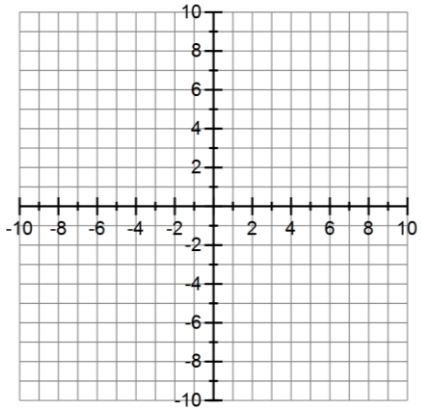
SM 2

Name:_____ Period:_____

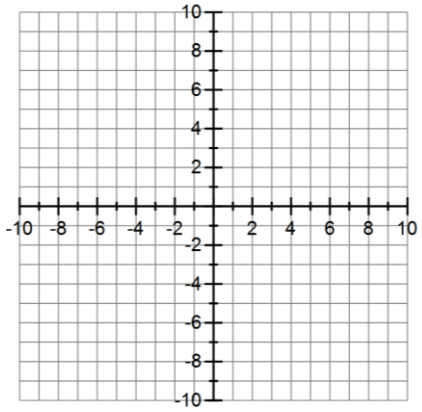
SM2 10.2 – Dilations

1. Graph and label the triangle with vertices A(0, 0), B(5, 0), and C(5, 4), then dilate the triangle by a factor of 2 and a center at (0, 0). Label the new vertices A', B' and C'. What are the coordinates of the new vertices?



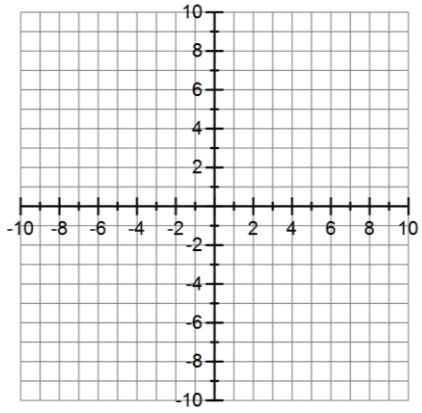
A' (____,____) B' (____,____) C' (____,____)

2. Graph and label the triangle with vertices A(-2, 3), B(-3, 0), and C(1, -2), then dilate the triangle by a factor of 3 and a center at (0, 0). Label the new vertices A', B' and C'. What are the coordinates of the new vertices?



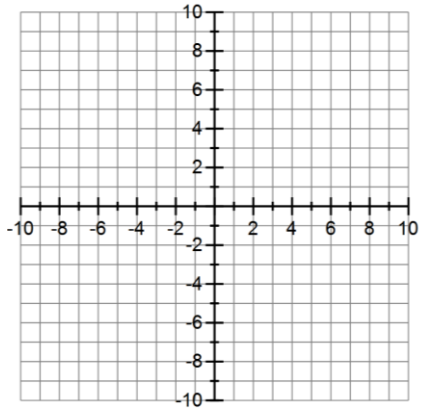
A' (____,____) B' (____,____) C' (____,____)

3. Graph and label the triangle with vertices A(-2, 6), B(4, -4), and C(-6, -2), then dilate the triangle by a factor of 1/2 and a center at (0, 0). Label the new vertices A', B' and C'. What are the coordinates of the new vertices?



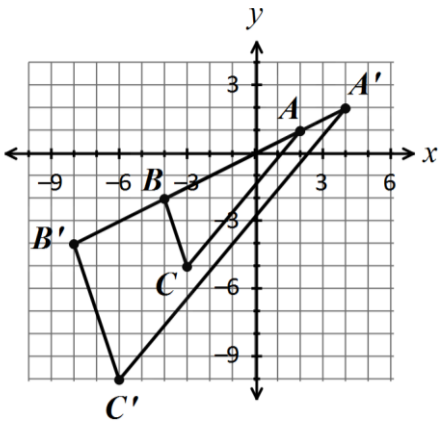
A' (____,____) B' (____,____) C' (____,____)

4. Graph and label the parallelogram with vertices A(-3, -3), B(6, 0), C(6, 6) and D(-3, 3), then dilate the parallelogram by a factor of 2/3 and a center at (0, 0). Label the new vertices A', B', C' and D'. What are the coordinates of the new vertices?



