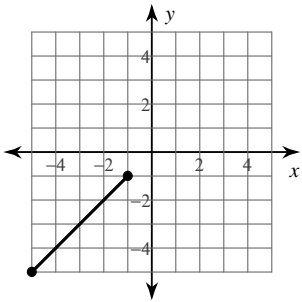


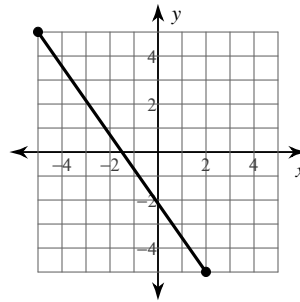
The Midpoint Formula

Find the midpoint of each line segment.

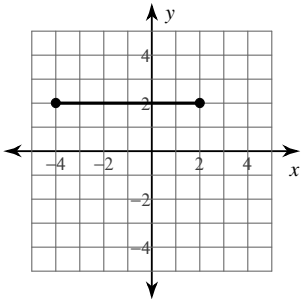
1)



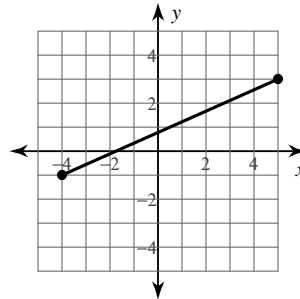
2)



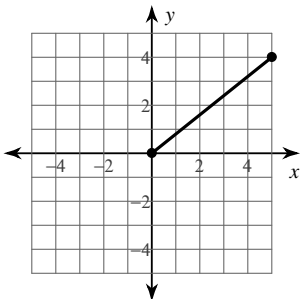
3)



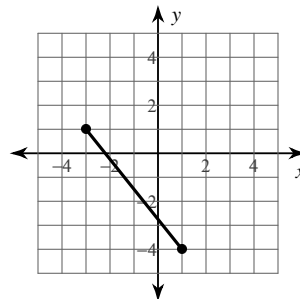
4)



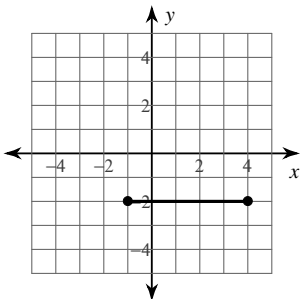
5)



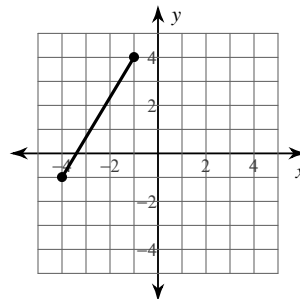
6)



7)



8)



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

9) $(-4, 4), (5, -1)$

10) $(-1, -6), (-6, 5)$

11) $(2, 4), (1, -3)$

12) $(-4, 4), (-2, 2)$

13) $(5, 2), (-4, -3)$

14) $(-1, 1), (5, -5)$

15) $(2, -1), (-6, 0)$

16) $(-3.1, -2.8), (-4.92, -3.3)$

17) $(-5.1, -2), (1.4, 1.7)$

18) $(4.9, -1.3), (-5.2, -0.6)$

19) $(5.1, 5.71), (6, 3.6)$

20) $(3.1, -2.1), (-0.52, -0.6)$

Find the other endpoint of the line segment with the given endpoint and midpoint.

21) Endpoint: $(-1, 9)$, midpoint: $(-9, -10)$

22) Endpoint: $(2, 5)$, midpoint: $(5, 1)$

23) Endpoint: $(5, 2)$, midpoint: $(-10, -2)$

24) Endpoint: $(9, -10)$, midpoint: $(4, 8)$

25) Endpoint: $(-9, 7)$, midpoint: $(10, -3)$

26) Endpoint: $(-6, 4)$, midpoint: $(4, 8)$

Critical thinking questions:

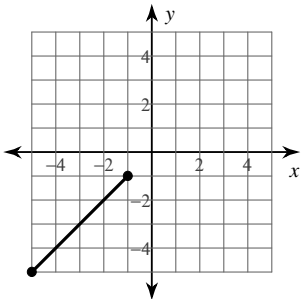
27) Find the point that is one-fourth of the way from $(2, 4)$ to $(10, 8)$.

28) One endpoint of a line segment is $(8, -1)$. The point $(5, -2)$ is one-third of the way from that endpoint to the other endpoint. Find the other endpoint.

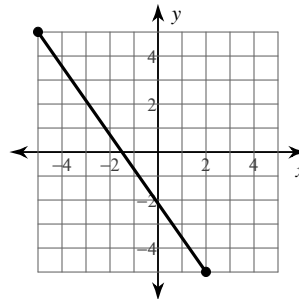
The Midpoint Formula

Find the midpoint of each line segment.

