

1.2 - Transformations in the Coordinate Plane

Identifying Types of Transformations

Name: _____

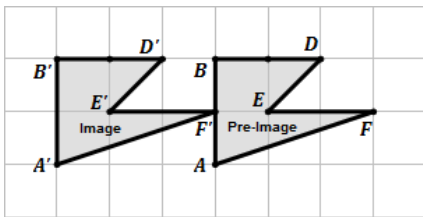
Transformation Types:

Translation Translation	Reflection Reflection	Rotation Rotation	Dilation Dilation

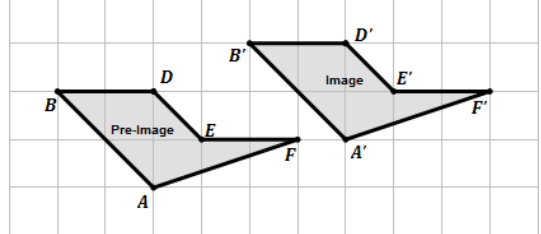
Translations

1. Describe the transformation in rectangular units from the Pre-Image to the Image for each of the following:

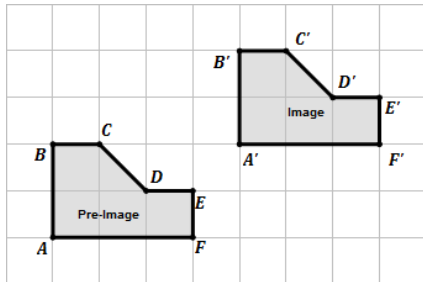
A.



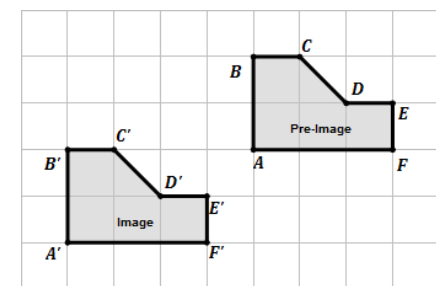
B.



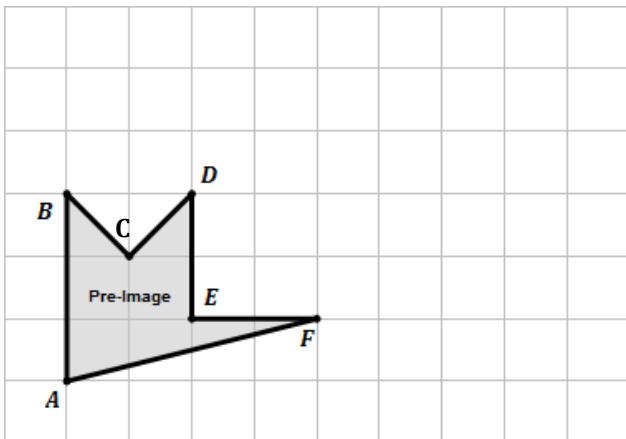
C.



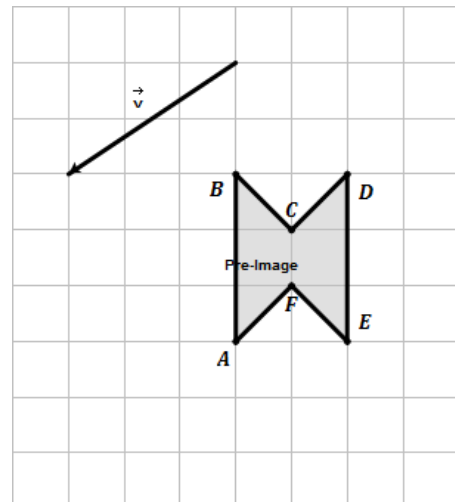
D.



