

Quiz: Rotation

Section: Rotation Sub-section: Rotation

Choose the correct answer.

1. The image of the point (4, -3) under a rotation 90° counterclockwise centered at the origin is _____.

(understand, MA 2.2 G.8/3)

- A. (-4, -3) **B. (3, 4)** C. (-3, 4) D. (-3, -4)

Solution (3, 4)

Rotate by 90° counterclockwise about the origin: $(x, y) \rightarrow (-y, x)$

2. The triangle ABC has A(-2, -2), B(3, 5), and C(7, -4). What is the image of point C after a rotation of 180° about the origin?

(understand, MA 2.2 G.8/3)

- A. C'(-7, -4) **B. A'(-7, 4)** C. C'(7, 4) D. A'(7, -4)

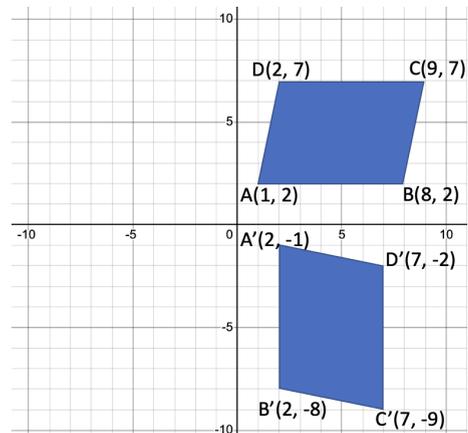
Solution A'(-7, 4)

Rotate by 180° about the origin: $(x, y) \rightarrow (-x, -y)$

3. For the transformation shown at the right, find the measure of the angle of rotation of ABCD about the origin.

(understand, MA 2.2 G.8/3)

- A. 90°
B. 180°
C. **270°**
D. 360°



Solution 270°

A'(2, -1) is rotated by 270° from A(1, 2).

B'(2, -8) is rotated by 270° from B(8, 2).

C'(7, -9) is rotated by 270° from C(9, 7).

D'(7, -2) is rotated by 270° from A(2, 7).

Quiz: Rotation

Section: Rotation Sub-section: Rotation

4. After a rotation point $A = A'$. Which statement is true about the location of point A if this occurs?

(remember, MA 2.2 G.8/3)

- A. Point A and Point A' were two distinct points equidistant from the center of the rotation.
- B. Point A and Point A' were two distinct points located on the same arc of rotation.
- C. Point A was located at the center of the rotation.
- D. Point A and Point A' were two distinct points located on the same ray from the center of the rotation.

Solution Point A was located at the center of the rotation.

If point A was located at the center of the rotation, then a rotation point $A = A'$.

5. A rotation of 120 counterclockwise is the same as a rotation of _____ clockwise.

(understand, MA 2.2 G.8/3)

- A. 60
- B. 120
- C. 220
- D. 240

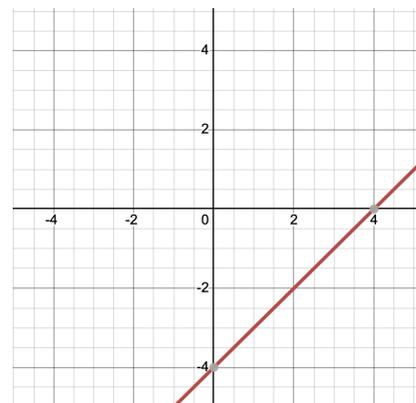
Solution 240

A rotation of 120 counterclockwise is the same as a rotation of 240 clockwise.

6. Rotate the line shown at the right 90° about the origin. What is the equation of the resulting image?

(understand, MA 2.2 G.8/3)

- A. $y = x$
- B. $y = -x + 4$
- C. $y = x - 4$
- D. $y = x + 4$



Solution $y = -x + 4$

Rotate by 90° counterclockwise about the origin: $(x, y) \rightarrow (-y, x)$

Rotate $(4, 0)$ 90° counterclockwise about the origin, then it will be $(0, 4)$

Rotate $(0, -4)$ 90° counterclockwise about the origin, then it will be $(4, 0)$

Quiz: Rotation

Section: Rotation Sub-section: Rotation

7. The image of the point $(-1, -5)$ under a rotation 90° clockwise centered at the origin is _____.

(understand, MA 2.2 G.8/3)

- B. $(1, 5)$ B. $(5, 1)$ C. $(5, -1)$ **D. $(-5, 1)$**

Solution $(-5, 1)$

Rotate by 90° clockwise about the origin: $(x, y) \rightarrow (y, -x)$

8. The image of the point $(-2, 9)$ under a rotation 180° about the origin is _____.

(understand, MA 2.2 G.8/3)

- C. $(2, 9)$ B. $(9, 2)$ C. $(-2, -9)$ **D. $(2, -9)$**

Solution $(2, -9)$

Rotate by 180° about the origin: $(x, y) \rightarrow (-x, -y)$