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) → (-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) → (-x, -y)

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

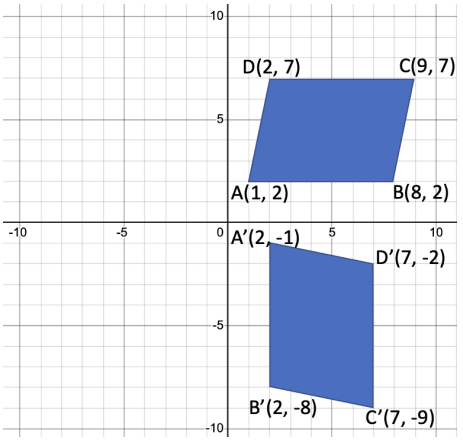
   (understand, MA 2.2 G.8/3)

   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).

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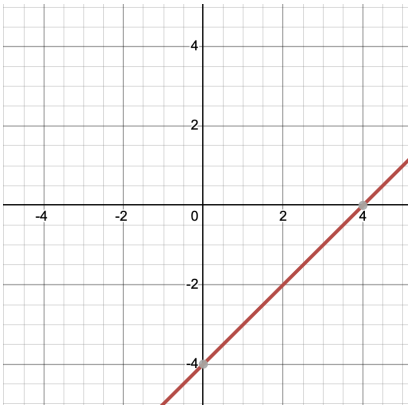
4. After a rotation point A = A'. Which statement is true about the location of point A if this occurs?
(remember, MA 2.2 G.8/3)
   A. Point A and Point A' were two distinct points equidistant from the center of the rotation.
   B. Point A and Point A' were two distinct points located on the same arc 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) → (-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)

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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) → (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) → (-x, -y)