

3.3

Midpoint of a Line Segment in the Plane

• Example 1

(a) Find the midpoint of (2, 0) and (10, 0).

$$M = \left(\frac{2 + 10}{2}, \frac{0 + 0}{2} \right) = (6, 0)$$

(b) Find the midpoint of (5, 7) and (-1, -3).

$$M = \left(\frac{5 + (-1)}{2}, \frac{7 + (-3)}{2} \right) = (2, 2)$$

(c) Find the midpoint of (3, -5) and (-2, -2).

$$M = \left(\frac{3 + (-2)}{2}, \frac{(-5) + (-2)}{2} \right) = \left(\frac{1}{2}, -\frac{7}{2} \right)$$

• • • CHECK YOURSELF 1

Find the midpoint for each pair of points.

a. (0, 6) and (0, -4).

b. (3, -6) and (-5, 4).

c. (-1, -5) and (-2, 8).

• • • CHECK YOURSELF ANSWER

1. (a) (0, 1); (b) (-1, -1); (c) $\left(-\frac{3}{2}, \frac{3}{2}\right)$.

3.3 Exercises

Name _____

Section _____

Date _____

A N S W E R S

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Find the midpoint for each pair of points.

1. $(0, 9)$ and $(0, -5)$

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

3. $(1, -2)$ and $(5, -8)$

4. $(-2, 8)$ and $(-4, -2)$

5. $(2, -8)$ and $(-1, -5)$

6. $(-3, 5)$ and $(2, -6)$

7. $(1, 4)$ and $(7, 5)$

8. $(-2, 9)$ and $(5, 11)$

9. $(3, 8)$ and $(-9, 12)$

10. $(-4, -4)$ and $(8, -2)$