

Day 2 – Dilations and Combinations

1. Determine if the following scale factors will result in an enlargement, reduction, or congruence:

- A. $\frac{5}{6}$ B. 150% C. 100% D. $\frac{5}{4}$ E. 0.4

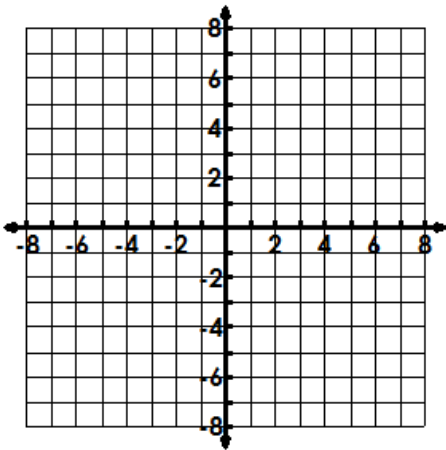
2. If segment AB has a length of 3 units and is dilated by a scale factor of 2.25, what is the length of AB? Is this an enlargement or reduction?

3. $\triangle ABC$ has vertices D (25, 25), E (15, 10), and F (20, 10). What are the vertices of the image after a dilation with a scale factor of $\frac{1}{5}$ using the origin as the center of dilation?

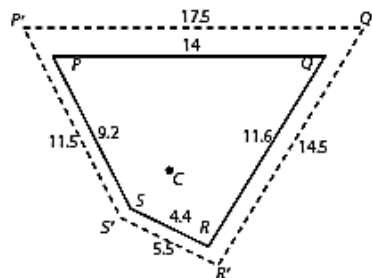
Determine if the following transformations preserve similarity, congruence, or both.

4. Rotation of 90 degrees clockwise, then a dilation by scale factor of 3. 5. Reflection across x-axis followed by a rotation of 270 degrees clockwise.

6. A triangle has vertices G(2, -2), H(-6, 2), and J(0, 4). If the triangle is dilated by a scale factor of 0.5 through the center (0,0), what are the image vertices? Draw the pre-image and image on the coordinate plane.



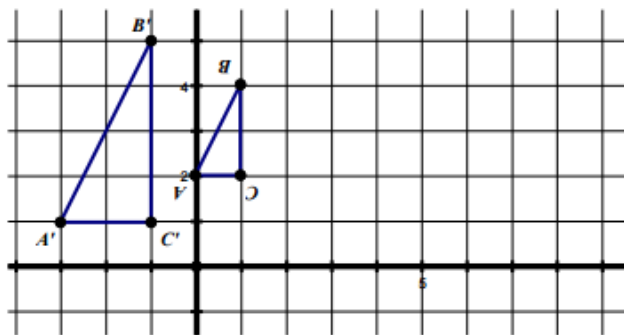
7. Determine the scale factor and whether the dilation is an enlargement, reduction, or congruency transformation. The dotted figure is the new image.



8. Work backwards to find the center of dilation and also determine the scale factor.

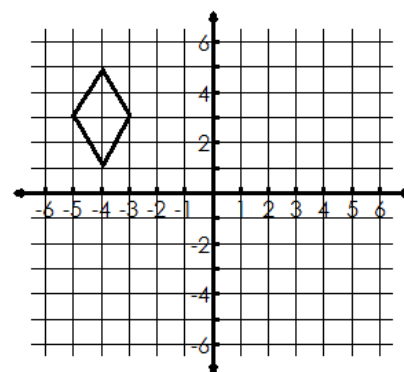
Center of Dilation: _____

Scale Factor: _____



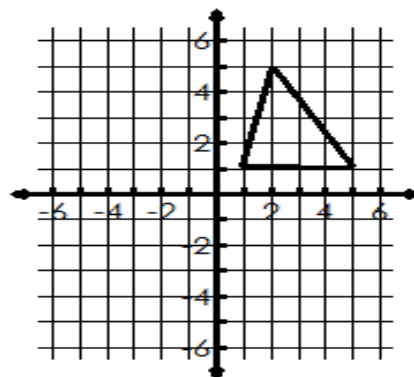
Use the graph of the rhombus to answer questions 1-3.

1. Perform a glide reflection over the x-axis and a translation to the right 3 units. Write the new coordinates.
2. What is the rule for this glide reflection?
3. What glide reflection would move the image back to the pre-image?



Use the graph of the triangle to answer questions 4-6.

4. Perform a glide reflection over the y-axis and down 5 units. Write the new coordinates.
5. What is the rule for this glide reflection?
6. What glide reflection would move the image back to the pre-image?



Use the graph of the triangle to the right to answer questions 7-9.

7. Reflect the pre-image over $y = 2$ followed by $y = -3$. Draw the new triangle.
8. What one transformation is this double reflection the same as?
9. Write the rule.

