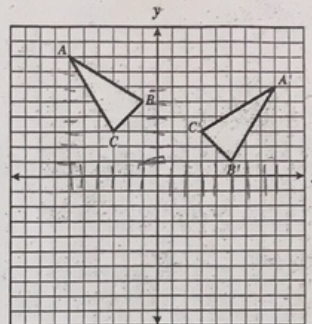


Rotations Day 2 Practice
Section 9.3

1) **Multiple-Choice:** Which is the best description for triangle $A'B'C'$?

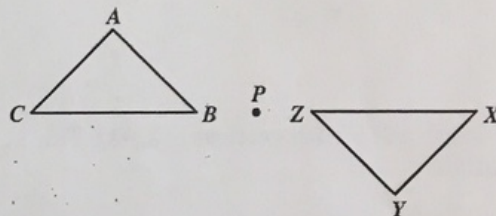
- A. A 270° clockwise rotation of triangle ABC to the right
- B. A 90° clockwise rotation of triangle ABC about the origin
- C. A 180° clockwise rotation of triangle ABC about the origin
- D. A reflection of triangle ABC across the y -axis



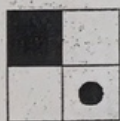
$(y, -x)$ 90° CW
 $(-6, 8) \rightarrow (8, 6)$

2) **Multiple-Choice:** Given $\triangle XYZ$ was obtained from $\triangle ABC$ by a rotation about the point P . Which indicates the correct correspondence of the vertices?

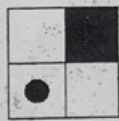
- A. $A \rightarrow X, B \rightarrow Y, C \rightarrow Z$
- B. $A \rightarrow Y, B \rightarrow Z, C \rightarrow X$
- C. $A \rightarrow X, B \rightarrow Z, C \rightarrow Y$
- D. $A \rightarrow Z, B \rightarrow X, C \rightarrow Y$



3) Which transformation can be performed on Figure I to create Figure II? Check ALL that apply.



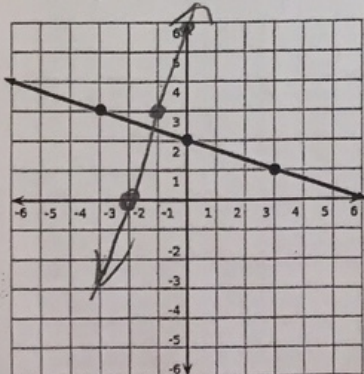
I



II

- A rotation 180° clockwise about its center.
- A rotation 90° clockwise about its center.
- A rotation 90° counterclockwise about its center.
- A rotation 270° counterclockwise about its center.
- A rotation -90° about its center.
- A rotation -270° about its center.

4) The graph of $y = -\frac{1}{3}x + 2$ is shown. Graph the image of the line under a rotation 90° CCW about the origin. Then write the equation of the image in slope-intercept form.



$(0, 2) \rightarrow (-2, 0)$
 $(3, 1) \rightarrow (-1, 3)$

$(-y, x)$
 $y = 3x + 6$

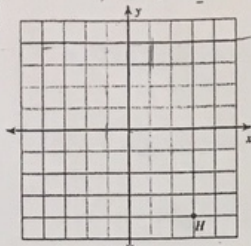
5) Find the coordinates of the vertices of each figure after the given transformation.

a) Rotated 180° CW about (-1, 4)

$$H(\underline{3}, \underline{-4}) \rightarrow H'(\underline{-5}, \underline{12})$$

$$(3, -4) \xrightarrow{\langle 1, -4 \rangle} (4, -8) \xrightarrow{180^\circ \text{ CW}} (-4, 8)$$

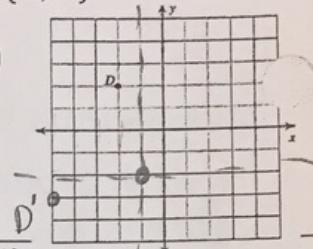
$$\xrightarrow{\langle -1, 4 \rangle} (-5, 12)$$



b) Rotated 90° CCW about (-1, -2)

$$D(\underline{-2}, \underline{2}) \rightarrow D'(\underline{-5}, \underline{3})$$

$$(-1, 4) \rightarrow (-4, 1)$$



c) Rotated 270° CCW about (2, 3)

$$V(\underline{-3}, \underline{-2}) \rightarrow V'(\underline{-3}, \underline{8})$$

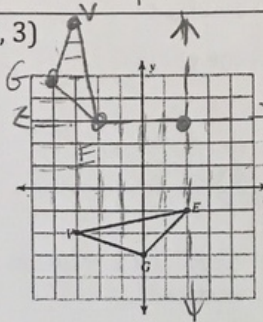
$$E(\underline{2}, \underline{-1}) \rightarrow E'(\underline{-2}, \underline{3})$$

$$G(\underline{0}, \underline{-3}) \rightarrow G'(\underline{-4}, \underline{5})$$

$$V'(-5, -5) \rightarrow (-5, 5) \rightarrow (3, 8)$$

$$E'(0, -4) \rightarrow (-4, 0) \rightarrow (-2, 3)$$

$$G'(-2, -6) \rightarrow (-6, -2) \rightarrow (-4, 5)$$

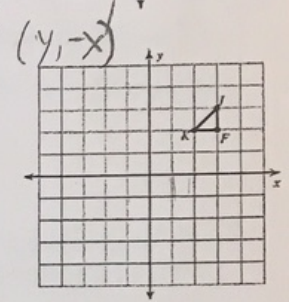


d) Rotated -90° about (0, 0)

$$J(\underline{3}, \underline{3}) \rightarrow J'(\underline{3}, \underline{-3})$$

$$F(\underline{3}, \underline{2}) \rightarrow F'(\underline{2}, \underline{3})$$

$$K(\underline{2}, \underline{2}) \rightarrow K'(\underline{2}, \underline{-2})$$

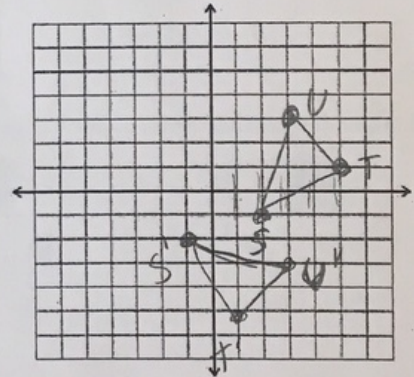


6) Graph ΔSTU with vertices $S(2, -1)$, $T(5, 1)$, and $U(3, 3)$ and its image after a 90° CW rotation about the origin.

$$S'(-1, -2)$$

$$T'(1, -5)$$

$$U'(3, -3)$$



7) Graph \overline{AB} with vertices $A(9, 0)$, $B(0, 0)$ and its image after a 180° CCW rotation about (-2, 5).

$$\text{Fake } A(11, -5) \rightarrow A'(-11, 5) \quad \boxed{A'(-13, 10)}$$

$$\text{Fake } B(2, -5) \rightarrow B'(-2, 5) \quad \boxed{B'(-4, 10)}$$

