

Unit 2: Congruence

PRACTICE · SET 2

Name: _____ Date: _____

Solve each problem and write your final answer on the line. Use exact values; give coordinate pairs as (x, y) and angles in degrees.

1. Point A(2, 5) is translated by the rule $(x, y) \rightarrow (x + 3, y - 4)$. What are the coordinates of its image A'?

Answer: _____

2. Point P(-6, 3) is reflected across the x-axis. What are the coordinates of its image?

Answer: _____

3. Point Q(4, -7) is reflected across the y-axis. What are the coordinates of its image?

Answer: _____

4. Point R(5, 2) is rotated 90° counterclockwise about the origin. What are the coordinates of its image?

Answer: _____

5. Point S(-3, 8) is rotated 180° about the origin. What are the coordinates of its image?

Answer: _____

6. Point T(-2, 9) is reflected across the line $y = x$. What are the coordinates of its image?

Answer: _____

7. Point W(6, -1) is rotated 270° counterclockwise about the origin. What are the coordinates of its image?

Answer: _____

8. Triangle ABC is congruent to triangle DEF. If $BC = 7$ and its corresponding side $EF = 3x + 1$, find the value of x .

Answer: _____

9. Triangle PQR is congruent to triangle STU with angle $Q = 55^\circ$ and angle $U = 40^\circ$. Find the measure of angle P in degrees.

Answer: _____

10. Triangle ABC is congruent to triangle DEF. If $AB = 5$, $BC = 8$, and $CA = 11$, what is the perimeter of triangle DEF?

Answer: _____

11. A translation maps point M(1, 2) to M'(4, -1). Write the translation vector as an ordered pair (a, b) .

Answer: _____

12. Two triangles are congruent by SAS. A pair of corresponding sides have lengths $2x$ and 10 and must be equal. Find the value of x .

Answer: _____