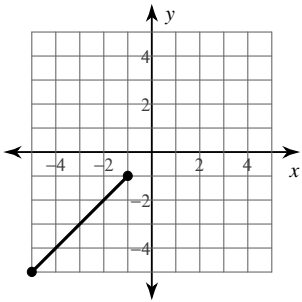


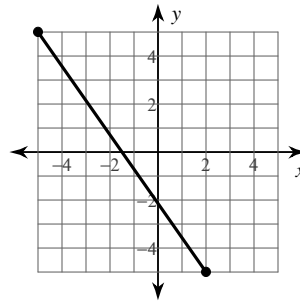
The Midpoint Formula

Find the midpoint of each line segment.

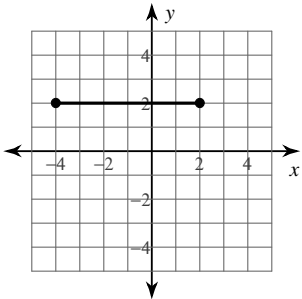
1)



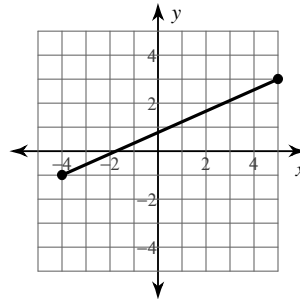
2)



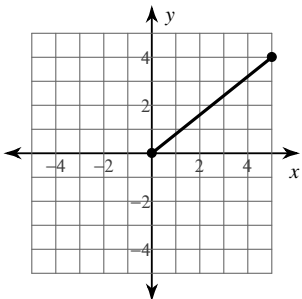
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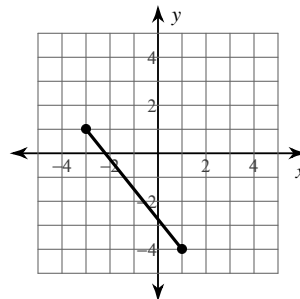
4)



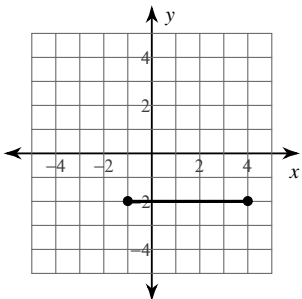
5)



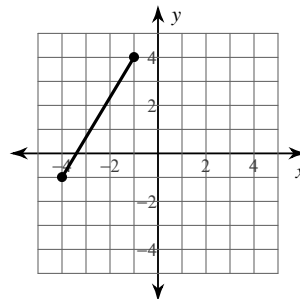
6)



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: $(4, 8)$

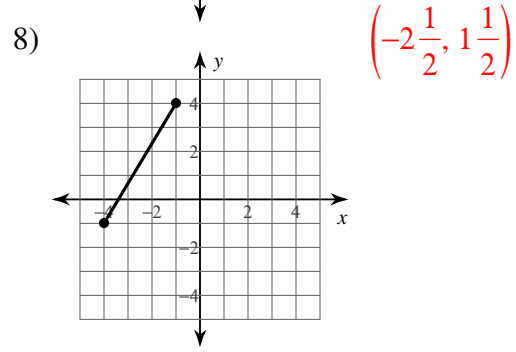
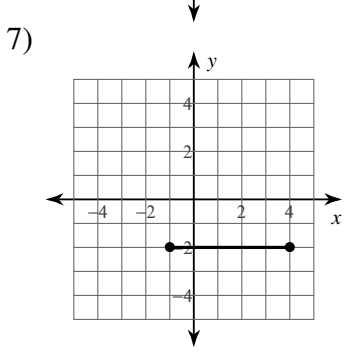
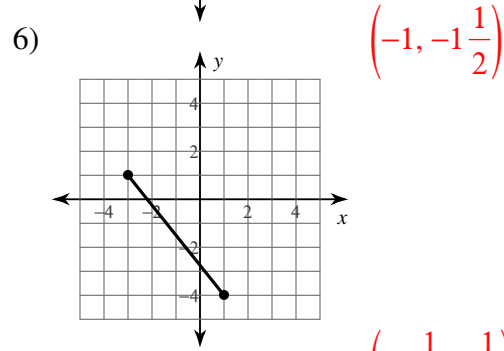
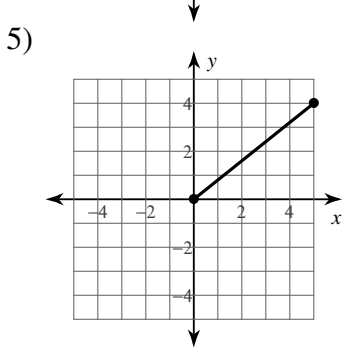
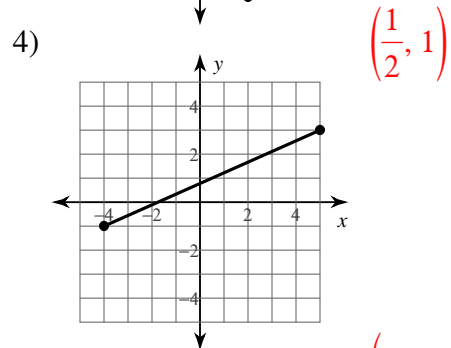
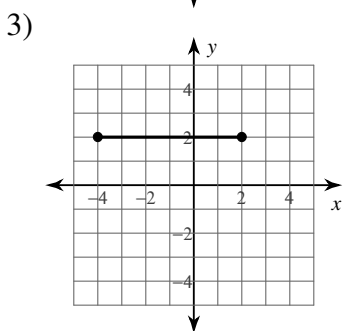
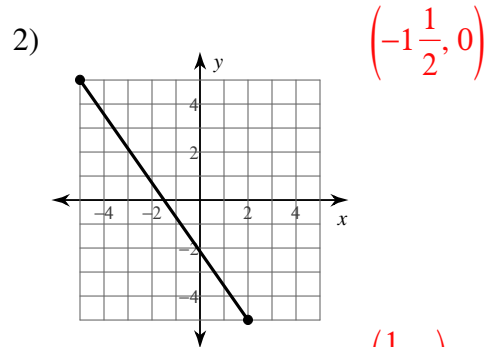
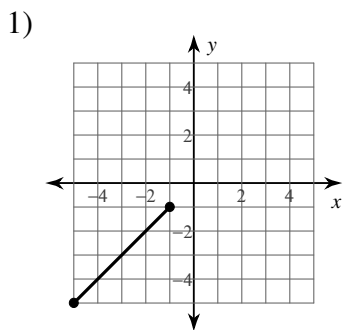
Critical thinking questions:

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.



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.

$$(-1, -4)$$