⭐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.
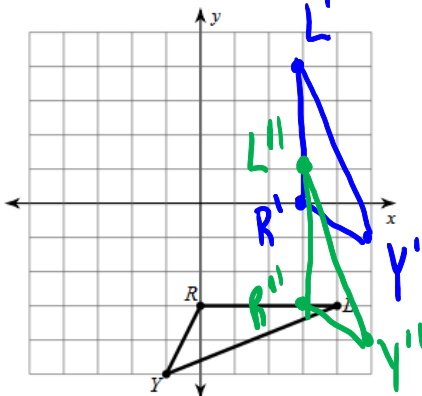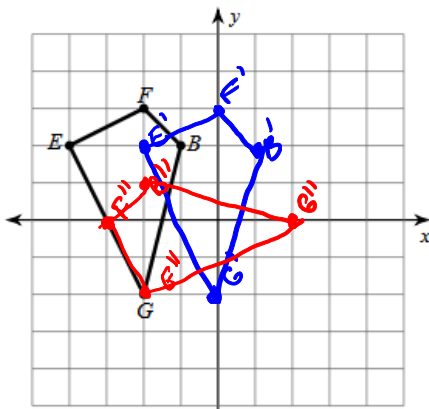

$(x,y) \rightarrow (-y,x) \rightarrow (-y, x-3)$
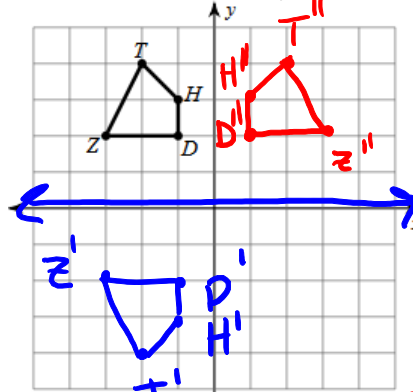
$(x,y) \rightarrow (x,-y) \rightarrow (-x,y)$

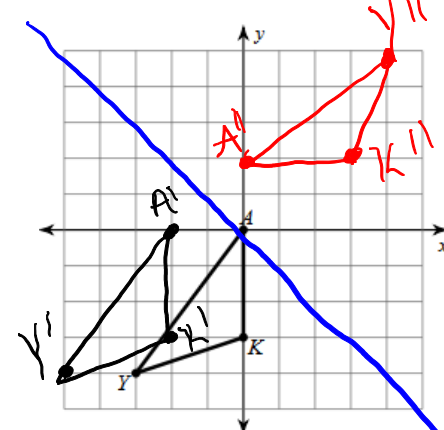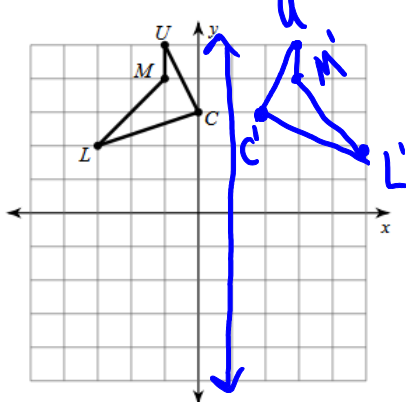3. Translate right 2, then rotate 270° CW about the origin.   4. Translate left 2, then reflect over y= -x.

