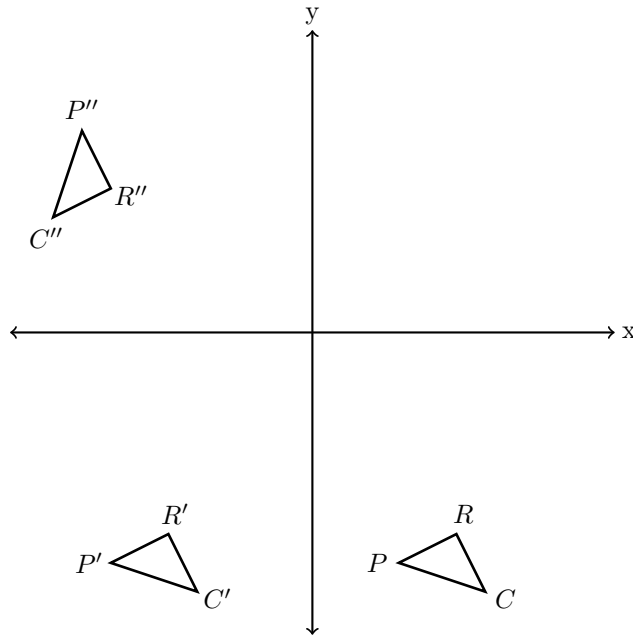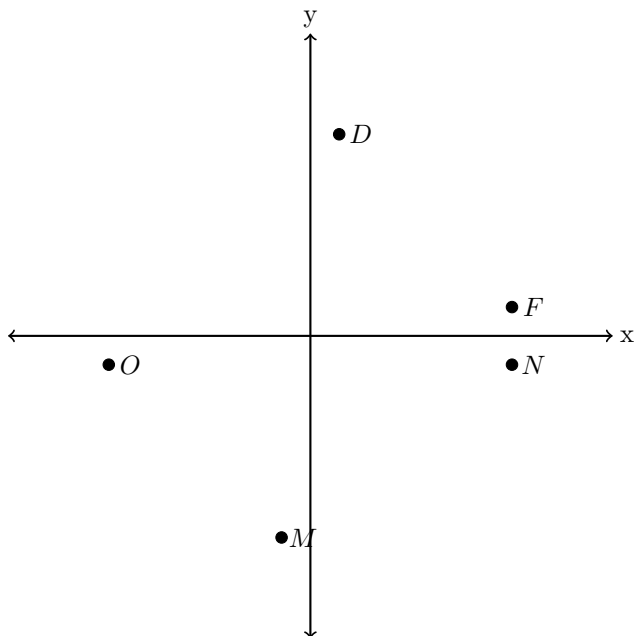1. In the graph below, $\triangle PRC$ follows a sequence of transformations to make $\triangle P''R''C''$.

What is the sequence of tranformations?

(1) Reflection then reflection

(2) Reflection then rotation

(3) Translation then rotation

(4) Translation then reflection

(5) I do not know. (Worth $\frac{1}{3}$ points)

2. In the graph below, there are several points plotted.

After point N is rotated 90° counterclockwise around the origin, which point is its image?

(1) O

(2) D

(3) M

(4) F

(5) I do not know. (Worth $\frac{1}{3}$ points)

3. Given $\triangle VSG$, after which of the following transformations, will $\triangle VSG$ *not* be congruent to $\triangle V'S'G'$?

(1) A translation 1 right and 6 up

(2) A reflection over the line $y = -7$

(3) A rotation 180°counterclockwise around the point $(-6, -7)$

(4) A dilation with a scale factor of 3

(5) I do not know. (Worth $\frac{1}{3}$ points)

4. In the diagram below square $ZYLH$ is drawn.
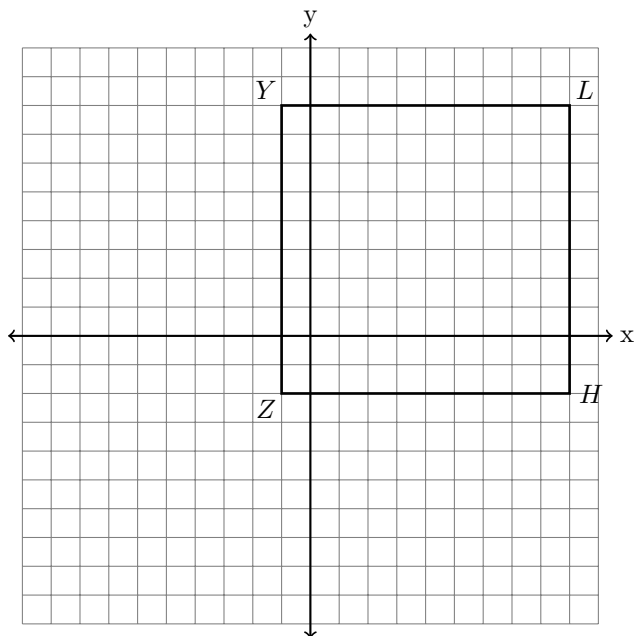
Which of the following will *not* map the square onto itself?

