Name: _____

Rotations on the Coordinate Plane

Find the coordinates of the image of each triangle.

Learn: About the origin: 90° counterclockwise (x, y) → (−y, x). 180°: (x, y) → (−x, −y).

Example: Triangle A(3, 5), B(−3, 4), C(2, −5) is rotated 90° counterclockwise about the origin. Give the coordinates of the image.

A′B′C′: A′(−5, 3), B′(−4, −3), C′(5, 2)

1. Triangle A(−4, 2), B(4, 6), C(−5, −3) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: _____

2. Triangle A(−1, 1), B(−2, −4), C(2, 4) is rotated 90° clockwise about the origin. Give the coordinates of the image.

   A′B′C′: _____

3. Triangle A(0, −3), B(2, 6), C(−1, 1) is rotated 90° counterclockwise about the origin. Give the coordinates of the image.

   A′B′C′: _____

4. Triangle A(−5, −2), B(−4, 6), C(2, −3) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: _____

5. Triangle A(6, −4), B(3, −2), C(−3, 6) is rotated 90° clockwise about the origin. Give the coordinates of the image.

   A′B′C′: _____

6. Triangle A(−4, 3), B(4, 6), C(4, −2) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: _____

7. Triangle A(1, 1), B(−2, −2), C(−6, −2) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: _____

Name: **ANSWER KEY**

Rotations on the Coordinate Plane

Find the coordinates of the image of each triangle.

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Example: Triangle A(3, 5), B(−3, 4), C(2, −5) is rotated 90° counterclockwise about the origin. Give the coordinates of the image.

A′B′C′: A′(−5, 3), B′(−4, −3), C′(5, 2)

1. Triangle A(−4, 2), B(4, 6), C(−5, −3) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: A′(4, −2), B′(−4, −6), C′(5, 3)

2. Triangle A(−1, 1), B(−2, −4), C(2, 4) is rotated 90° clockwise about the origin. Give the coordinates of the image.

   A′B′C′: A′(1, 1), B′(−4, 2), C′(4, −2)

3. Triangle A(0, −3), B(2, 6), C(−1, 1) is rotated 90° counterclockwise about the origin. Give the coordinates of the image.

   A′B′C′: A′(3, 0), B′(−6, 2), C′(−1, −1)

4. Triangle A(−5, −2), B(−4, 6), C(2, −3) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: A′(5, 2), B′(4, −6), C′(−2, 3)

5. Triangle A(6, −4), B(3, −2), C(−3, 6) is rotated 90° clockwise about the origin. Give the coordinates of the image.

   A′B′C′: A′(−4, −6), B′(−2, −3), C′(6, 3)

6. Triangle A(−4, 3), B(4, 6), C(4, −2) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: A′(4, −3), B′(−4, −6), C′(−4, 2)

7. Triangle A(1, 1), B(−2, −2), C(−6, −2) is rotated 180° about the origin. Give the coordinates of the image.

   A′B′C′: A′(−1, −1), B′(2, 2), C′(6, 2)