Test Bank for Intermediate Algebra A STEM Approach 1st Woodbury

Access Complete Test Bank for Intermediate Algebra A STEM Approach 1st Woodbury

Exam

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Decide whether or not the ordered pair is a solution of the equation.

1) (5, 5), $2x + y = 15$ 1) _____

A) Yes B) No

2) (2, 2), $5x + 2y = 14$ 2) _____

A) Yes B) No

3) (2, 5), $4x - 5y = 33$ 3) _____

A) Yes B) No

4) (4, 2), $2x + 11y = 30$ 4) _____

A) Yes B) No

5) (1, 5), $12x - 14y = -58$ 5) _____

A) Yes B) No

6) (−7, 0), $-6x + y = -42$ 6) _____

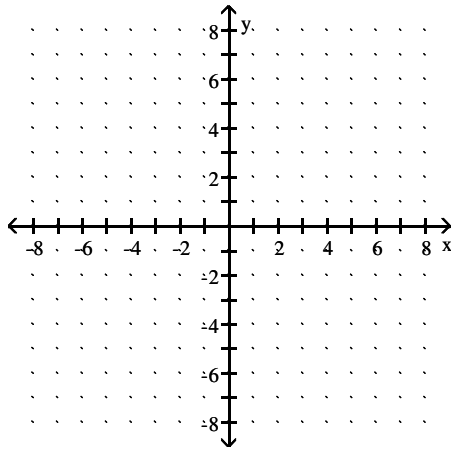
A) Yes B) No

7) (0, 5), $5x - 4y = 20$ 7) _____

A) Yes B) No

Plot the points on the rectangular coordinate plane.

8) (5, 6), (−2, 5) 8) _____



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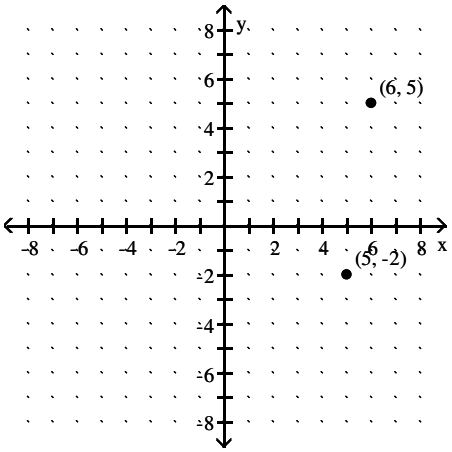
A)



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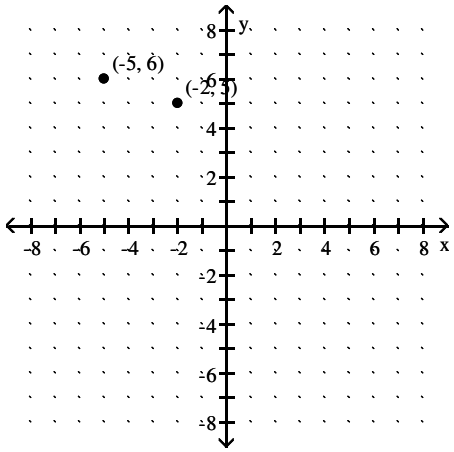

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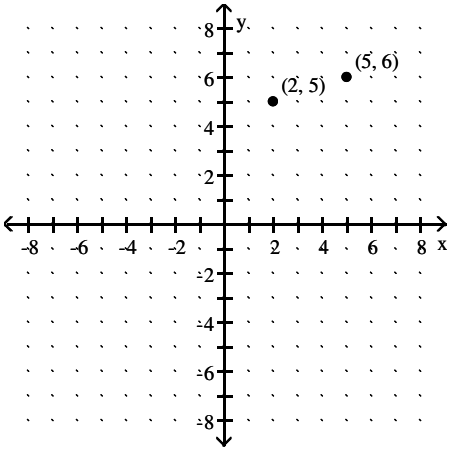

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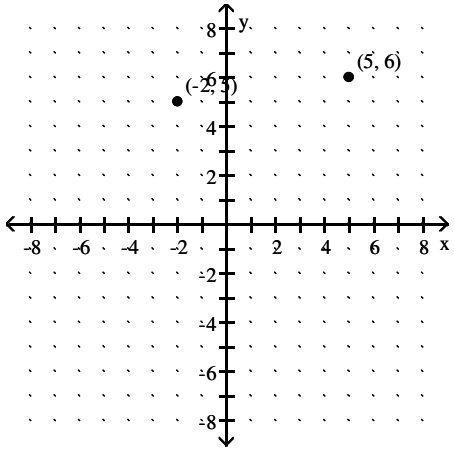
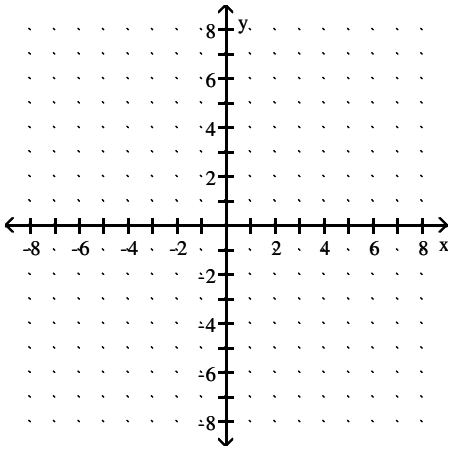


9) (3, –4), (–5, 2)

9) _____



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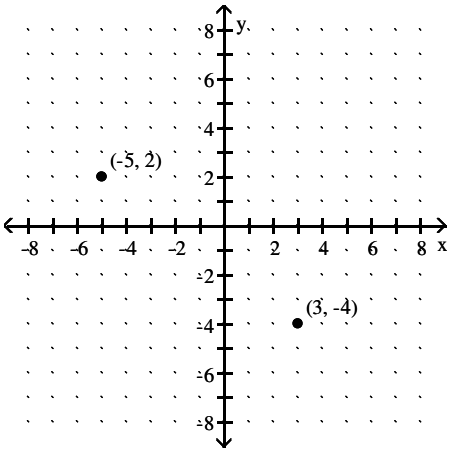
A)



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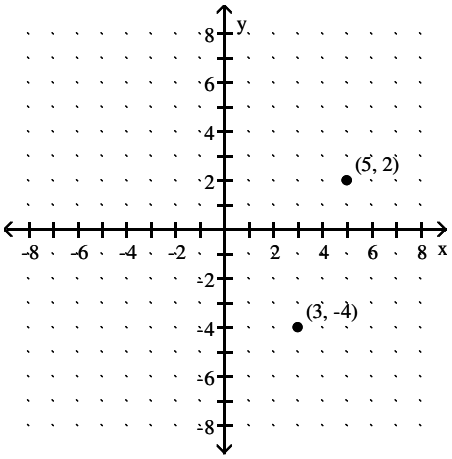

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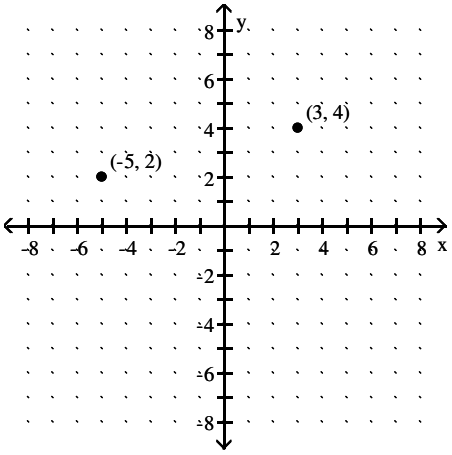

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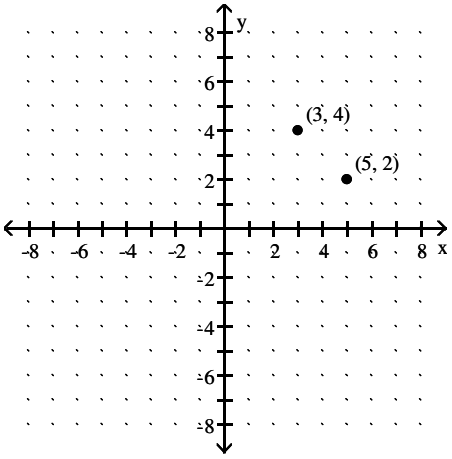
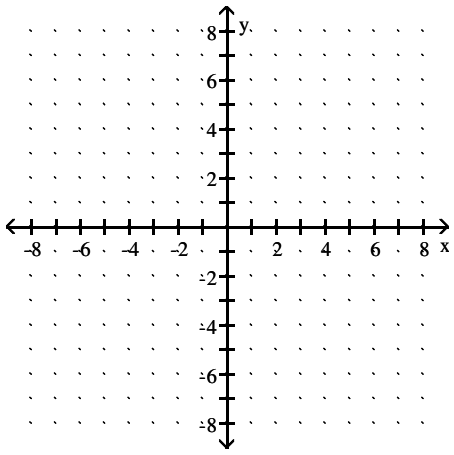


10) (–4, –3), (–3, 4)

10) _____



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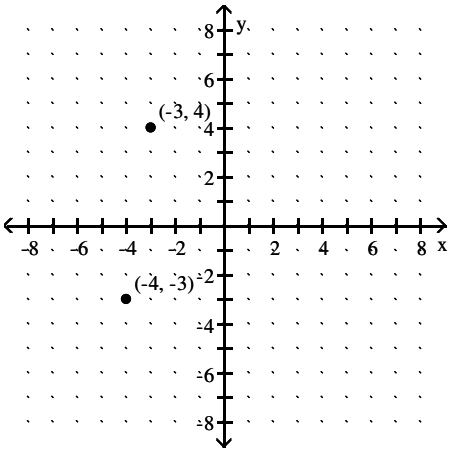
A)



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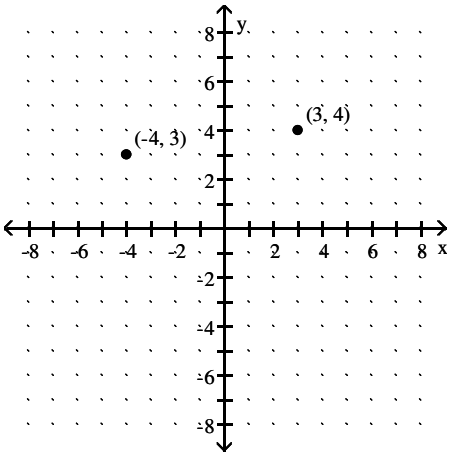

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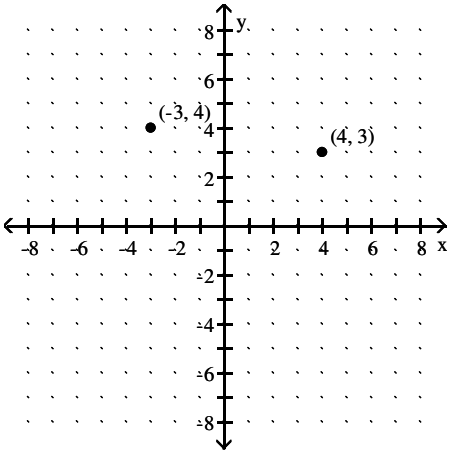

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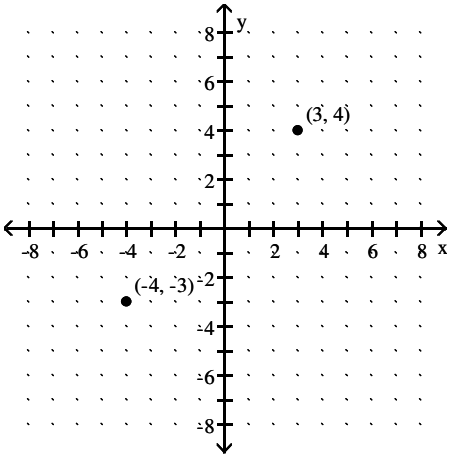
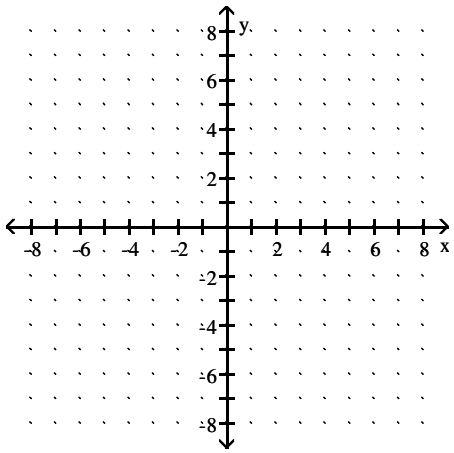