(1) $x = 3$

(2) Rotation 90° around (4,3)

(3) $y = 3$

(4) $y = x - 1$

(5) I do not know. (Worth $\frac{1}{3}$ points)

5. Which shape always has exactly 6 lines of reflection that will map it onto itself?

(1) regular hexagon

(2) regular triangle

(3) regular octagon

(4) regular pentagon

(5) I do not know. (Worth $\frac{1}{3}$ points)

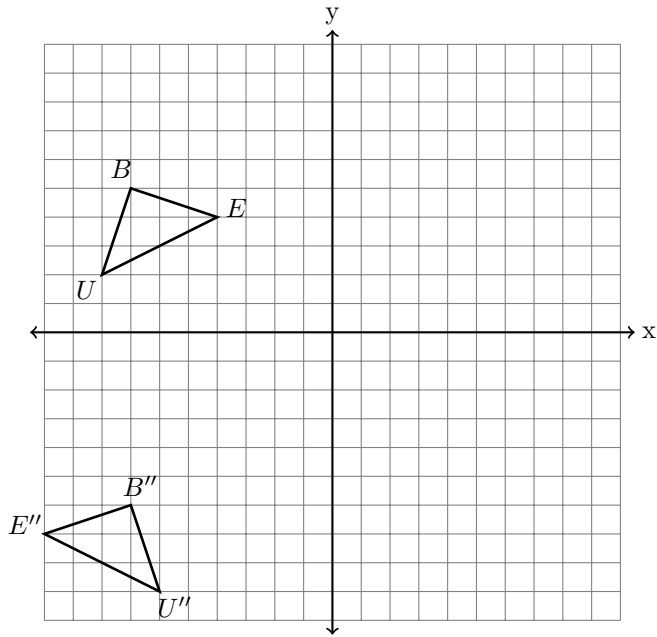6. What is the minimum number of degrees for a regular decagon to rotate onto itself?
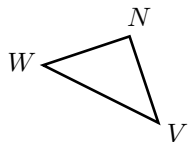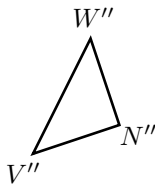
(1) 72°

(2) 45°

(3) 36°

(4) 40°

(5) I do not know. (Worth $\frac{1}{3}$ points)

7. Given the graph below, identify the sequence of transformations used to map $\triangle UBE$ onto $\triangle U''B''E''$.
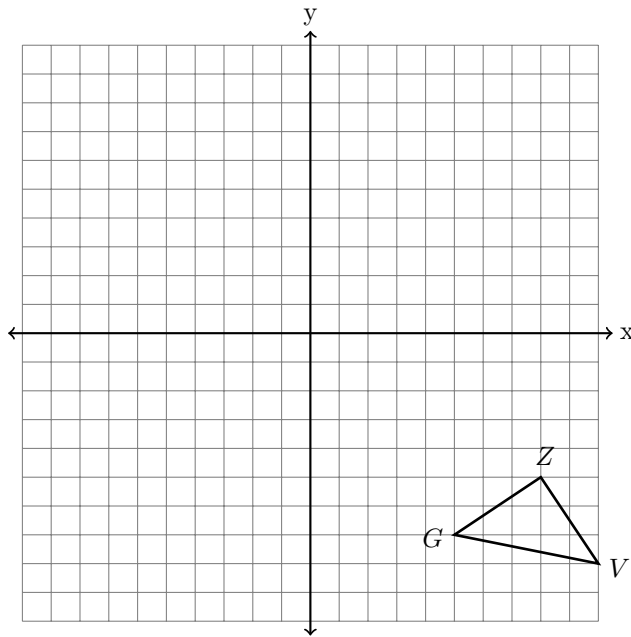

Explain why $\triangle UBE$ is congruent to $\triangle U''B''E''$.

8. Below, $\triangle WNV$ follows a sequence of transformations to make $\triangle W''N''V''$.

$$W''$$

$$N''$$

$$V''$$

$$N$$

$$W$$

$$V$$

Describe a sequence of transformations that will map $\triangle WNV$ onto $\triangle W''N''V''$.

9. Given $\triangle GZV$ on the set of axes below, graph $\triangle G'Z'V'$ after a rotation of $90°$ counterclockwise around the origin.

10. In the graph below of $\triangle MDK$, peform a translation left 10 followed by a reflection over the line $y = 0$ to make $\triangle M''D''K''$.