Answer Key · Lesson 7.3: Rotations and Rotational Symmetry

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Key

1. $(6, 6), (5, 1)$

Rotate $(6, -6), (1, -5)$ by $90°$ counterclockwise about the origin.

2. $(2, -5), (4, -1)$

Rotate $(-2, 5), (-4, 1)$ by $180°$ counterclockwise about the origin.

3. $(1, -1), (-2, 4)$

Rotate $(1, 1), (-4, -2)$ by $270°$ counterclockwise about the origin.

4. $(-1, -6), (-2, -1), (-2, 4)$

1. $90°$: $(x, y) \to (-y, x)$; $180°$: $(-x, -y)$; $270°$: $(y, -x)$.

Rotate $(-6, 1), (-1, 2), (4, 2)$ by $90°$ counterclockwise about the origin.

5. $(3, -5), (-4, 1), (6, 6)$

1. $90°$: $(x, y) \to (-y, x)$; $180°$: $(-x, -y)$; $270°$: $(y, -x)$.

Rotate $(5, 3), (-1, -4), (-6, 6)$ by $270°$ counterclockwise about the origin.

6. $(3, 5), (-4, -4), (5, 5)$

1. $90°$: $(x, y) \to (-y, x)$; $180°$: $(-x, -y)$; $270°$: $(y, -x)$.

Rotate $(-3, -5), (4, 4), (-5, -5)$ by $180°$ counterclockwise about the origin.

7. $(5, 5), (-6, 5), (0, 4)$

1. $90°$: $(x, y) \to (-y, x)$; $180°$: $(-x, -y)$; $270°$: $(y, -x)$.

Rotate $(-5, 5), (-5, -6), (-4, 0)$ by $270°$ counterclockwise about the origin.

8. $(3, 5), (5, 3), (2, 3)$

1. $90°$: $(x, y) \to (-y, x)$; $180°$: $(-x, -y)$; $270°$: $(y, -x)$.

Rotate $(-5, 3), (-3, 5), (-3, 2)$ by $270°$ counterclockwise about the origin.

9. $(-3, -1), (6, -1), (-4, -1)$

1. $90°$: $(x, y) \to (-y, x)$; $180°$: $(-x, -y)$; $270°$: $(y, -x)$.

Rotate $(-1, 3), (-1, -6), (-1, 4)$ by $90°$ counterclockwise about the origin.

10. $(5, 4), (-6, 6), (1, 2)$

1. $90°$: $(x, y) \to (-y, x)$; $180°$: $(-x, -y)$; $270°$: $(y, -x)$.

Rotate $(-5, -4), (6, -6), (-1, -2)$ by $180°$ counterclockwise about the origin.