11) (1, 1), (4, –3) 11) _____



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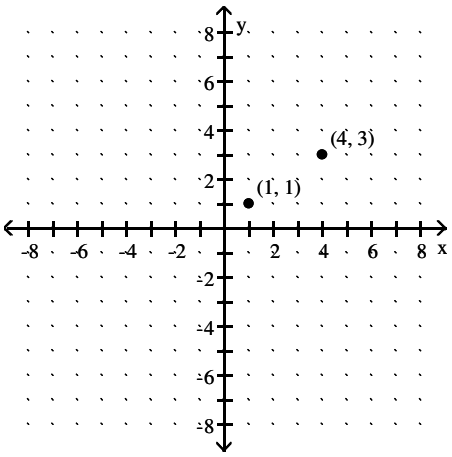
A)



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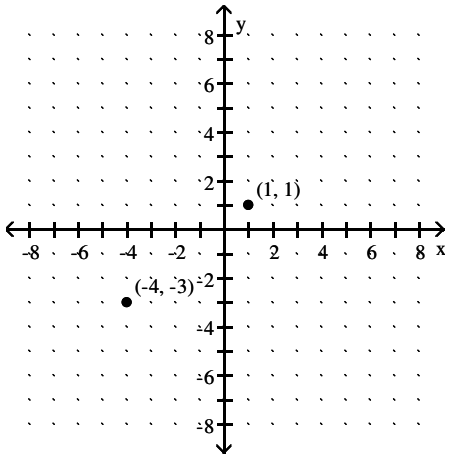

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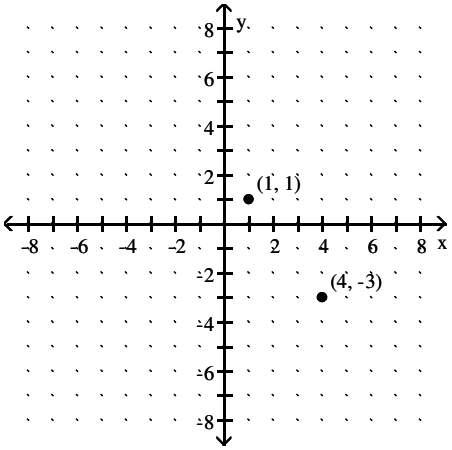

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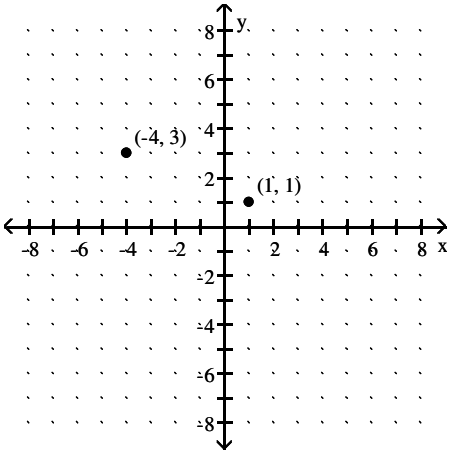
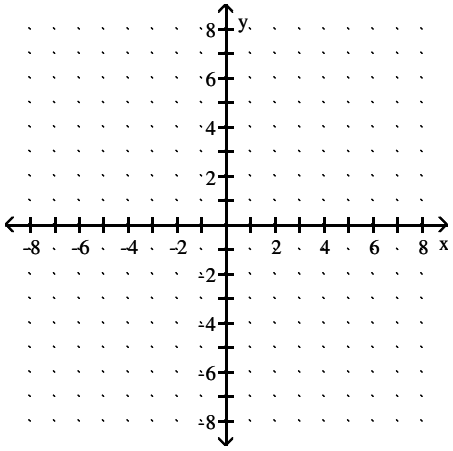


12) (5, 4), (–6, –2)

12) _____



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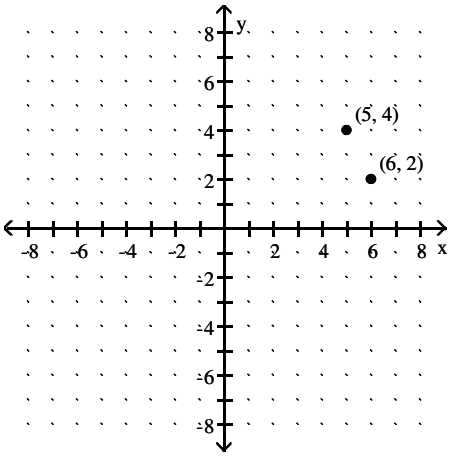
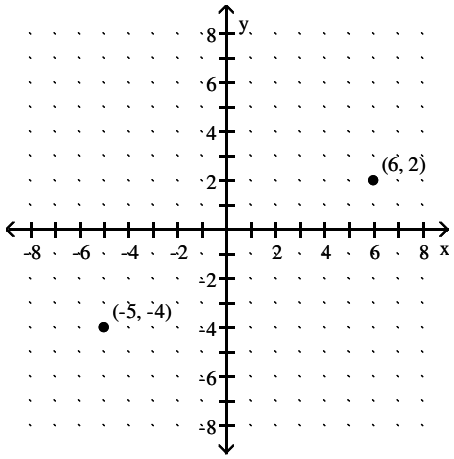
A)



B)



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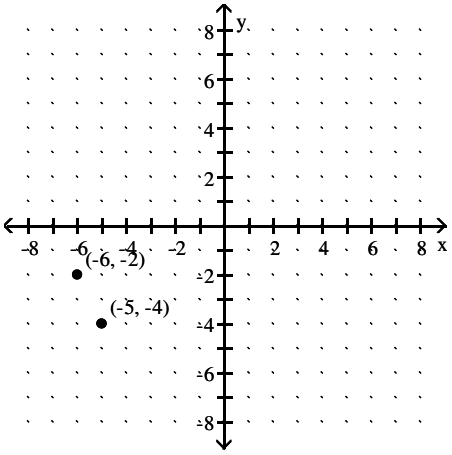

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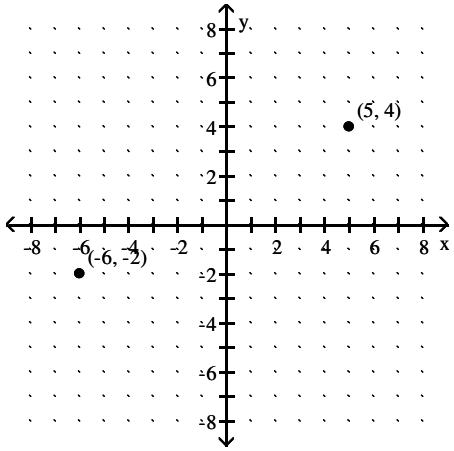
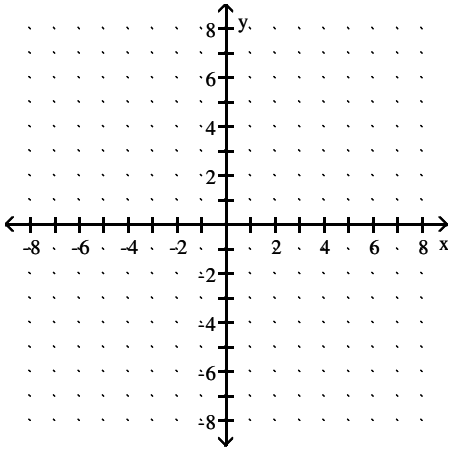


13) (5, 0), (0, 4)

13) _____



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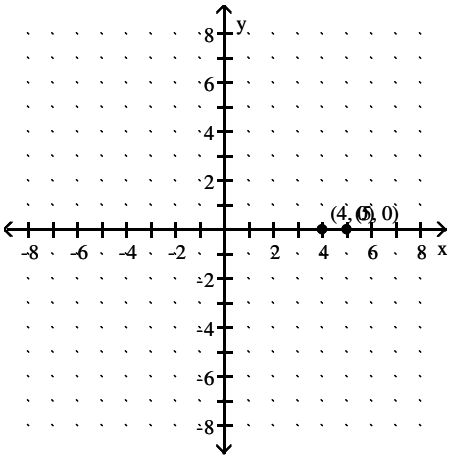
A)



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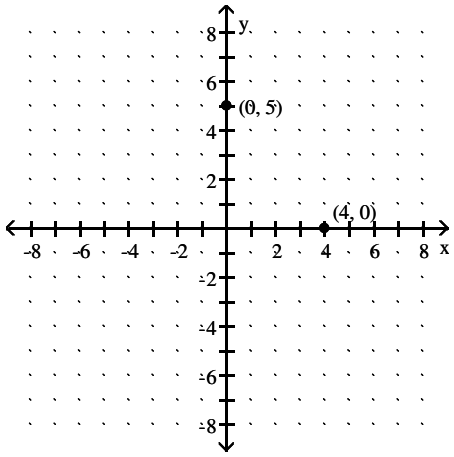

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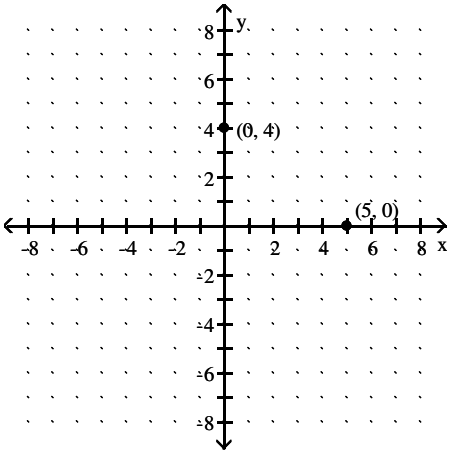

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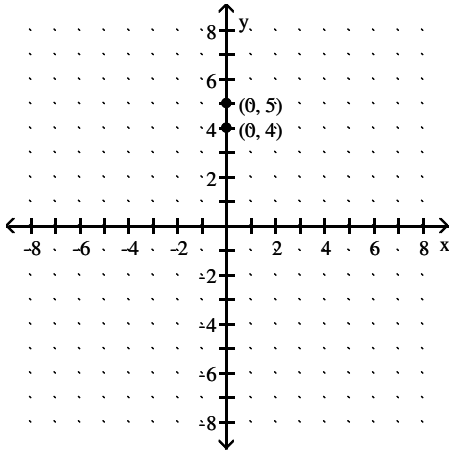
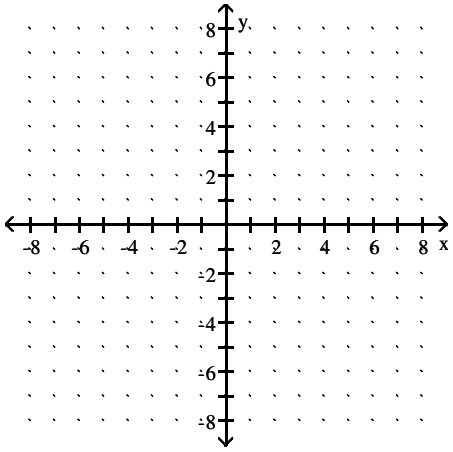


14) (0, 1), (6, 0)

14) _____



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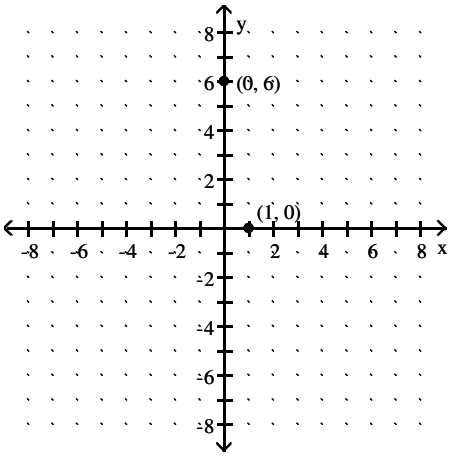
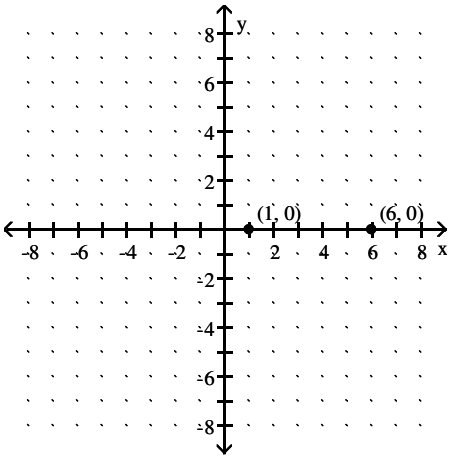
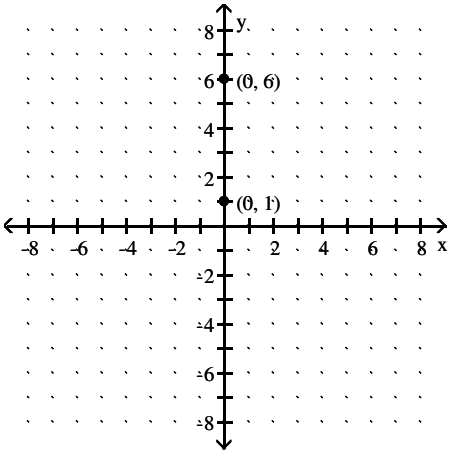
A)



