

Unit 6: Coordinate Geometry

PRACTICE

Name: _____ Date: _____

Solve each problem and give the exact short answer. Use plain-text notation (fractions like $\frac{3}{4}$, sqrt for square roots, pi for π).

1. Find the distance between the points (2, 3) and (7, 15). Give an exact value.

Answer: _____

3. Find the midpoint of the segment joining (-3, 8) and (5, -2). Give a coordinate pair.

Answer: _____

5. Write the equation of the circle with center (2, -5) and radius 4 in the form $(x - h)^2 + (y - k)^2 = r^2$. Give the full equation.

Answer: _____

7. Find the center of the circle given by $(x - 8)^2 + (y + 1)^2 = 25$. Give a coordinate pair.

Answer: _____

9. Find the point that divides the segment from (0, 0) to (10, 15) in the ratio 2:3 (starting from the first point). Give a coordinate pair.

Answer: _____

11. The point (6, -4) is reflected across the x-axis. What are the coordinates of the image? Give a coordinate pair.

Answer: _____

2. Find the slope of the line through the points (-4, 2) and (6, 7). Give your answer as a fraction in lowest terms.

Answer: _____

4. Point M(4, 1) is the midpoint of segment AB. If A = (1, -3), find the coordinates of B.

Answer: _____

6. A circle has equation $(x + 3)^2 + (y - 6)^2 = 49$. What is its radius?

Answer: _____

8. A line has slope $\frac{3}{4}$. What is the slope of a line perpendicular to it? Give your answer as a fraction.

Answer: _____

10. The point (3, -2) is translated by the rule $(x, y) \rightarrow (x - 5, y + 4)$. What are the coordinates of the image? Give a coordinate pair.

Answer: _____

12. For the parabola $y = (x - 3)^2 + 5$, what are the coordinates of the vertex? Give a coordinate pair.

Answer: _____