

\* Save translations for last.

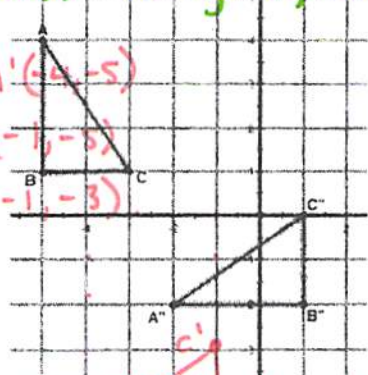
Winston

1.10 Sequence of Transformations, Mapping, & Rotational Symmetry Guided Notes

Geometry

Directions: Describe the sequence of transformations. Then, write the rule for the sequence.

1)  $(x, y) \rightarrow (-y+2, x+3)$



$A(-5,4) \rightarrow A'(-1,-5)$   
 $B(-5,1) \rightarrow B'(-1,-3)$   
 $C(-3,1) \rightarrow C'(-1,-3)$

①  $90^\circ$  CCW  $(x,y) \rightarrow (-y,x)$

② Translation rt 2, up 3.

Directions: Describe the sequence of transformations using the given rules.

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

① Reflect over x-axis

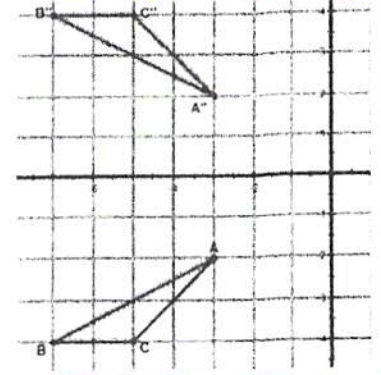
② Reflect over  $y=x$ .

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

①  $90^\circ$  CCW

② translation down 2.

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



① Reflection over x-axis.

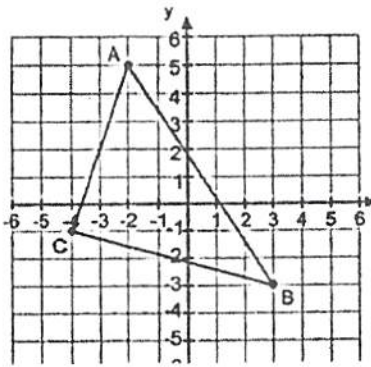
② rotate  $360^\circ$  or dilate by 1.

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

① Vertical stretch by 3.

② Ref. over  $y=x$

Directions: Describe how to map the image onto itself using the given number of transformations.



7) One Transformation

$360^\circ$  CCW.

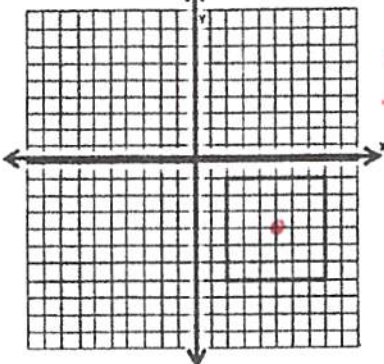
8) Two Transformations \* A lot of possibilities.

① Translate Left 3.

② Translate right 3.

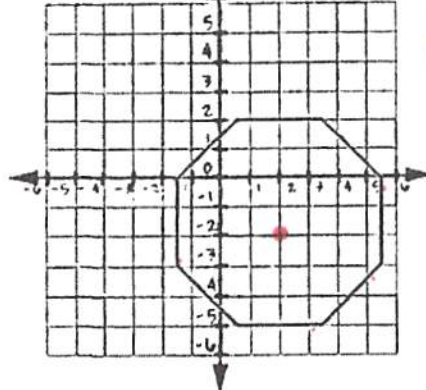
Directions: Identify four possible rotations that will map the regular polygon onto itself.

9)



$\frac{360^\circ}{4} = 90^\circ$   
 $180^\circ$   
 $270^\circ$   
 $360^\circ$

10)



$\frac{360}{8} = 45^\circ$   
 $90^\circ$   
 $180^\circ$   
 $135^\circ$   
 $270^\circ$