2. Translate the following object right 4 units and up 1 unit. Label each vertex appropriately.

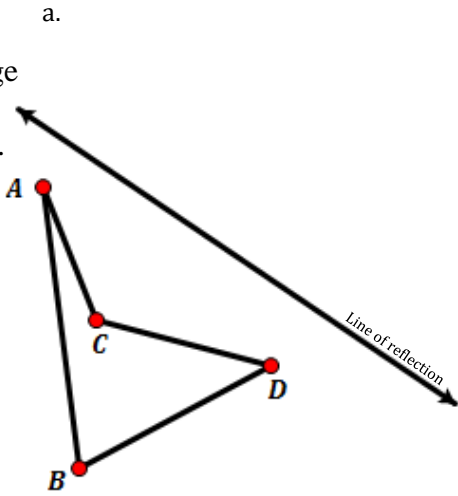


3. Translate the following object by the vector \vec{v} .

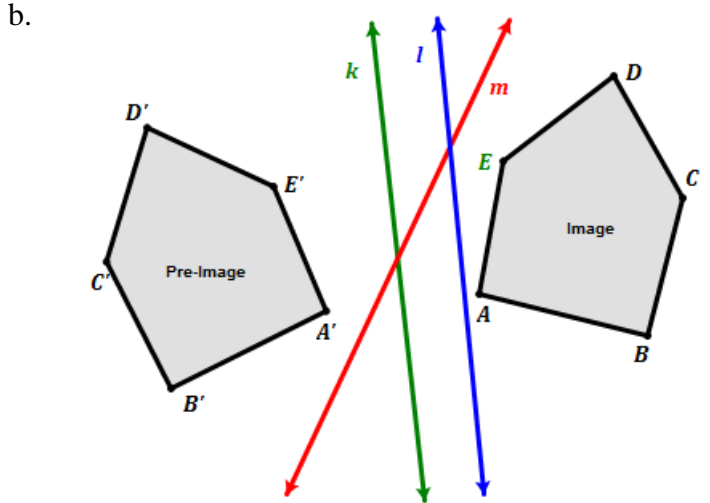
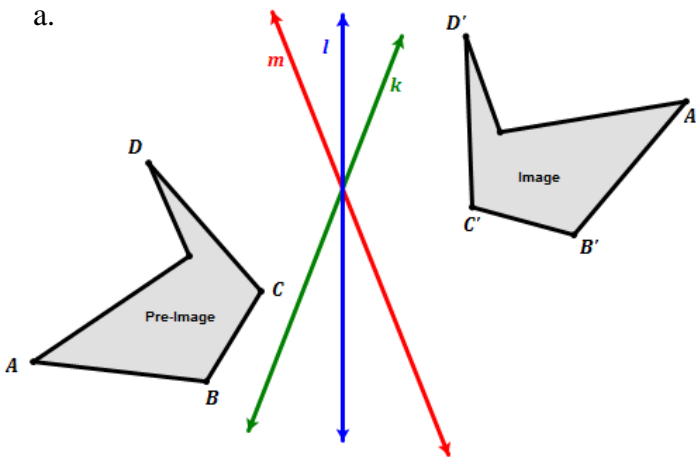