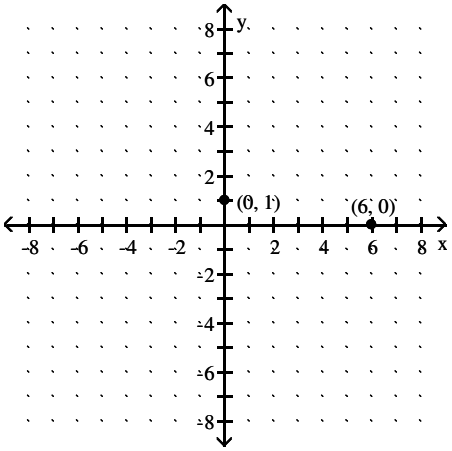
B)



C)

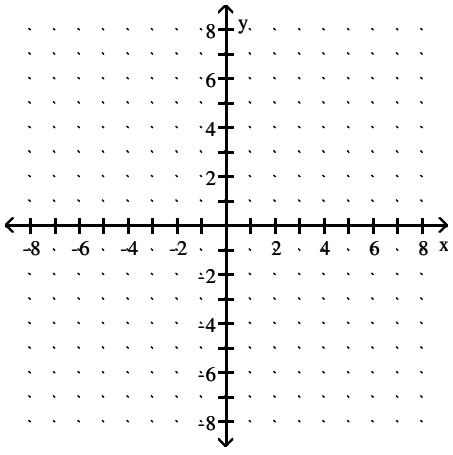


D)



15) $\left(-\frac{3}{2}, -5\right)$, $(-5, 2)$

15) _____



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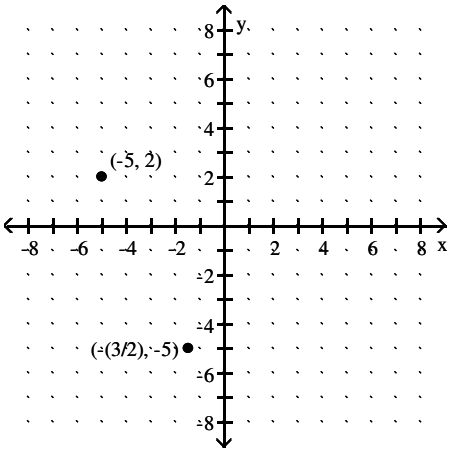
A)



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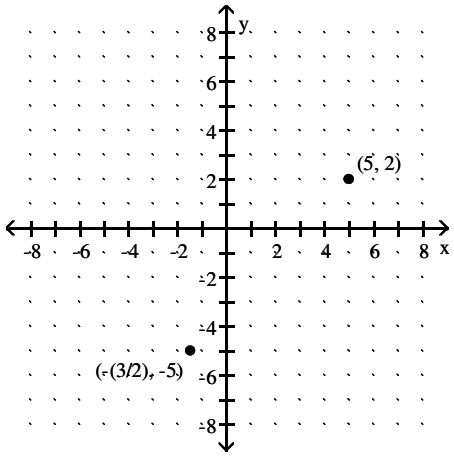
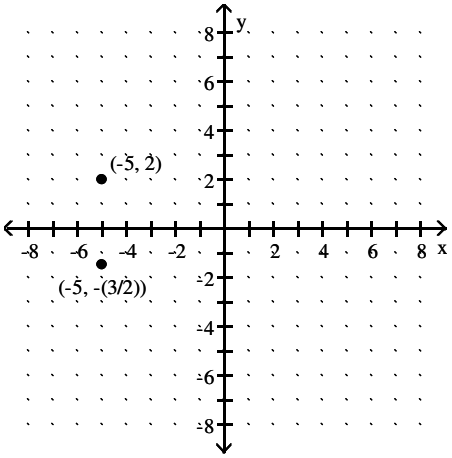
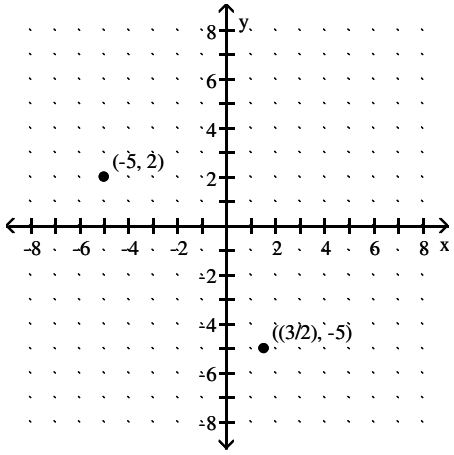


C)

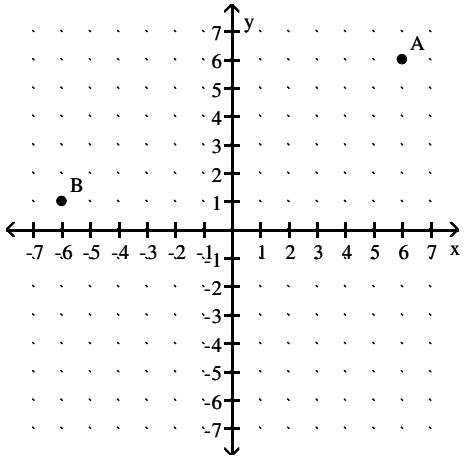


D)



Find the coordinates of the labeled points.

16) 16) _____



A) A(6, 1); B(6, 1)

B) A(6, 6); B(−6, 1)

C) A(6, 28); B(1, −6)

D) A(6, 6); B(1, −6)

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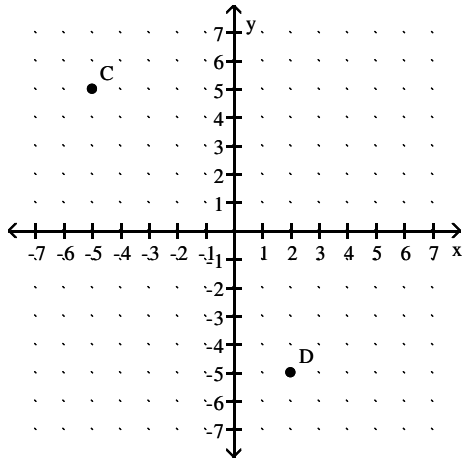
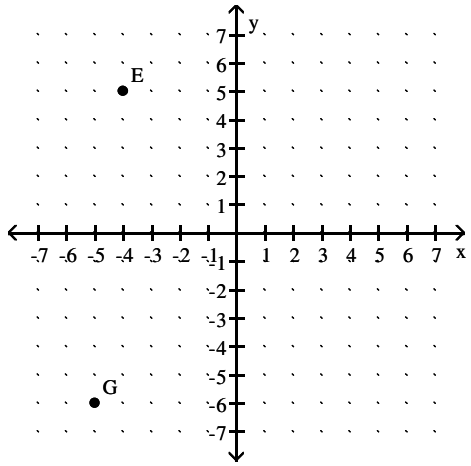
17) 17) _____



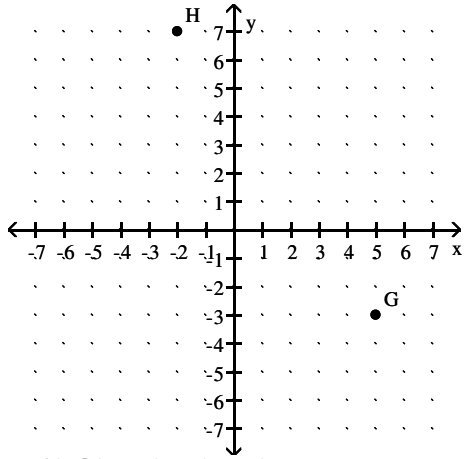
A) C(–5, 5); D(–5, 2)
B) C(–5, 5); D(2, –5)
C) C(5, 6); D(–5, 2)
D) C(–5, –5); D(5, –5)

18) 18) _____



A) E(–4, 5); G(–6, –5)
B) E(–4, 5); G(–5, –6)
C) E(–4, –6); G(5, –6)
D) E(5, 8); G(–6, –5)

19) 19) _____



A) G(5, –3); H(–2, 7)
B) G(5, –3); H(7, –2)
C) G(5, 7); H(–3, 7)
D) G(–3, 26); H(7, –2)

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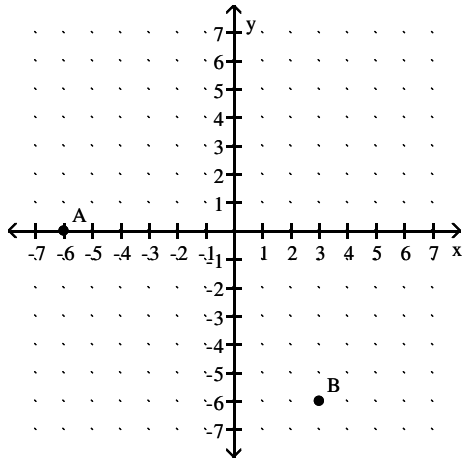
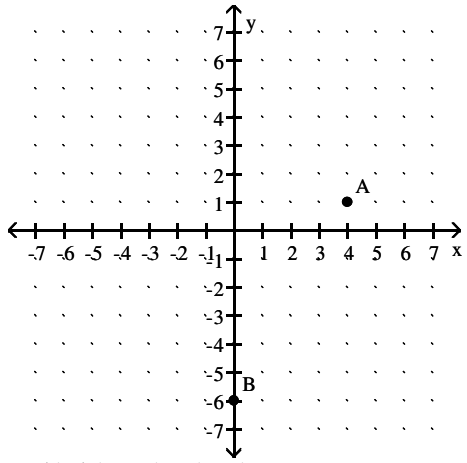
20) 20) _____



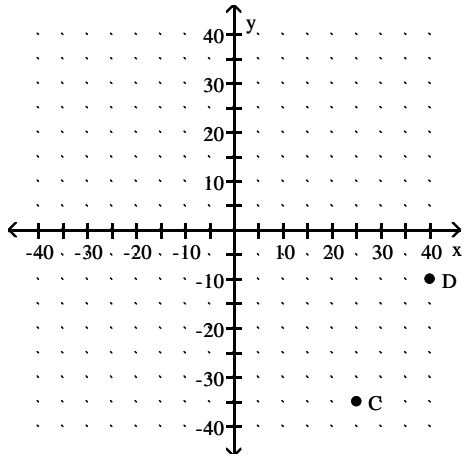
A) A(–6, 0); B(–3, –6)
B) A(–6, 0); B(3, –6)
C) A(6, 0); B(3, –6)
D) A(–6, 6); B(3, –6)

21) 21) _____



A) A(–4, 1); B(0, 6)
B) A(4, 1); B(0, –6)
C) A(4, 1); B(0, 6)
D) A(4, –1); B(1, –6)

22) 22) _____



A) C(–35, –25); D(–10, –40)
B) C(25, –35); D(40, –10)
C) C(–35, 25); D(–10, 40)
D) C(–25, –35); D(–40, –10)

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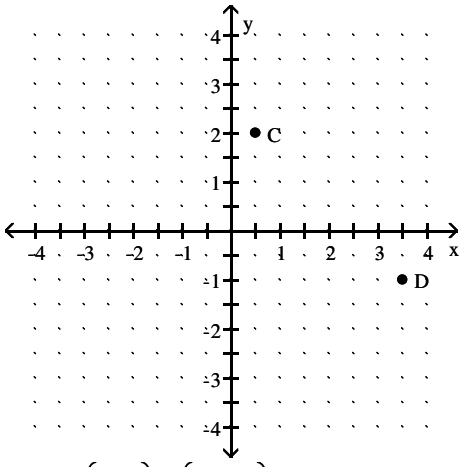
23) 23) _____



A) $C\left(\frac{1}{2}, 2\right); D\left(\frac{7}{2}, -1\right)$

B) $C\left(2, -\frac{1}{2}\right); D\left(-1, -\frac{7}{2}\right)$

C) $C\left(2, \frac{1}{2}\right); D\left(-1, \frac{7}{2}\right)$

D) $C\left(-\frac{1}{2}, 2\right); D\left(-\frac{7}{2}, -1\right)$

Determine which quadrant (I, II, III, or IV) the point is located in.

