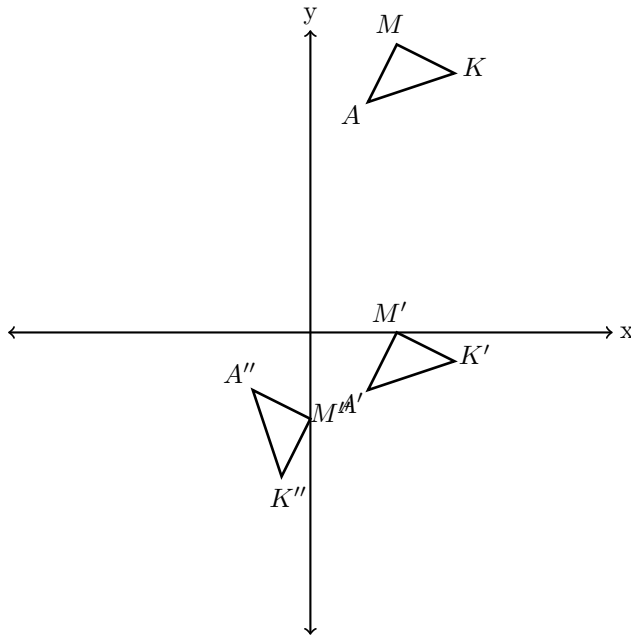


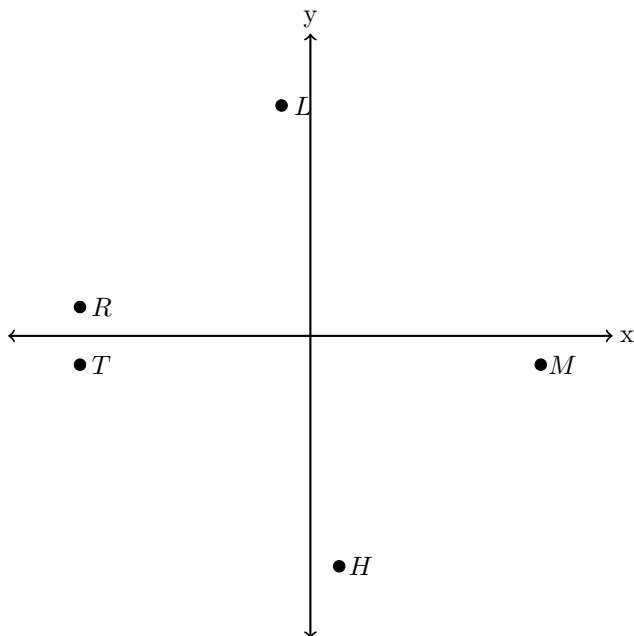
1. In the graph below, $\triangle AMK$ follows a sequence of transformations to make $\triangle A''M''K''$.



What is the sequence of transformations?

- (1) Reflection then reflection
- (2) Reflection then rotation
- (3) Translation then reflection
- (4) Translation then rotation
- (5) I do not know. (Worth $\frac{1}{3}$ points)

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



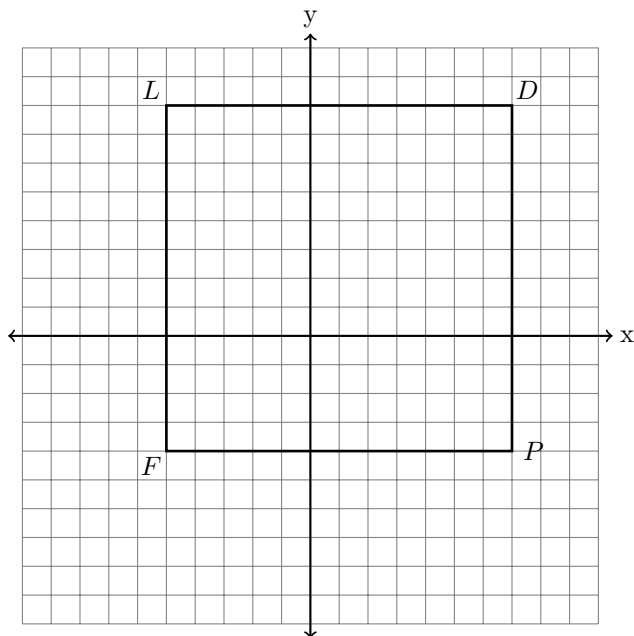
After point T is rotated 90° clockwise around the origin, which point is its image?

- (1) H
- (2) L
- (3) M
- (4) R
- (5) I do not know. (Worth $\frac{1}{3}$ points)

3. Given $\triangle ZGH$, after which of the following transformations, will $\triangle ZGH$ *not* be congruent to $\triangle Z'G'H'$?