Reflections

4. Create a reflection of the Pre-image over the line of reflection.

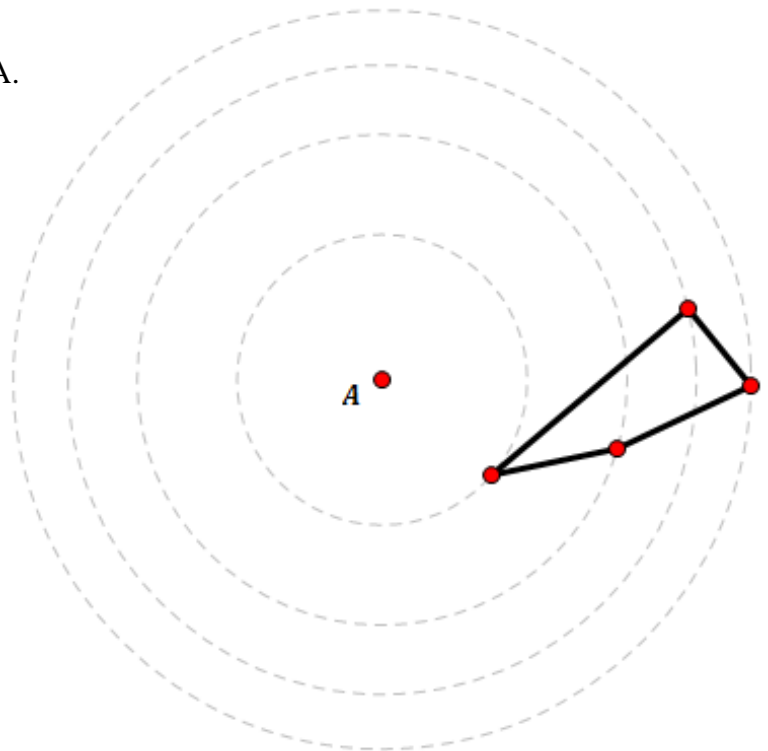


5. Determine which is the correct line of reflection in each diagram between the Image and Pre-Image?

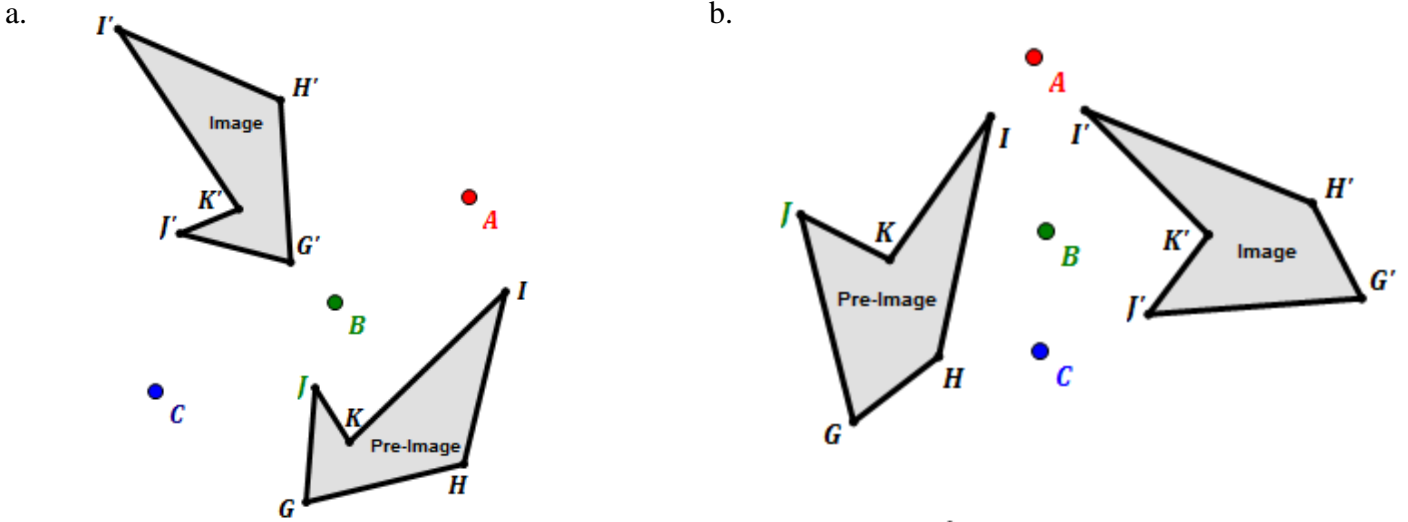


Rotations

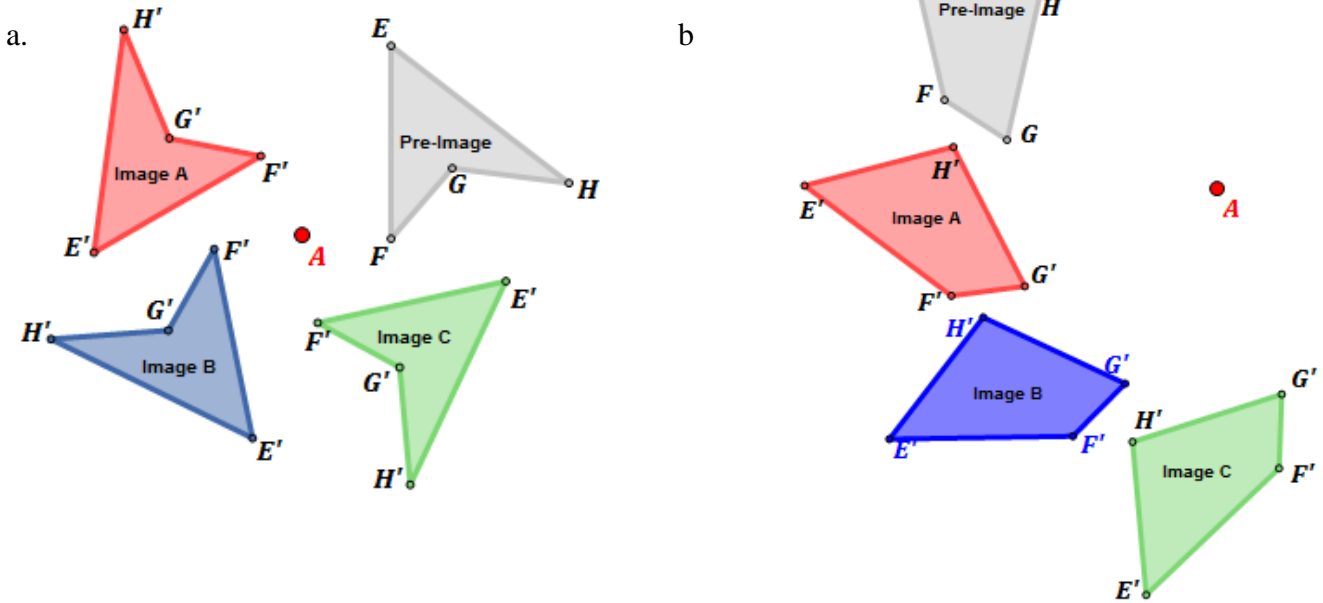
6. Rotate the following polygon 110° about the point A.



