

9-1 Practice

Midpoint and Distance Formulas

Find the midpoint of the line segment with endpoints at the given coordinates.

- $(8, -3), (-6, -11)$
- $(-14, 5), (10, 6)$
- $(-7, -6), (1, -2)$
- $(8, -2), (8, -8)$
- $(9, -4), (1, -1)$
- $(3, 3), (4, 9)$
- $(4, -2), (3, -7)$
- $(6, 7), (4, 4)$
- $(-4, -2), (-8, 2)$
- $(5, -2), (3, 7)$
- $(-6, 3), (-5, -7)$
- $(-9, -8), (8, 3)$
- $(2.6, -4.7), (8.4, 2.5)$
- $(-\frac{1}{3}, 6), (\frac{2}{3}, 4)$
- $(-2.5, -4.2), (8.1, 4.2)$
- $(\frac{1}{8}, \frac{1}{2}), (-\frac{5}{8}, -\frac{1}{2})$

Find the distance between each pair of points with the given coordinates.

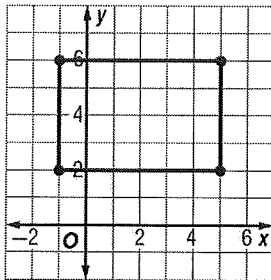
- $(5, 2), (2, -2)$
 - $(-2, -4), (4, 4)$
 - $(-3, 8), (-1, -5)$
 - $(0, 1), (9, -6)$
 - $(-5, 6), (-6, 6)$
 - $(-3, 5), (12, -3)$
 - $(-2, -3), (9, 3)$
 - $(-9, -8), (-7, 8)$
 - $(9, 3), (9, -2)$
 - $(-1, -7), (0, 6)$
 - $(10, -3), (-2, -8)$
 - $(-0.5, -6), (1.5, 0)$
 - $(\frac{2}{5}, \frac{3}{5}), (1, \frac{7}{5})$
 - $(-4\sqrt{2}, -\sqrt{5}), (-5\sqrt{2}, 4\sqrt{5})$
31. **GEOMETRY** Circle O has a diameter \overline{AB} . If A is at $(-6, -2)$ and B is at $(-3, 4)$, find the center of the circle and the length of its diameter.

32. **GEOMETRY** Find the perimeter of a triangle with vertices at $(1, -3)$, $(-4, 9)$, and $(-2, 1)$.

9-1 Word Problem Practice

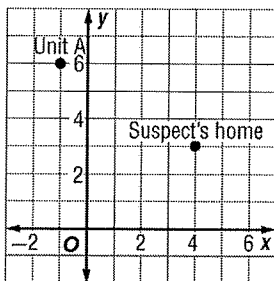
Midpoint and Distance Formulas

1. **EXHIBITS** Museum planners want to place a statue directly in the center of their Special Exhibits Room. Suppose the room is placed on a coordinate plane as shown. What are the coordinates of the center of this room?



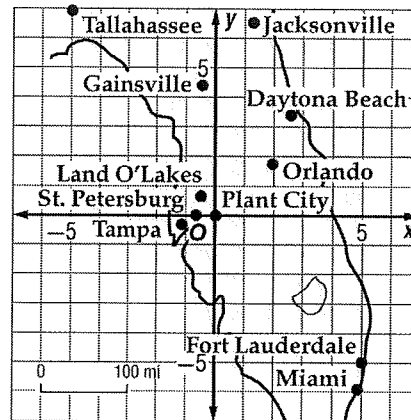
2. **WALKING** Laura starts at the origin. She walks 8 units to the right and then 12 units up. How far away from the origin is she? Round your answer to the nearest tenth.

3. **SURVEILLANCE** A grid is superimposed on a map of the area directly surrounding the home of a suspect. Detectives want to position themselves on opposite sides of the suspect's house. Coordinates are assigned to the suspect's home. Unit A is positioned at $(-1, 6)$ on the coordinate plane. Where should Unit B be located so that the suspect's home is centered between the two units?



4. **AIRPLANES** A grid is superimposed on a map of Texas. Dallas has coordinates $(200, 5)$ and Amarillo has coordinates $(-100, 208)$. If each unit represents 1 mile, how long will it take a plane flying at an average speed of 410 miles per hour to fly directly from Dallas to Amarillo? Round your answer to the nearest tenth of an hour.

5. **TRAVEL** The Martinez family is planning a trip from their home in Fort Lauderdale to Tallahassee. They plan to stop overnight at a location about halfway between the two cities.



- a. What are the coordinates of the point halfway between Tallahassee and Fort Lauderdale? Which of the cities on the map is closest to this point?
- b. How many miles is it from Fort Lauderdale to Tallahassee? Round your answer to the nearest mile