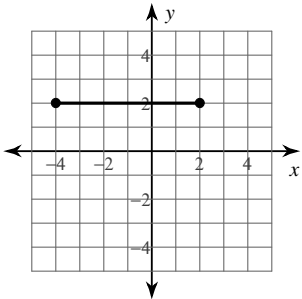
1) $(-3, -3)$



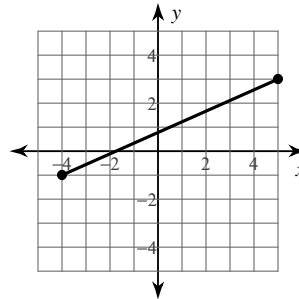
2) $(-1\frac{1}{2}, 0)$



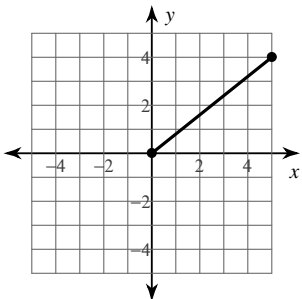
3) $(-1, 2)$



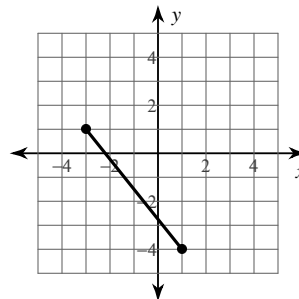
4) $(\frac{1}{2}, 1)$



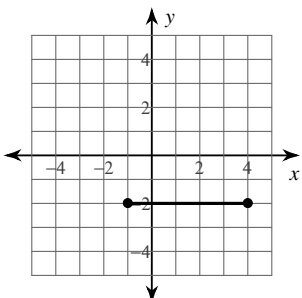
5) $(2\frac{1}{2}, 2)$



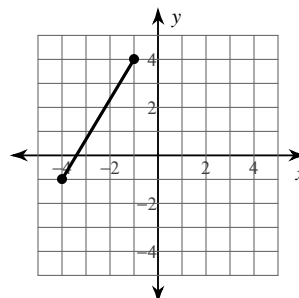
6) $(-1, -1\frac{1}{2})$



7) $(1\frac{1}{2}, -2)$



8) $(-2\frac{1}{2}, 1\frac{1}{2})$



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

9) $(-4, 4), (5, -1)$

$(\frac{1}{2}, 1\frac{1}{2})$

10) $(-1, -6), (-6, 5)$

$(-3\frac{1}{2}, -\frac{1}{2})$

11) $(2, 4), (1, -3)$

$(1\frac{1}{2}, \frac{1}{2})$

12) $(-4, 4), (-2, 2)$

$(-3, 3)$

13) $(5, 2), (-4, -3)$

$$\left(\frac{1}{2}, -\frac{1}{2}\right)$$

15) $(2, -1), (-6, 0)$

$$\left(-2, -\frac{1}{2}\right)$$

17) $(-5.1, -2), (1.4, 1.7)$

$$(-1.85, -0.15)$$

19) $(5.1, 5.71), (6, 3.6)$

$$(5.55, 4.655)$$

14) $(-1, 1), (5, -5)$

$$(2, -2)$$

16) $(-3.1, -2.8), (-4.92, -3.3)$

$$(-4.01, -3.05)$$

18) $(4.9, -1.3), (-5.2, -0.6)$

$$(-0.15, -0.95)$$

20) $(3.1, -2.1), (-0.52, -0.6)$

$$(1.29, -1.35)$$

Find the other endpoint of the line segment with the given endpoint and midpoint.

21) Endpoint: $(-1, 9)$, midpoint: $(-9, -10)$

$$(-17, -29)$$

22) Endpoint: $(2, 5)$, midpoint: $(5, 1)$

$$(8, -3)$$

23) Endpoint: $(5, 2)$, midpoint: $(-10, -2)$

$$(-25, -6)$$

24) Endpoint: $(9, -10)$, midpoint: $(4, 8)$

$$(-1, 26)$$

25) Endpoint: $(-9, 7)$, midpoint: $(10, -3)$

$$(29, -13)$$

26) Endpoint: $(-6, 4)$, midpoint: $(4, 8)$

$$(14, 12)$$

Critical thinking questions:

27) Find the point that is one-fourth of the way from $(2, 4)$ to $(10, 8)$.

$$(4, 5)$$

28) One endpoint of a line segment is $(8, -1)$. The point $(5, -2)$ is one-third of the way from that endpoint to the other endpoint. Find the other endpoint.

$$(-1, -4)$$