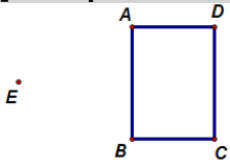
7. Determine which is the correct center if an 80° rotation was used?



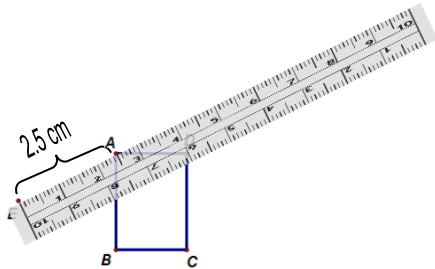
8. Which Image is a rotation of 120° about the point A?



[Example Dilation]: Dilate the $\square ABCD$ by a factor of 2.0 from point E.

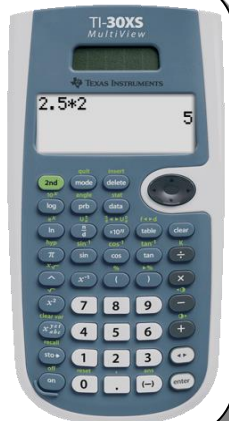


Step 1: Measure the distance from the point of dilation to a point to be dilated (preferably using centimeters).

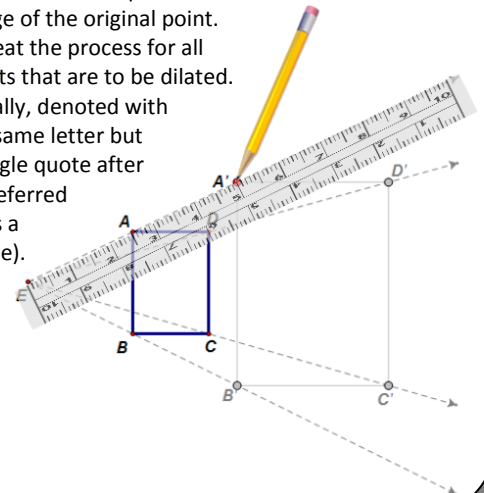


Step 2: Multiply the measured distance by the scale factor.

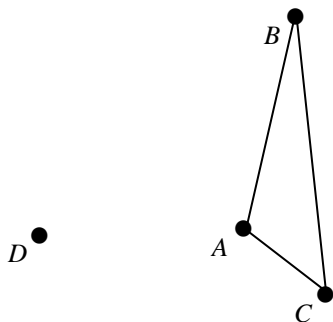
$$2.5 \text{ cm} \times 2.0 = 5 \text{ cm}$$



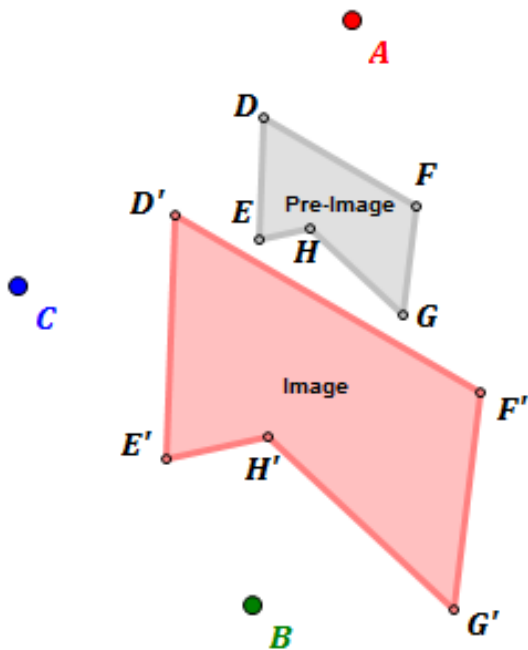
Step 1: With the ruler in the same place as it was in step #1, mark a point at the measured distance determined in step #2 as the image of the original point. Repeat the process for all points that are to be dilated. Usually, denoted with the same letter but a single quote after it (referred to as a prime).



9. Dilate the $\triangle ABC$ by a factor of $\frac{3}{2}$ from point D.



10. Which is the correct point of Dilation if the pre-image was dilated by a factor of 2?



11. Which of the four transformations are isometries?