24) (17, 20) 24) _____

A) I B) II C) III D) IV

25) (–18, 2) 25) _____

A) I B) II C) III D) IV

26) (–4, –13) 26) _____

A) I B) II C) III D) IV

27) (9, –16) 27) _____

A) I B) II C) III D) IV

28) $\left(-\frac{1}{2}, \frac{1}{3}\right)$ 28) _____

A) I B) II C) III D) IV

29) (400, –200) 29) _____

A) I B) II C) III D) IV

Plot the ordered pairs associated with the given data. (Let the first row be x and the second row be y.)

30) Suppose that the speed of a car, measured in miles per hour (mph), is monitored for some short peri 30) _____
time after the driver applies the brakes. The following table relates the speed of the car to the amour
time, measured in seconds (sec), elapsed from the moment that the brakes are applied.

Time (sec)	2	4	6	8	10
Speed (mph)	47	32	22	12	7

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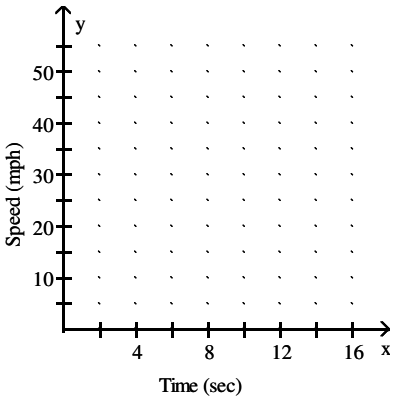

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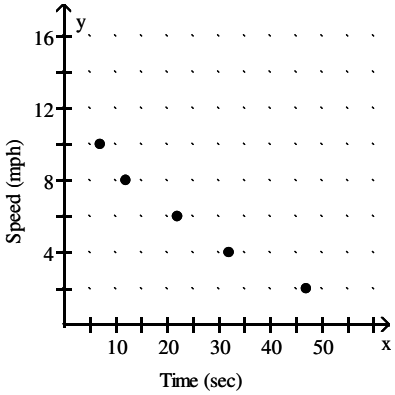

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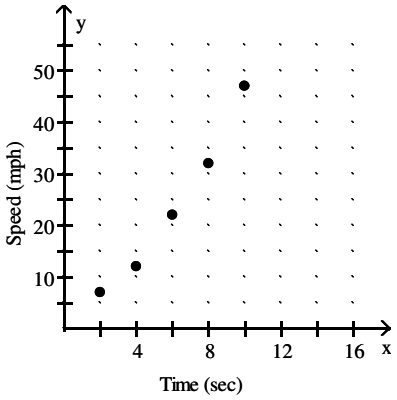

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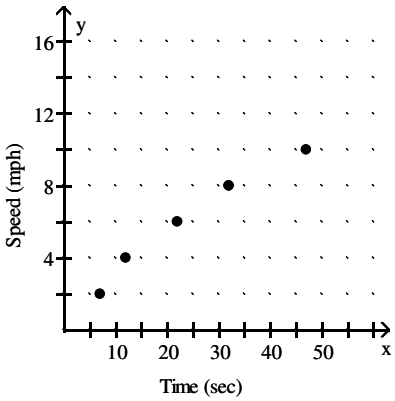
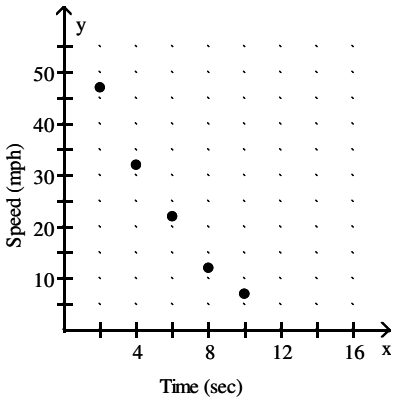


D)



31) The table below shows the number of bacteria cells (in 1000s) counted x minutes after the start of an experiment. 31) _____

Time (min)	15	20	25	30	35
Cells (1000s)	6	10	18	28	52

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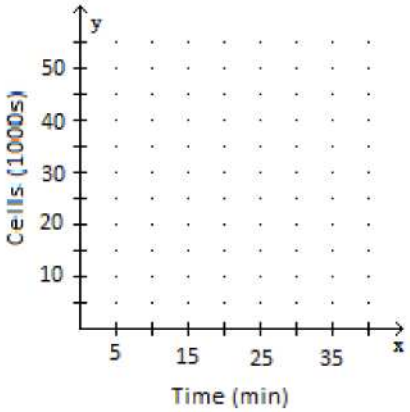
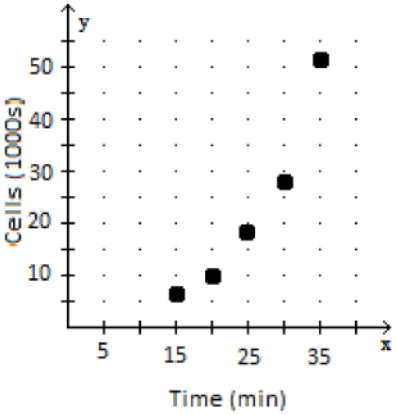


A)



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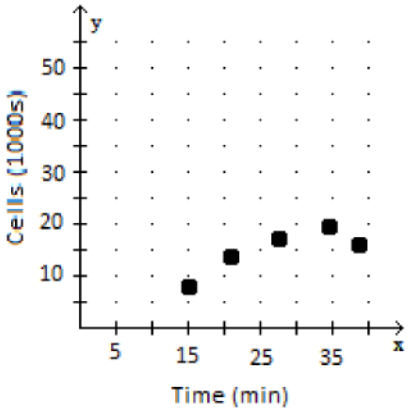

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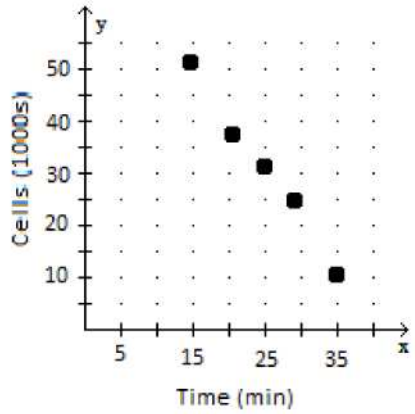
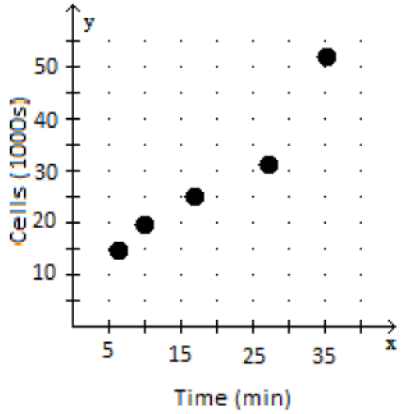
C)



D)



Using the given coordinate, find the other coordinate that makes the ordered pair a solution of the equation.

32) $4x + y = -9$, $(0, ____)$ 32) _____

A) –9 B) –3 C) –36 D) –13

33) $9x + y = -48$, $(____, -48)$ 33) _____

A) 9 B) 0 C) –6 D) –432

34) $8x + 4y = 4$, $(1, ____)$ 34) _____

A) –1 B) 1 C) 3 D) 0

35) $-2x + 8y = -8$, $(____, -1)$ 35) _____

A) $-\frac{5}{4}$ B) 0 C) $\frac{5}{4}$ D) 8

36) $4x - 6y = -32$, $(-5, ____)$ 36) _____

A) 2 B) 12 C) –12 D) –2

37) $-4x - 5y = -45$, $(5, ____)$ 37) _____

A) 25 B) –5 C) –25 D) 5

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38) $2x + \frac{1}{7}y = -3$, (___,–7) 38) _____

A) –1 B) 2 C) 1 D) – 2

39) $\frac{1}{5}x + 3y = 9$, (–15, ____) 39) _____

A) 12 B) –12 C) $\frac{3}{4}$ D) 4

Complete the table with ordered pairs that are solutions.

40) $4x + y = -22$ 40) _____

x	y
–6	
0	
1	

A)

x	y
–6	–6
0	–22
1	–26

B)

x	y
–6	2
0	–22
1	–26

C)

x	y
–6	2
0	0
1	–26

D)

x	y
–6	2
0	–26
1	–26

41) $y = -x + 6$ 41) _____

x	y
4	
6	
0	

A)

x	y
4	2
6	2
0	6

B)

x	y
4	2
6	0
0	6

C)

x	y
4	8
6	0
0	6

D)

x	y
4	4
6	6
0	0

42) $6x + y = -52$ 42) _____

x	y
–9	
	–52
1	

A)

x	y
–9	2
0	–52
1	–58

B)

x	y
–9	–9
0	–52
1	–58

C)

x	y
–9	2
0	–56
1	–58

D)

x	y
–9	2
–52	0
1	–58

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43) $x - 2y = 4$ 43) _____

x	y
0	
	0
2	

A)

x	y
−2	0
4	0
2	2

B)

x	y
0	−2
4	0
2	−1

C)

x	y
0	−2
−4	0
2	2

D)

x	y
0	2
4	0
2	1

44) $y = 4x - 7$ 44) _____

x	y
0	
2	
4	

A)

x	y
0	7
2	15
4	23

B)

x	y
0	−7
2	15
4	23

C)

x	y
0	−7
2	1
4	9

D)

x	y
0	7
2	1
4	9

45) $y = \frac{1}{4}x - 2$ 45) _____

x	y
−4	
0	
8	

A)

x	y
−4	1
0	2
8	0

B)

x	y
−4	−1
0	−2
8	4

C)

x	y
−4	−3
0	−2
8	0

D)

x	y
−4	4
0	2
8	4

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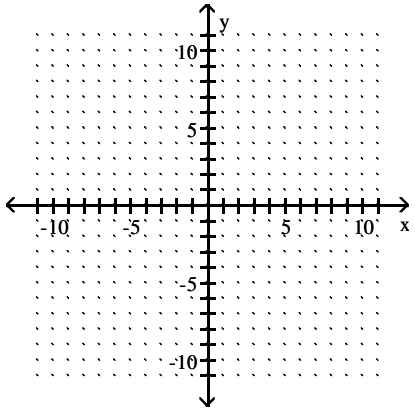
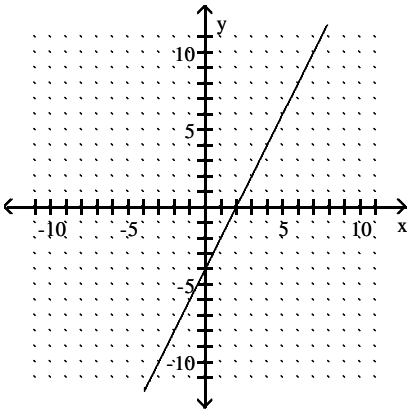
Find three ordered pairs that are solutions of the given linear equation, and use them to graph the equation.

