Unit 7: Shapes on the Coordinate Grid

ADVANCED

Name: _____ Date: _____

Show your work where needed. Give each answer as a single exact value — a number or a coordinate pair like (3, -4). Positive and negative coordinates are allowed.

1. Rectangle ABCD has its vertices listed in order around the shape. Three of them are A(-4, -3), B(6, -3), and C(6, 9). Find the coordinates of vertex D.

Answer: _____

2. A rectangle has vertices at (-5, 2), (7, 2), (7, -4), and (-5, -4). Find its perimeter (in units).

Answer: _____

3. Three vertices of a square are (-2, -2), (-2, 7), and (7, 7). Find the area of the square (in square units).

Answer: _____

4. Three vertices of a square, listed in order around the shape, are (3, -1), (3, 8), and (12, 8). Find the coordinates of the fourth vertex.

Answer: _____

5. A segment has endpoints (-7, 15) and (-7, -9). Find its length (in units).

Answer: _____

6. Parallelogram ABCD has vertices listed in order around the shape. Three of them are A(2, -3), B(9, 0), and C(14, 8). Find the coordinates of vertex D.

Answer: _____

7. Find the midpoint of the segment with endpoints (-8, -5) and (10, 17).

Answer: _____

8. A triangle has vertices at (1, 2), (1, 10), and (7, 2). Classify it by its side lengths as equilateral, isosceles, or scalene.

Answer: _____

9. The point (5, -8) is reflected across the y-axis. Give the coordinates of the reflected point.

Answer: _____

10. A triangle has vertices at (0, 0), (9, 0), and (9, 12). Find its perimeter (in units).

Answer: _____

11. Of these six shapes, how many are ALWAYS parallelograms: rectangle, square, rhombus, trapezoid, kite, parallelogram?

Answer: _____

12. A triangle has vertices at (-3, -2), (9, -2), and (9, 7). Find its area (in square units).

Answer: _____