A' (____,____) B' (____,____) C' (____,____) D'(____,____)

5. In the diagram below, the center of dilation is at (0, 0). List the coordinates of the vertices of both the image and the pre-image. What is the scale factor?

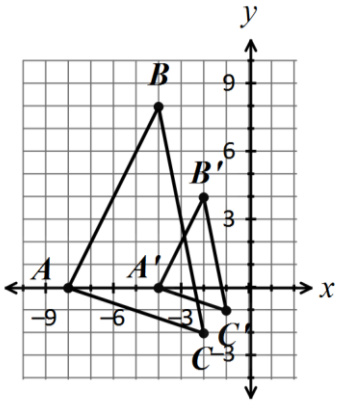


A (____,____) B (____,____) C (____,____)

A' (____,____) B' (____,____) C' (____,____)

Scale Factor: _____

6. In the diagram below the center of dilation is at (0, 0). List the coordinates of the vertices of both the image and the pre-image. What is the scale factor?

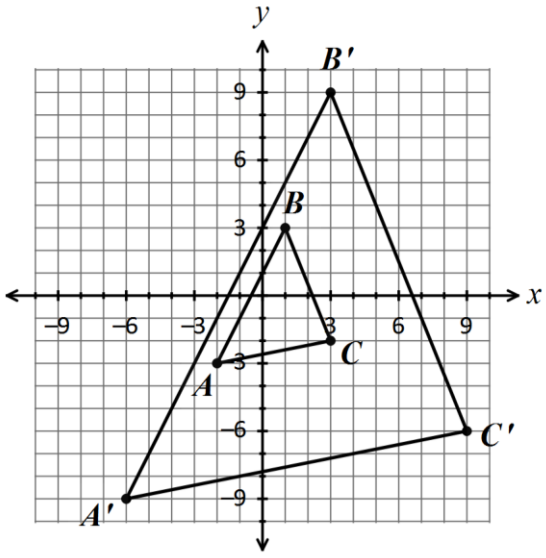


A(____,____) B (____,____) C (____,____)

A' (____,____) B' (____,____) C' (____,____)

Scale Factor: _____

7. In the diagram below, the center of dilation is at (0, 0). List the coordinates of the vertices of both the image and the pre-image. What is the scale factor?



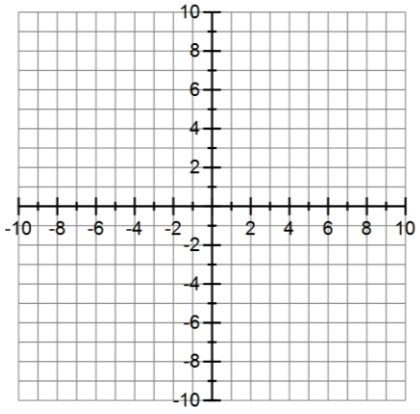
A(____,____) B (____,____) C (____,____)

A’ (____,____) B’ (____,____) C’ (____,____)

Scale Factor: _____

Challenge: Graph and label the triangle with vertices A(-1, 1), B(-4, 1), and C(-3, 3), then dilate the triangle by a factor of 3 and a center at (-1, 1). Label the new vertices A’, B’ and C’. What are the coordinate of the new vertices?

Hint: Figure out how far the points are from (-1, 1) instead of how far they are from (0,0), multiply those distances by the scale factor, then start at (-1, 1) and move the distances you just calculated.



A’ (____,____) B’ (____,____) C’ (____,____)