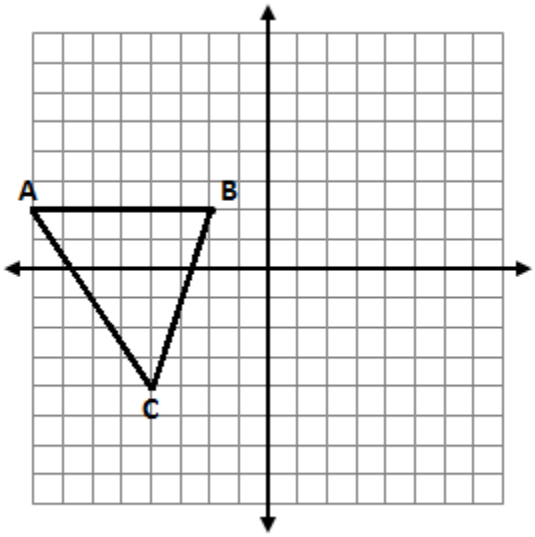
Geometry H
Dilations Extension

Name: _____
Date: _____ Period: _____

- I can dilate an image with respect to a point that is not the origin.

When the center of dilation is not at the origin, the process for dilation is different!!!

Example: Dilate $\triangle ABC$ by a scale factor of ½ using (2, 4) as the center of dilation.



Process:

1) **Plot the center of dilation on the coordinate plane.**

2) **Determine the coordinates of one preimage point.**
   a) **From the center point to your preimage point, determine the horizontal change (x)**

   b) **From the center point to your preimage point, determine the vertical change (y)**

3) **Multiply the horizontal and vertical change by the scale factor.**

4) **Using the new x and y values, plot your new point starting at the center point.**

5) **Repeat steps 2 – 4 for each point of the preimage to create the image.**

Try this: Dilate trapezoid *DEFG* using center (2, 3) and scale factor of 3/2.