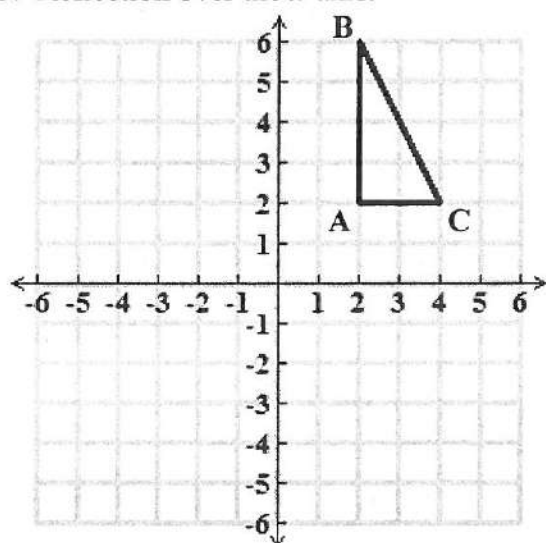
5. Reflection over the x-axis.

6. Reflection over the y-axis.

Image Coordinates

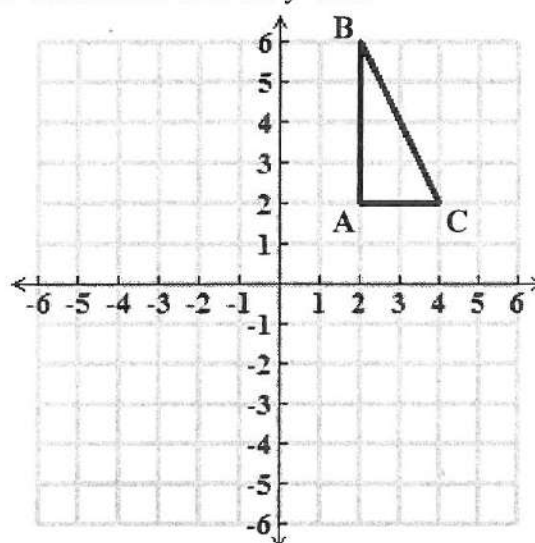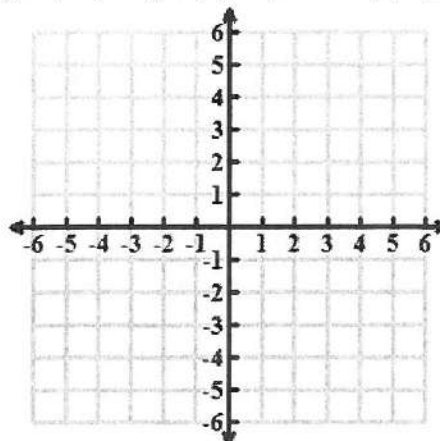A' (__ , __) B' (__ , __) C' (__ , __)

Image Coordinates

A' (__ , __) B' (__ , __) C' (__ , __)

7. The point (2, −7) was reflected over the x-axis or the y-axis. Its image is at (−2, −7). Which axis was the point reflected over?

8. Square EFGH has the coordinates E(−3, 1), F(−3, −2), G(1, −2) and H(1, 1). It is reflected over the y-axis. On the graph below:
   - Graph the pre-image
   - Graph the image
   - Label all vertices

Core Focus on Geometry

Draw a line between each description and the transformation it describes.

9. Shift up, down, right and/or left.

10. A flip over a line.

11. A turn about a point.

12. A change in size.

| Rotation |

| Reflection |

| Dilation |

| Translation |

13. △ABC is graphed below. It has the coordinates A(2, 2), B(2, 6) and C(4, 2). For the dilation given below, graph the resulting image and label the vertices. List the coordinates.

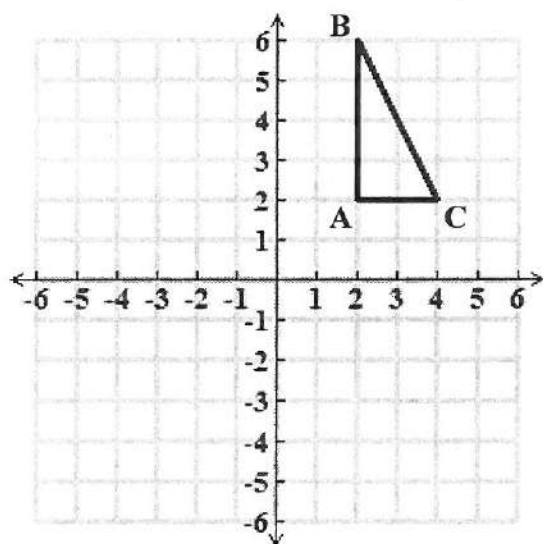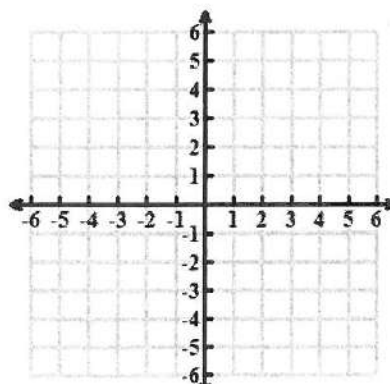Dilation with a scale factor of $\frac{1}{2}$.

Image Coordinates

A' (__, __) B' (__, __) C' (__, __)

14. Give an example of a scale factor that creates an enlargement. How do you know it will create an enlargement?

Give the scale factor for each dilation centered at the origin. Determine if the scale factor creates an enlargement or reduction.

15. $(x, y) \rightarrow (0.75x, 0.75y)$

16. $(x, y) \rightarrow (2.3x, 2.3y)$

17. Square EFGH has the coordinates E(−3, 1), F(−3, −2), G(0, −2) and H(0, 1). Graph the pre-image and image under a dilation with a scale factor of 2 centered at the origin.