

Unit 1: Constructions and Rigid Transformations

PRACTICE · SET 2

Name: _____ Date: _____

Solve each problem and write your short exact answer on the line. Use plain-text notation: coordinate pairs like (3, -4), degrees with $^{\circ}$, and negatives like -5.

1. Point A is at (5, 3). It is translated 4 units right and 2 units down. What are the coordinates of the image A'?

Answer: _____

3. Point C is at (7, -4). It is reflected across the y-axis. What are the coordinates of the image C'?

Answer: _____

5. Point E is at (6, -1). It is rotated 180° about the origin. What are the coordinates of the image E'? (Rule: $(x, y) \rightarrow (-x, -y)$)

Answer: _____

7. Point F is at (-4, -3). It is reflected across the line $y = x$. What are the coordinates of the image F'? (Rule: $(x, y) \rightarrow (y, x)$)

Answer: _____

9. A segment has endpoints (1, 2) and (7, 10). What are the coordinates of its midpoint?

Answer: _____

2. Point B is at (-2, 6). It is reflected across the x-axis. What are the coordinates of the image B'?

Answer: _____

4. Point D is at (3, 8). It is rotated 90° counterclockwise about the origin. What are the coordinates of the image D'? (Rule: $(x, y) \rightarrow (-y, x)$)

Answer: _____

6. A translation takes point (2, 5) to point (7, 9). Under the same translation, what are the coordinates of the image of the point (0, 0)?

Answer: _____

8. Point G is at (5, 2). It is rotated 90° clockwise about the origin. What are the coordinates of the image G'? (Rule: $(x, y) \rightarrow (y, -x)$)

Answer: _____

10. Point H is at (-6, 4). It is translated by the rule $(x, y) \rightarrow (x + 3, y - 7)$. What are the coordinates of the image H'?

Answer: _____

11. A reflection across the x-axis takes point P to the image (8, 5). What are the coordinates of the original point P?

Answer: _____

12. Point K is at (0, 9). It is reflected across the y-axis. What are the coordinates of the image K'?

Answer: _____