

Worksheet 11.1: Coordinate Geometry

Use the distance formula to find the distance between the two points. Express each distance in simplest radical form if the distance is not a whole number.

1. $(-6, -2)$ and $(-7, -5)$

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

3. $(-8, 6)$ and $(0, 4)$

4. $(0, 0)$ and $(6, 8)$

5. There are 12 points, each with integer coordinates, that are 5 units from the point $(-6, 2)$. List the points. (Recall the 3, 4, 5 right triangle).

Find the coordinates of the midpoint of the segment that joins the given points.

6. $(0, 2)$ and $(6, 6)$

7. $(-2, 6)$ and $(5, 7)$

8. $(5, 3)$ and $(3, 7)$

9. (a, b) and (c, d)

10. Using the midpoint formula, find the length of the median of the trapezoid with vertices $A(0, 0)$, $B(12, 0)$, $C(10, 6)$, and $D(4, 6)$.

Find the slope of the line that passes through the given points.

11. $(1, 2)$; $(5, 6)$

12. $(0, 0)$; $(-6, 8)$

13. $(6, -6)$; $(-6, 6)$

14. $(-a, b)$; $(-c, -d)$

Find the equation of each line below.

15. The line that passes through the points $(-3, 6)$ and $(10, -2)$.

16. The line with slope $\frac{2}{3}$ and y-intercept 5.

17. The line with y-intercept -6, and x-intercept 10.

18. A line passes through the points $(-2, 1)$ and $(4, 8)$. Where does the line intersect the x-axis? the y-axis?

19. Find two values of j such that the points $(3, 4)$, $(0, j)$, and $(j, 10)$ are collinear.