46) $y = 2x + 4$ 46) _____



A)



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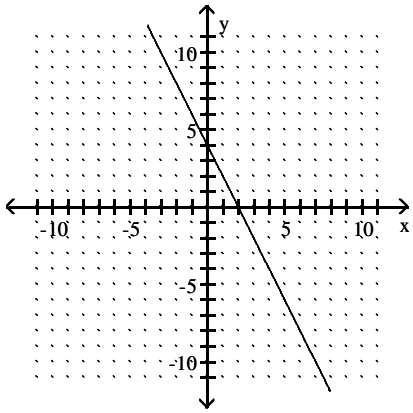
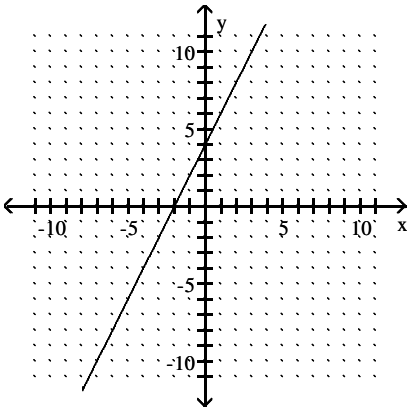
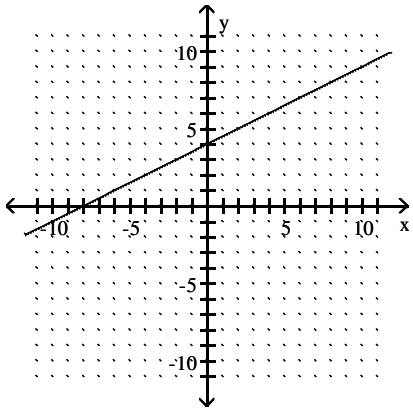


C)



D)



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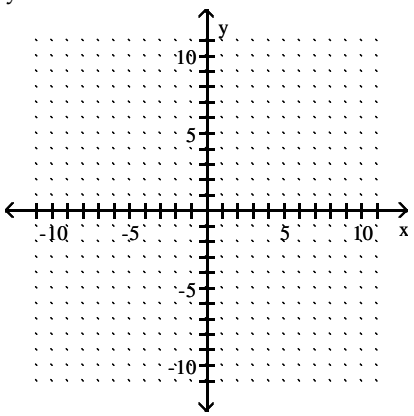
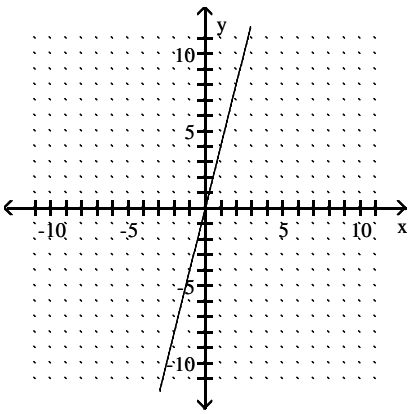
47) $y = 4x - 3$ 47) _____



A)



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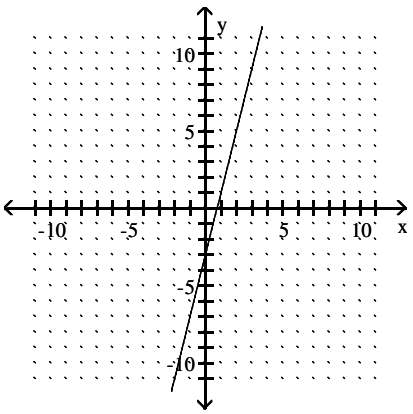

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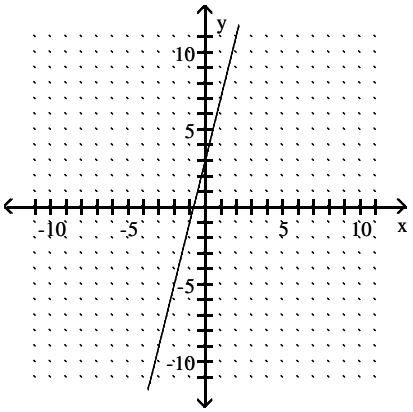
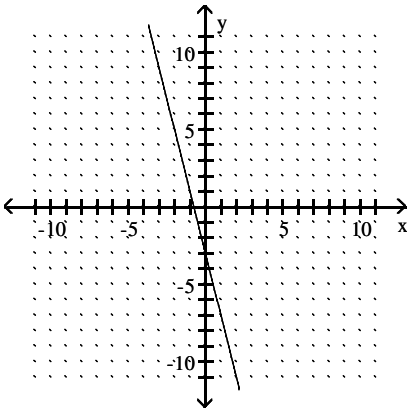


D)



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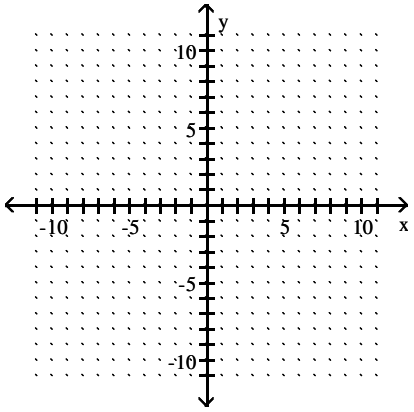
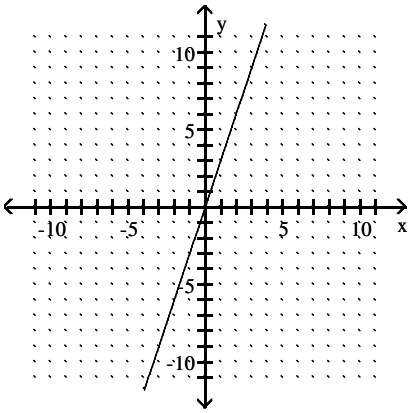
48) $y = -3x$ 48) _____



A)



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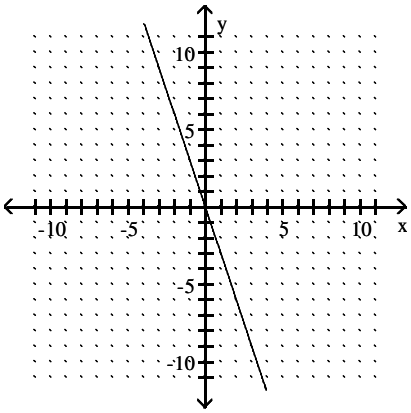
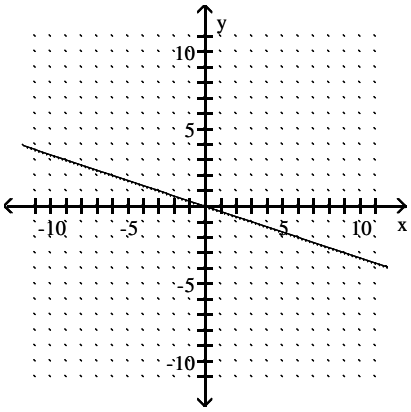


C)



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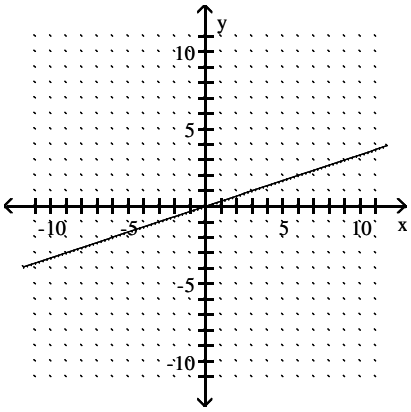

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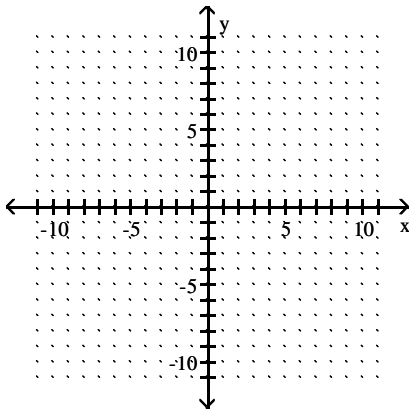
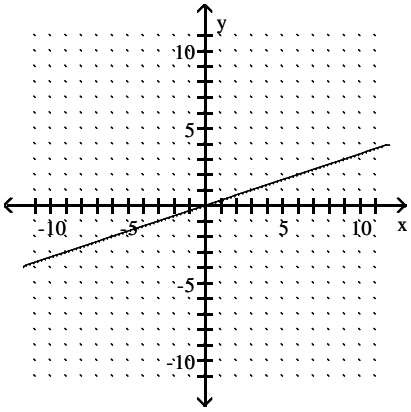
49) $y = \frac{1}{5}x$ 49) _____



A)



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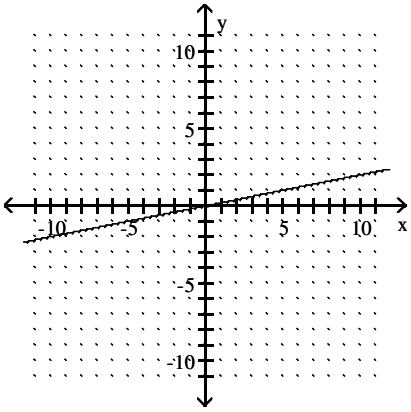
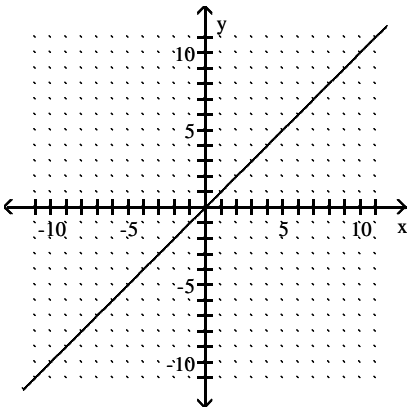


C)



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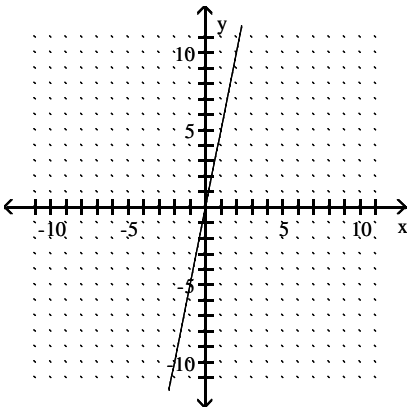

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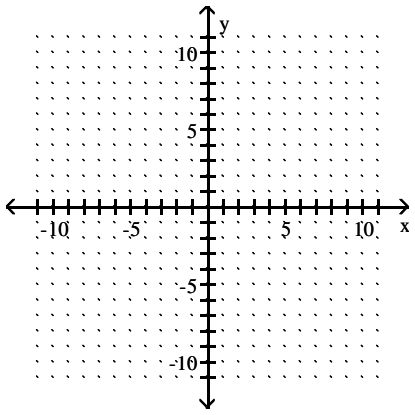
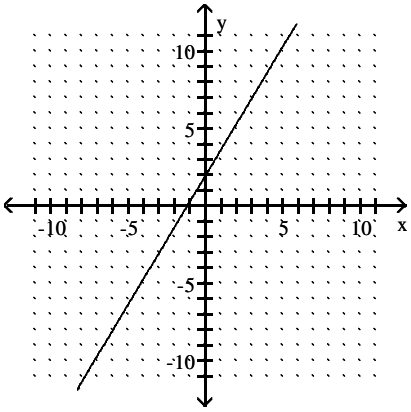
50) $y = \frac{5}{3}x - 2$ 50) _____



A)



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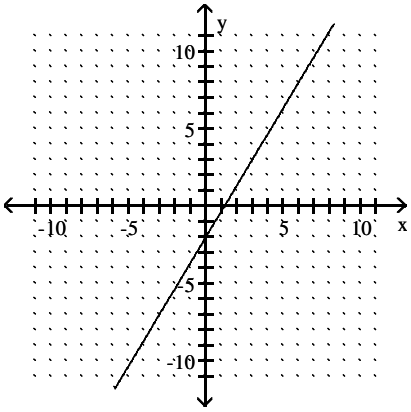

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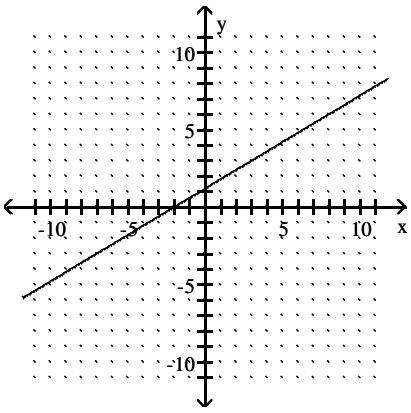

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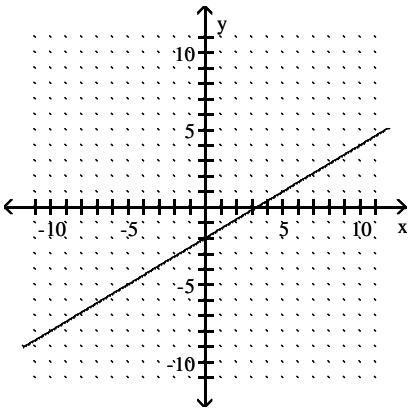