$(x,y) \rightarrow (x+2,y) \rightarrow (-y, x+2)$

$(x,y) \rightarrow (x-2,y) \rightarrow (-y, -x+2)$

Directions: Graph the following transformations.
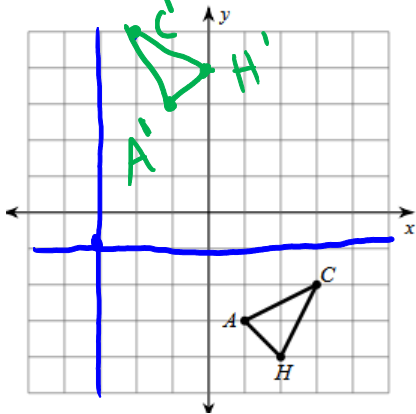
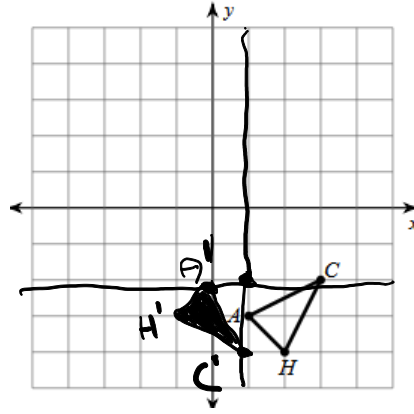5. Reflection over x = 1   6. Reflection over y = 3
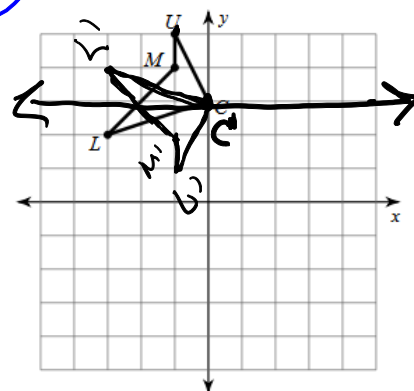
Directions: Graph the following transformations.
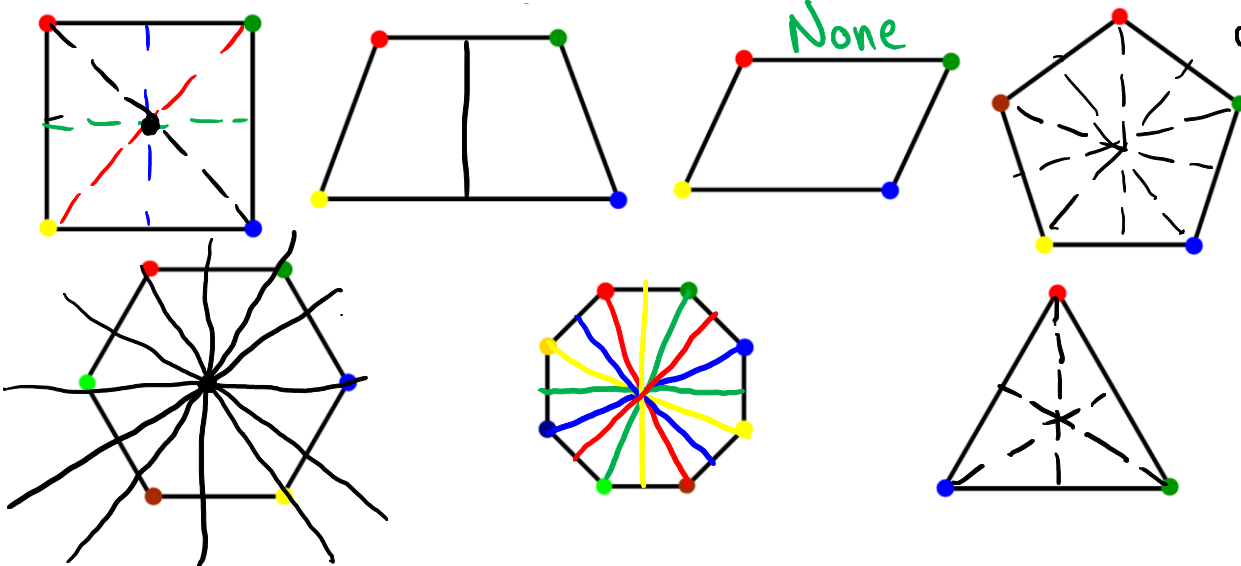
7. Rotation of 270° CW about (-3, -1)
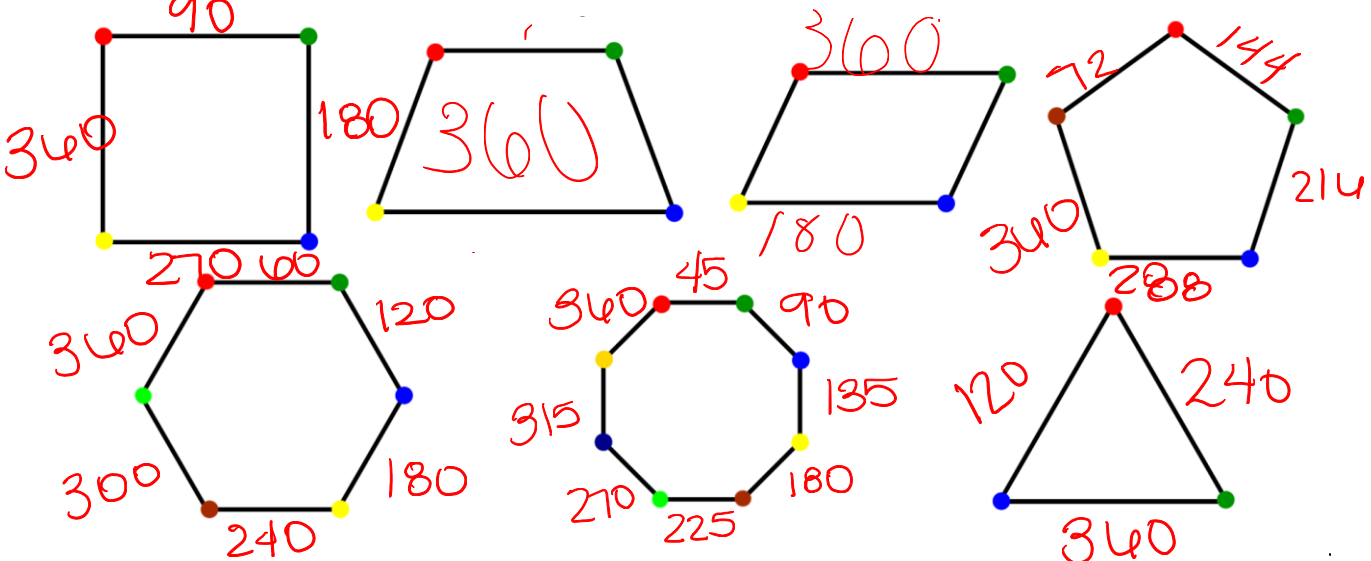

8. Rotation of 270° CCW about (1, -2)

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

Number of sides equals number of lines of symmetry for a regular polygon

None

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.

90   360   72   144
360   180   360   214
270   60   45   90   288
360   120   360   120   240
300   180   915   135
      270   225   180   360

Divide 360 by the number of sides then continue adding up to 360°