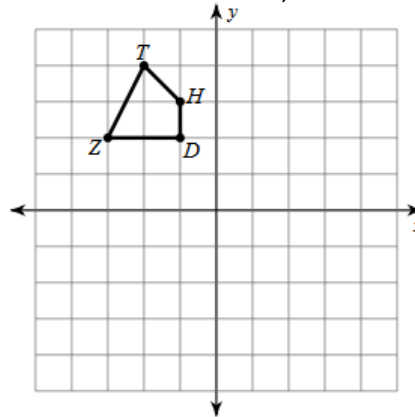
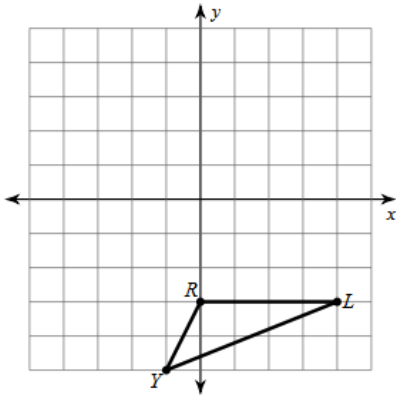


★ **Directions: Study the following vocabulary words:** ★

Angle, Circle, Dilation, Line, Line segment, Parallel Lines, Perpendicular Lines, Point, Ray, Reflection, Rigid Motion, Rotation, Transformation, Translation

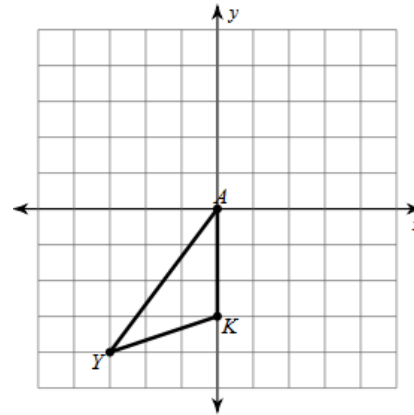
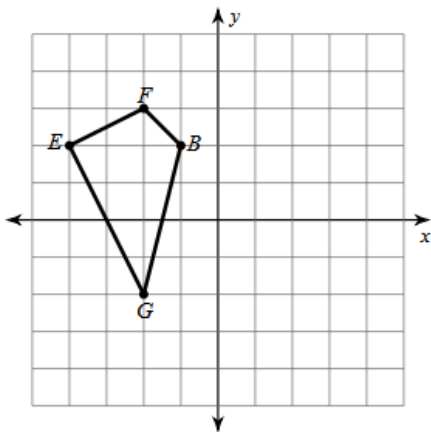
Directions: Graph the following transformations or write out the new coordinates, then write the generic coordinate.

1. Rotate 90° CCW about the origin, then translate down 3. 2. Reflect over the x-axis, then rotate 180° about the origin.



3. Translate right 2, then rotate 270° CW about the origin.

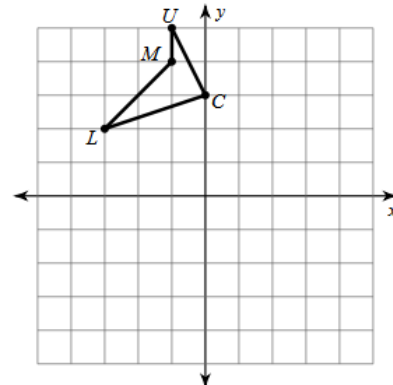
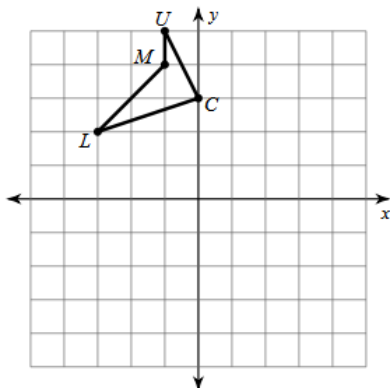
4. Translate left 2, then reflect over $y = -x$.



Directions: Graph the following transformations.

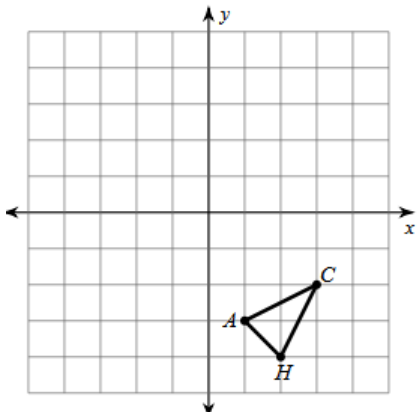
5. Reflection over $x = 1$

6. Reflection over $y = 3$.

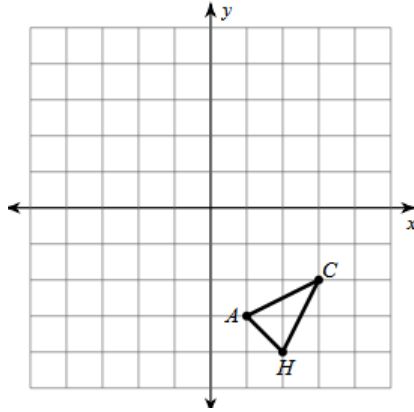


Directions: Graph the following transformations.

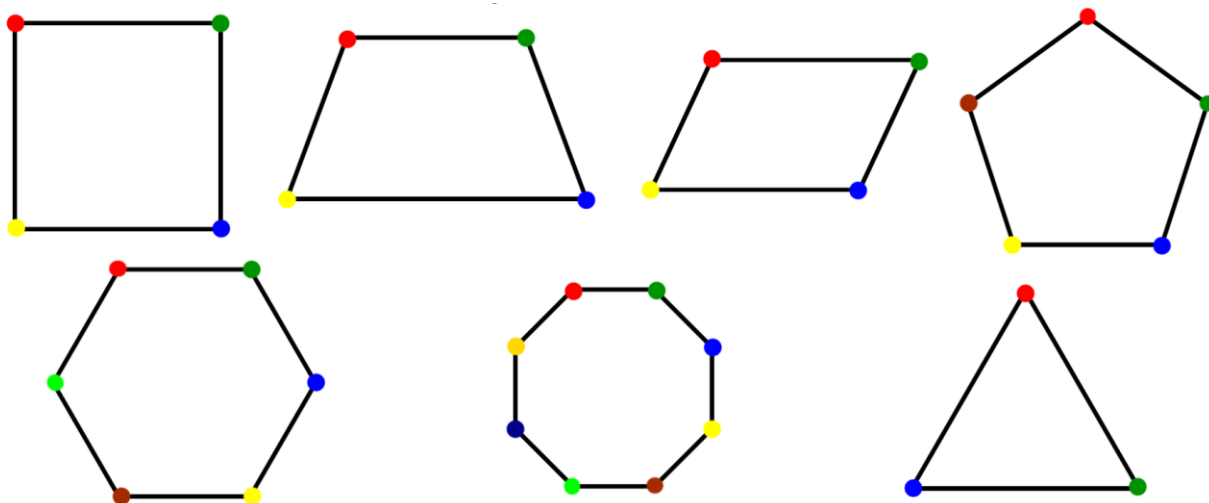
7. Rotation of 270° CW about $(-3, -1)$



8. Rotation of 270° CCW about $(1, -2)$



9. Identify how many lines of symmetry the following figures has and draw them. Assume that it is a regular polygon if possible.



10. Identify all of the degrees of rotation between 0° and 360° about the center that would map each polygon onto itself. Assume that it is a regular polygon if possible.