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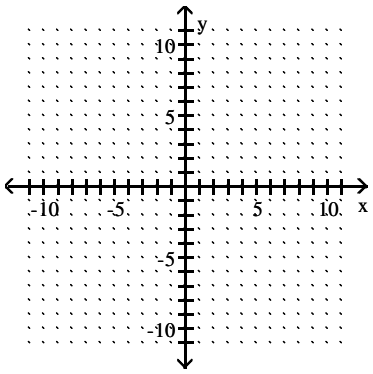
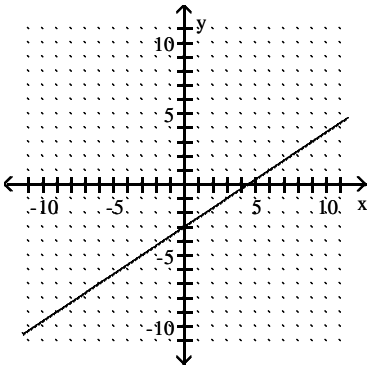
51) $y = -\frac{2}{3}x - 3$ 51) _____



A)



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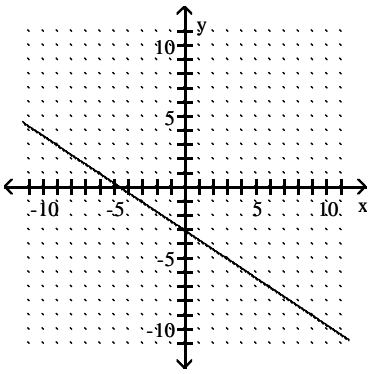

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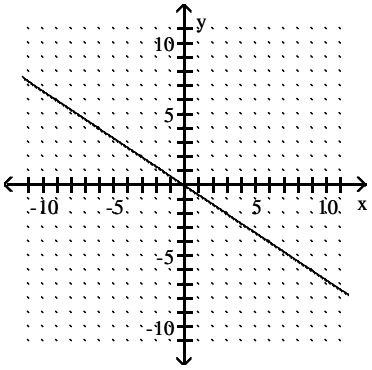

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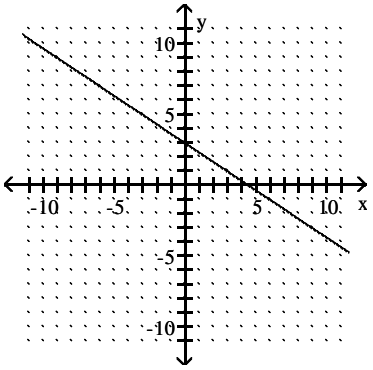

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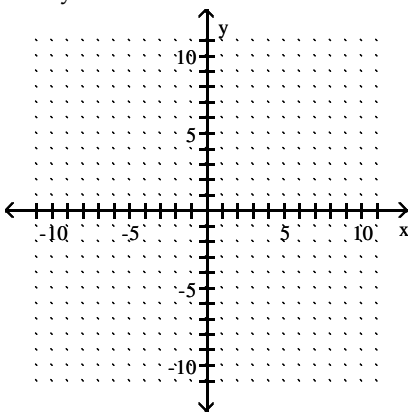
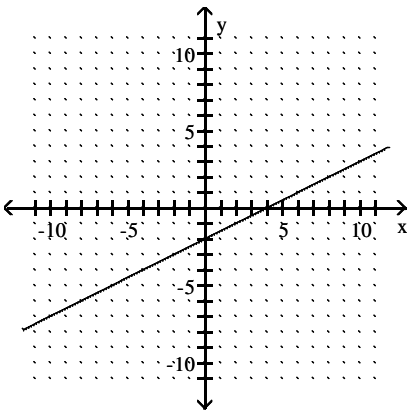
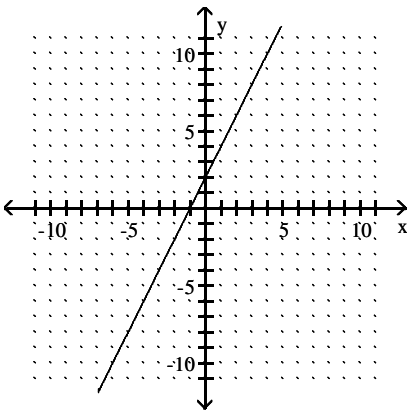
52) $2x - y = 2$ 52) _____



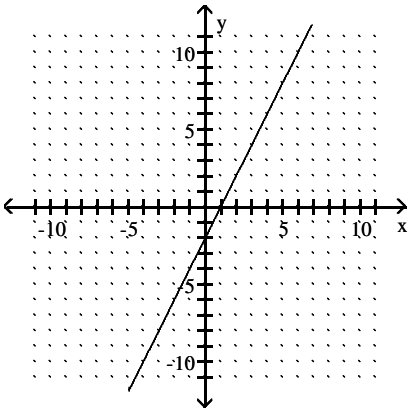
A)



B)



C)



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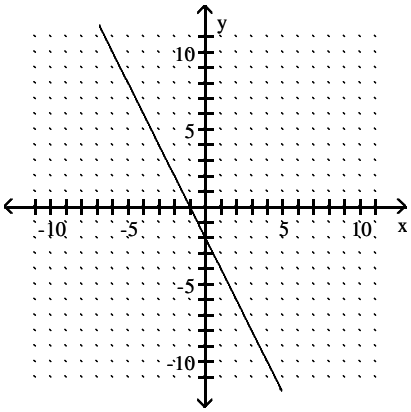

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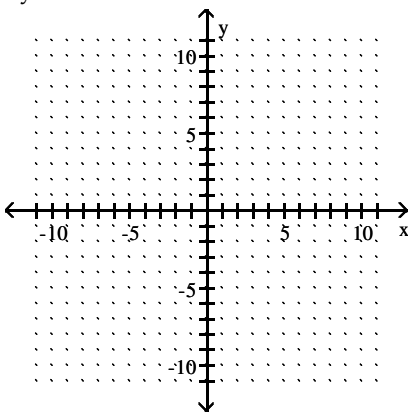
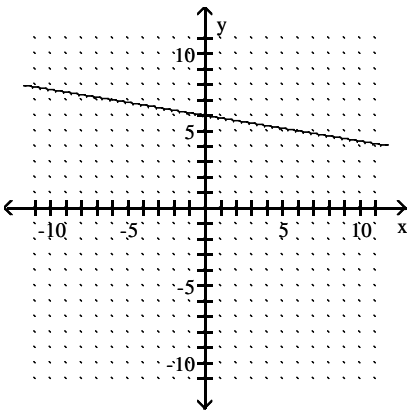
53) $4y - 24x = 24$ 53) _____



A)



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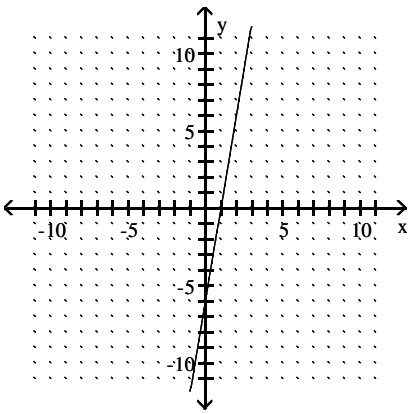
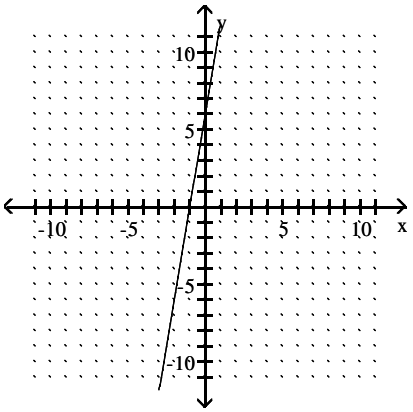
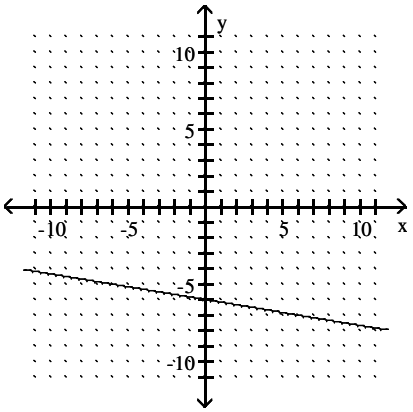


C)



D)



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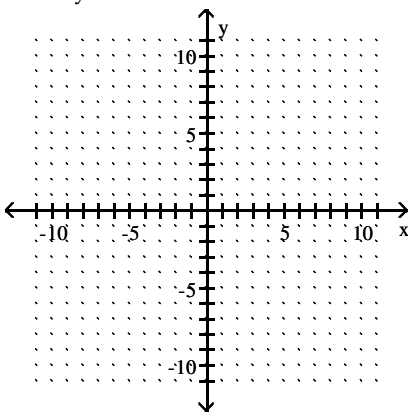
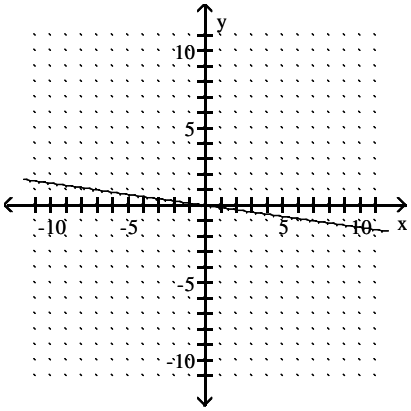
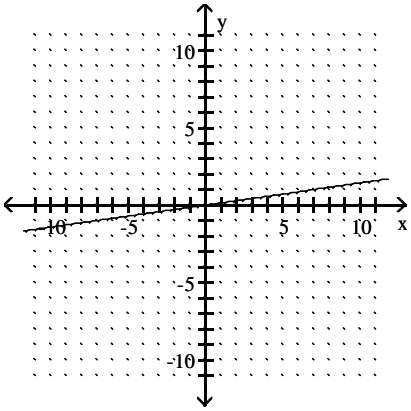
54) $-7x + y = 0$ 54) _____



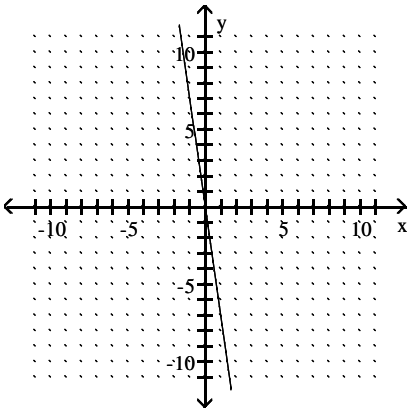
A)



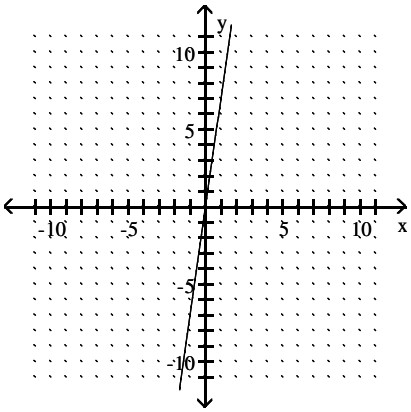
B)



C)



D)



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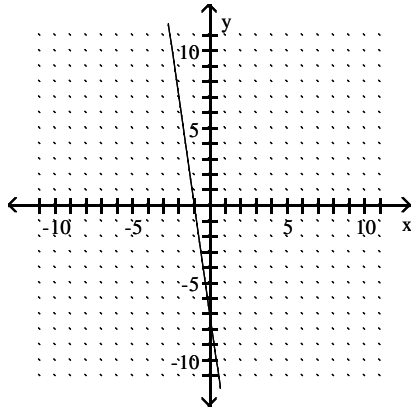
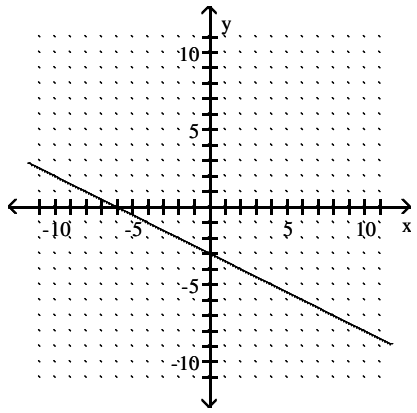
Find the x– and y–intercepts from the graph. If there are no intercepts write "No x–intercept" or "No y–intercept".