- (1) A reflection over the line $x = 0$
- (2) A dilation with a scale factor of 3
- (3) A translation 4 right and 8 up
- (4) A rotation 180° clockwise around the point $(9, 5)$
- (5) I do not know. (Worth $\frac{1}{3}$ points)

4. In the diagram below square $FLDP$ is drawn.



Which of the following will *not* map the square onto itself?

(1) Rotation 90° around $(1,2)$

(2) $x = 2$

(3) $y = x + 1$

(4) $y = 2$

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

5. Which shape always has exactly 10 lines of reflection that will map it onto itself?

(1) regular pentagon

(2) regular hexagon

(3) regular decagon

(4) equilateral triangle

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

6. What is the minimum number of degrees for a regular pentagon to rotate onto itself?

(1) 72°

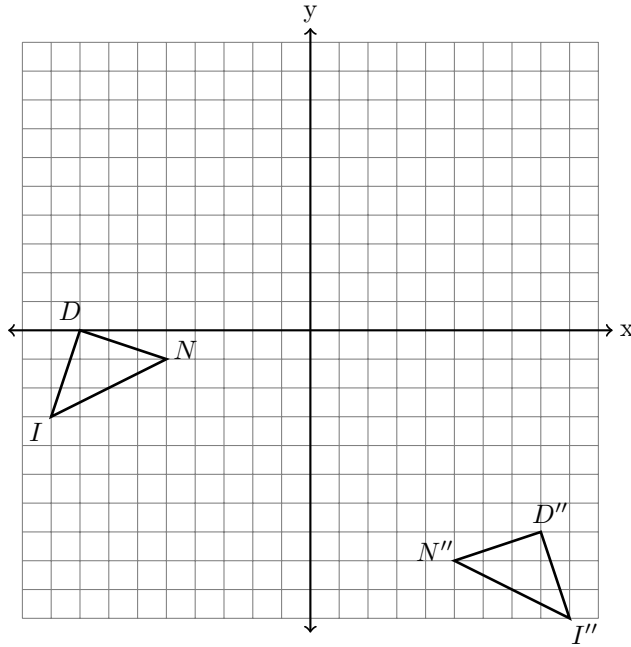
(2) 45°

(3) 36°

(4) 90°

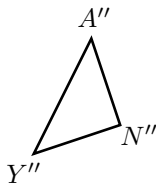
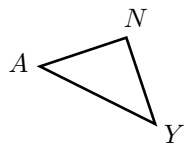
(5) I do not know. (Worth $\frac{1}{3}$ points)

7. Given the graph below, identify the sequence of transformations used to map $\triangle IDN$ onto $\triangle I''D''N''$.



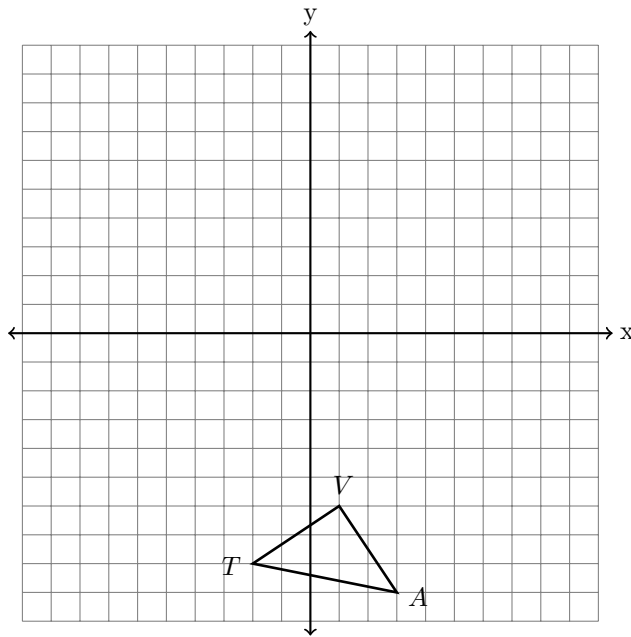
Explain why $\triangle IDN$ is congruent to $\triangle I''D''N''$.

8. Below, $\triangle ANY$ follows a sequence of transformations to make $\triangle A''N''Y''$.



Describe a sequence of transformations that will map $\triangle ANY$ onto $\triangle A''N''Y''$.

9. Given $\triangle TVA$ on the set of axes below, graph $\triangle T'V'A'$ after a rotation of 90° clockwise around the origin.



10. In the graph below of $\triangle KLY$, perform a translation right 10 followed by a reflection over the line $y = 0$ to make $\triangle K''L''Y''$.