55) 55) _____



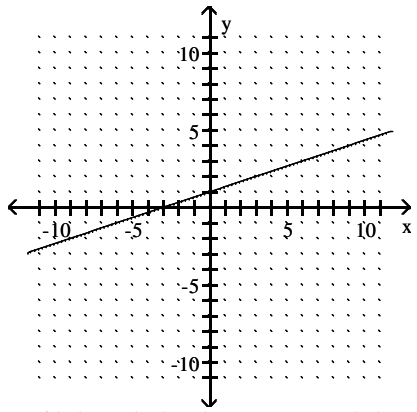
A) (0, –1), (–7, 0) B) (0, 0), (–1, –7) C) (–7, –1), (0, 0) D) (0, –7), (–1, 0)

56) 56) _____



A) (0, 0), (–6, –3) B) (0, –6), (–3, 0) C) (0, –3), (–6, 0) D) (–3, –6), (0, 0)

57) 57) _____



A) (1, –3), (0, 0) B) (0, –3), (1, 0) C) (0, 0), (–3, 1) D) (0, 1), (–3, 0)

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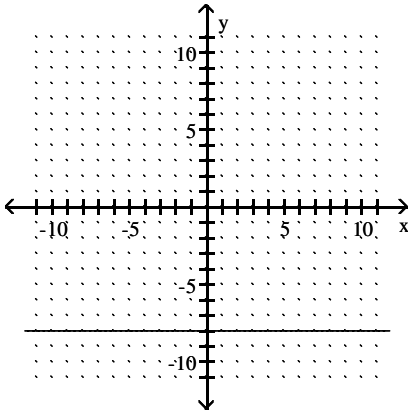
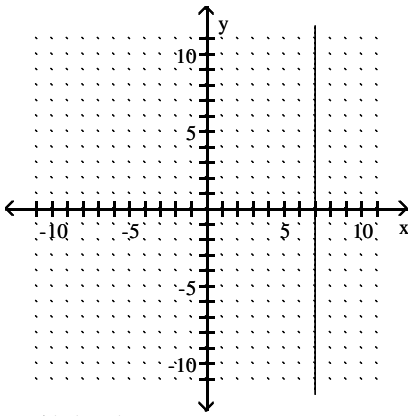
58) 58) _____



A) No x–intercept, (–8, 0)
B) No x–intercept, (0, –8)
C) (0, –8), No y–intercept
D) (–8, 0), No y–intercept

59) 59) _____



A) (7, 0), No y–intercept
B) No x–intercept, (7, 0)
C) (0, 7), No y–intercept
D) No x–intercept, (0, 7)

Find the x– and y– intercepts. If there are no intercepts write "No x–intercept" or "No y–intercept".

60) $x - y = -19$ 60) _____

A) (19, 0), (0, –19)
B) (–19, 0), (0, 19)
C) (19, 0), (0, 19)
D) (–19, 0), (0, –19)

61) $6x + 7y = 42$ 61) _____

A) (6, 0), (0, 7)
B) (7, 0), (0, 6)
C) (7, 0), (0, –6)
D) (–7, 0), (0, –6)

62) $5x - 7y = 9$ 62) _____

A) (4, 0) , (0, 16)
B) $\left(-\frac{9}{7}, 0\right), \left(0, \frac{9}{5}\right)$
C) $\left(\frac{9}{5}, 0\right), \left(0, -\frac{9}{7}\right)$
D) $\left(\frac{9}{5}, 0\right), \left(0, \frac{9}{7}\right)$

63) $-4x - 2y = 8$ 63) _____

A) (–2, –4), (–3, 8)
B) (–3, 0), (–4, 0)
C) (0, –3), (0, –4)
D) (–2, 0), (0, –4)

64) $\frac{1}{2}x + y = 3$ 64) _____

A) (3, 0), (0, 6)
B) (6, 0), (0, 3)
C) (6, 0), (1, 3)
D) (0, 0), (0, 3)

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65) $-x + \frac{4}{7}y = -4$ 65) _____

A) (–4, 0), (0, –7) B) (4, 0), (0, –7) C) (4, 0.5), (0, –7) D) (7, 0), (0, –4)

66) $y = \frac{3}{4}x - 24$ 66) _____

A) (24, 0), (0, –24) B) (–32, 0), (0, 24) C) (32, 0), (0, –24) D) (32, 0), (0, 24)

67) $y = 2x$ 67) _____

A) (0, 0), (0, 2) B) (0, 0), (0, 0) C) (2, 0), (0, 2) D) (2, 0), (0, 0)

68) $x = 4$ 68) _____

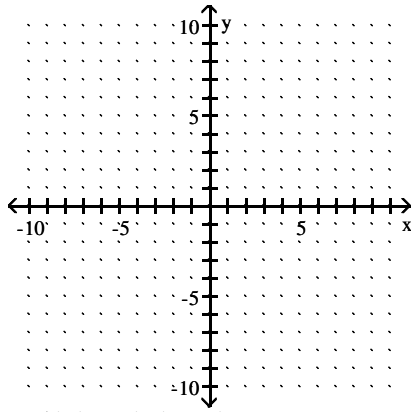
A) No x–intercept, No y–intercept
B) (4, 0), No y–intercept
C) No x–intercept, (0, 4)
D) (–4, 0), No y–intercept

69) $y = -10$ 69) _____

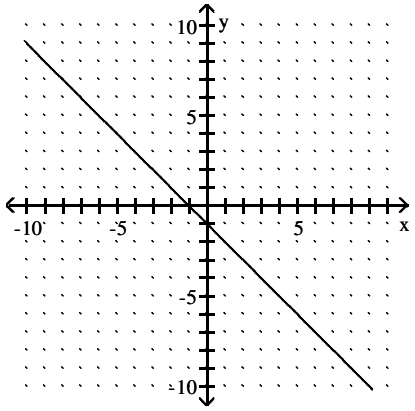
A) (–10, 0), No y–intercept
B) No x–intercept, No y–intercept
C) No x–intercept, (0, –10)
D) No x–intercept, (0, 10)

Find the intercepts, and then graph the line.

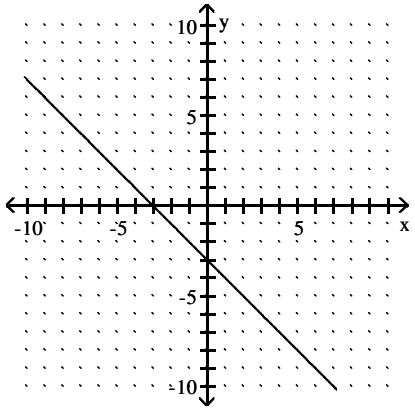
70) $x - y = 1$ 70) _____



A) (0, –1), (–1, 0)



B) (0, –3), (–3, 0)



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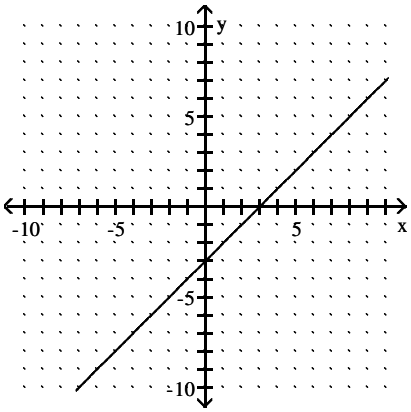
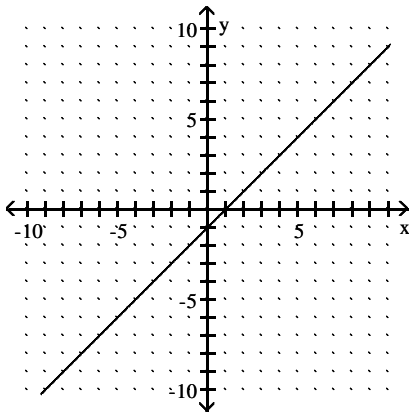
C) (0, –3), (3, 0)

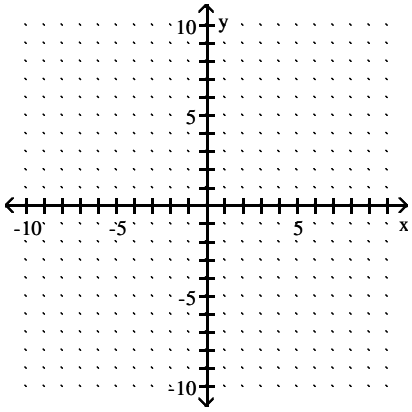


D) (0, –1), (1, 0)

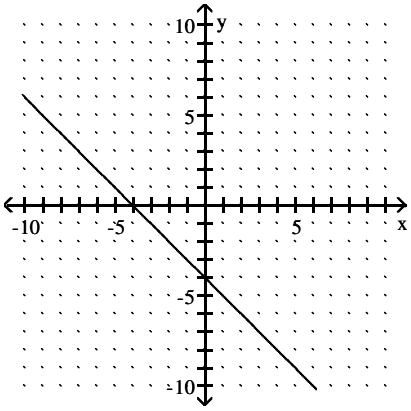


71) 2x – y = 4

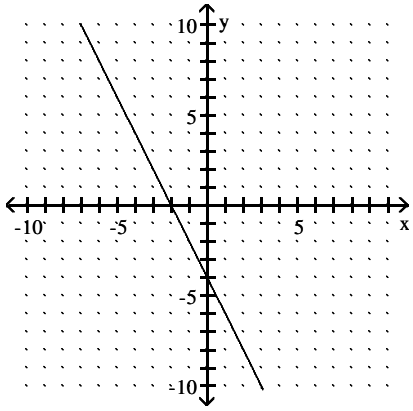
71) _____



A) (0, –4), (–4, 0)



B) (0, –4), (–2, 0)



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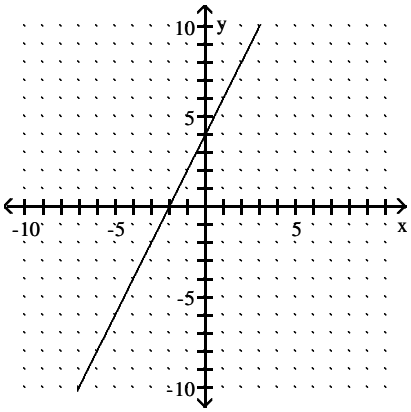
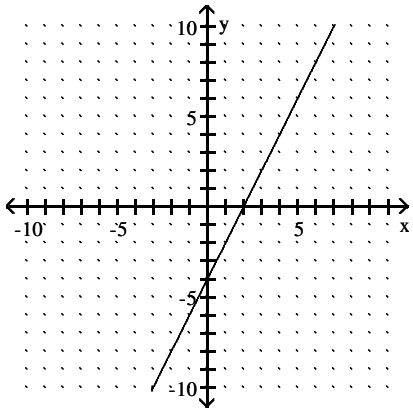
C) (0, –2), (4, 0)

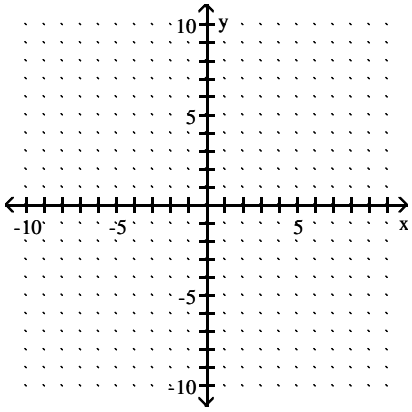


D) (0, –4), (2, 0)

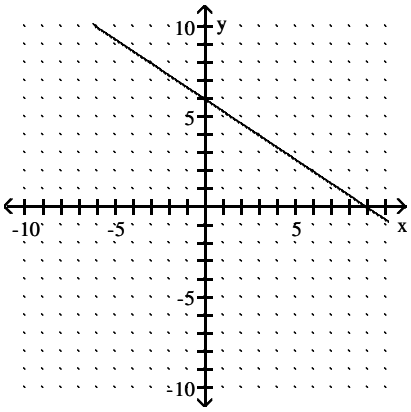


72) $2x - 3y = 18$

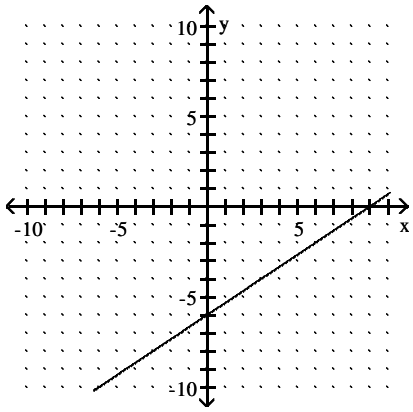
72) _____



A) (0, 6), (9, 0)



B) (0, –6), (9, 0)



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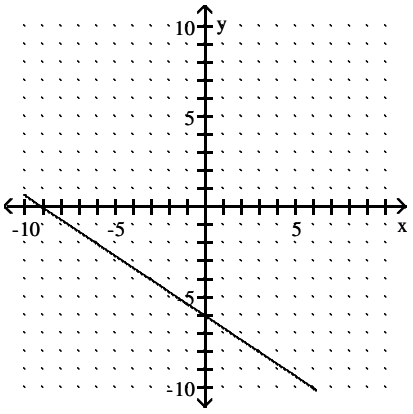
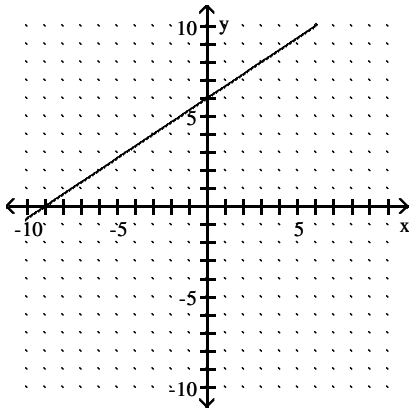
C) (0, –6), (–9, 0)



D) (0, –9), (6, 0)



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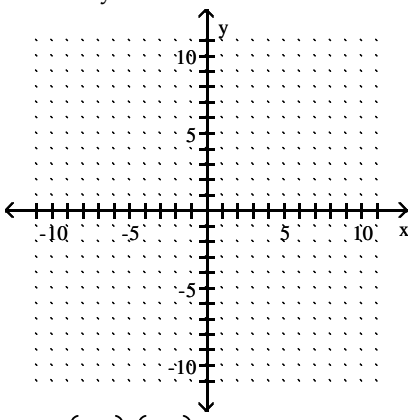
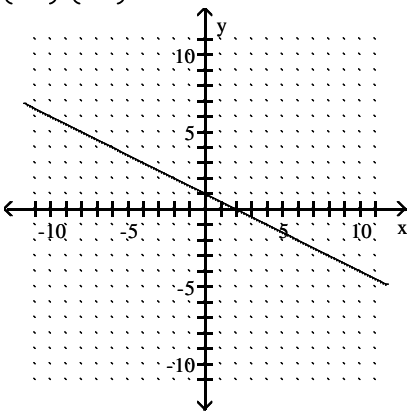
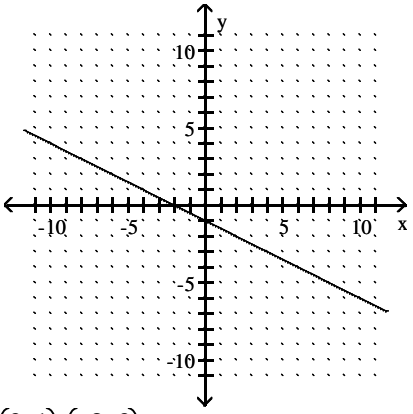
73) $-5x - 10y = 10$ 73) _____



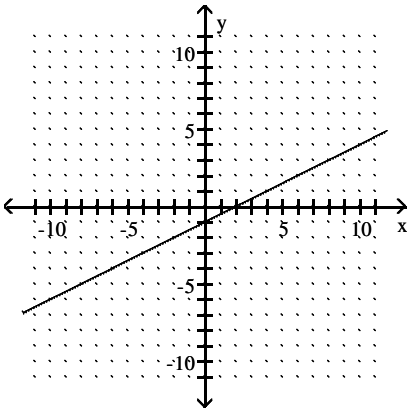
A) $(0, 1), (2, 0)$



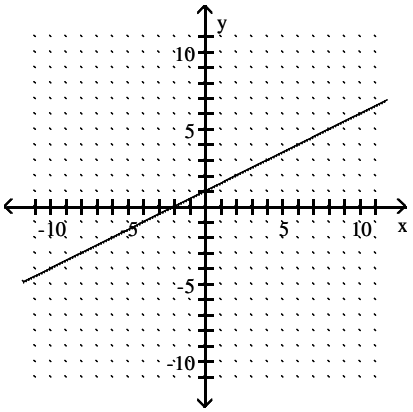
B) $(0, -1), (-2, 0)$



C) $(0, -1), (2, 0)$



D) $(0, 1), (-2, 0)$



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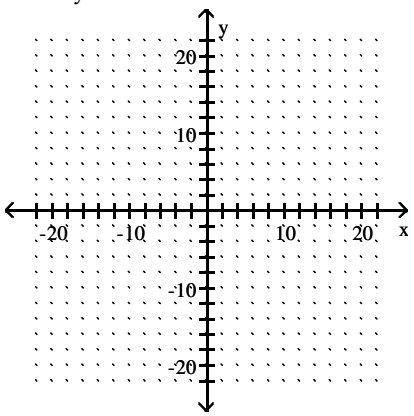
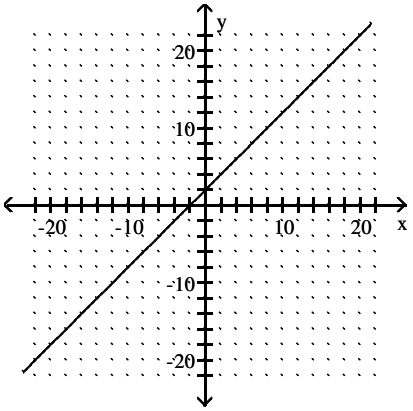
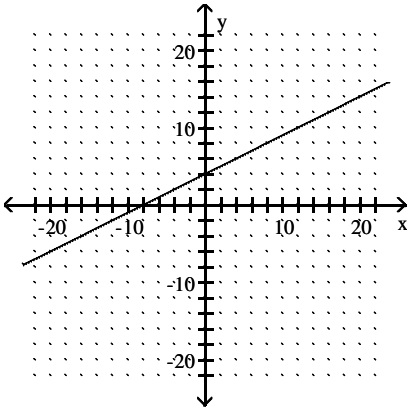
74) $-x + 2y = 4$ 74) _____



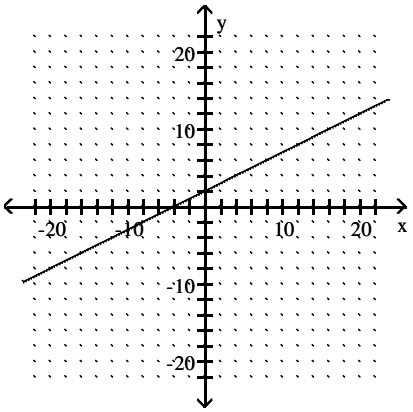
A) (0, 2), (–2, 0)



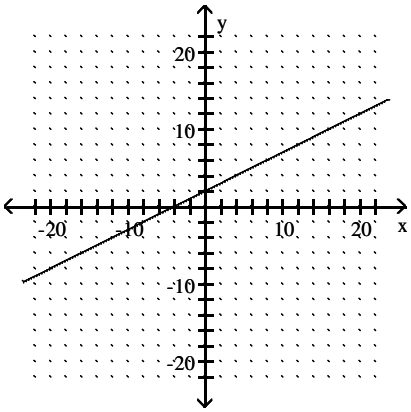
B) (0, 4), (–4, 0)



C) (0, 2), (–4, 0)



D) (0, –2), (–4, 0)



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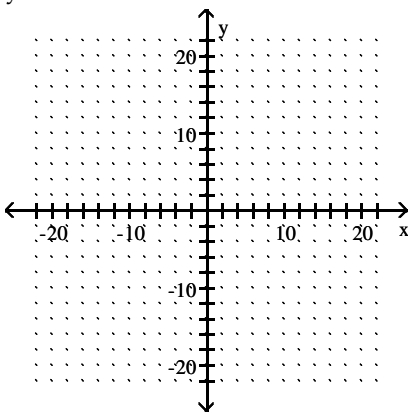
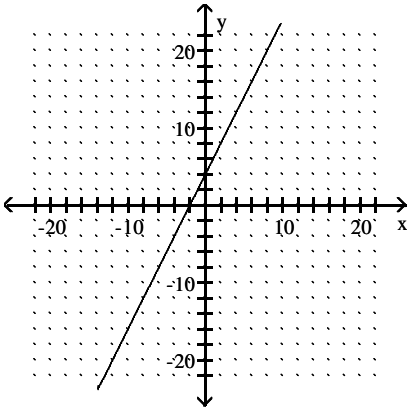
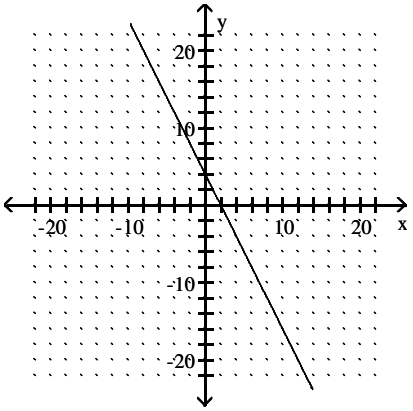
75) $y = -2x + 4$ 75) _____



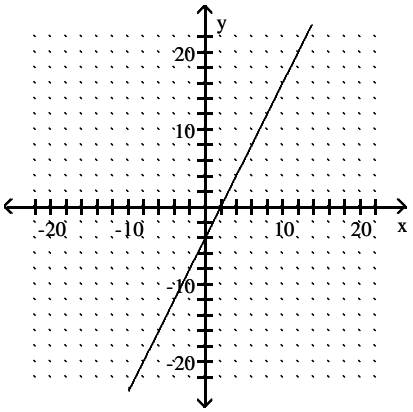
A) (0, 4), (–2, 0)



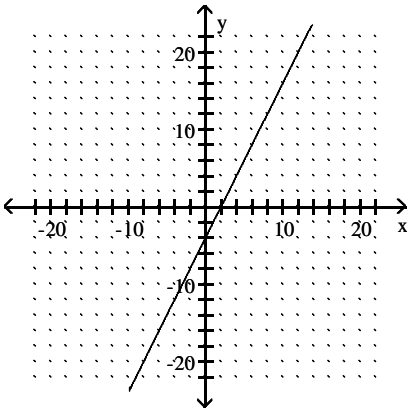
B) (0, 4), (2, 0)



C) (0, –4), (–2, 0)



D) (0, –4), (2, 0)



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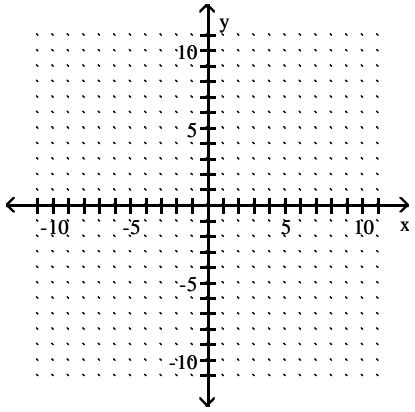
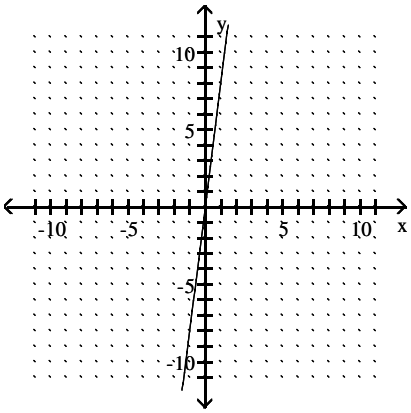
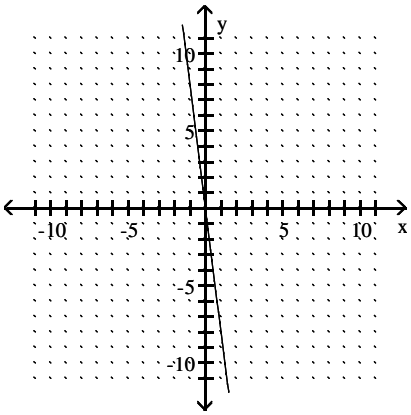
76) $y = -8x$ 76) _____



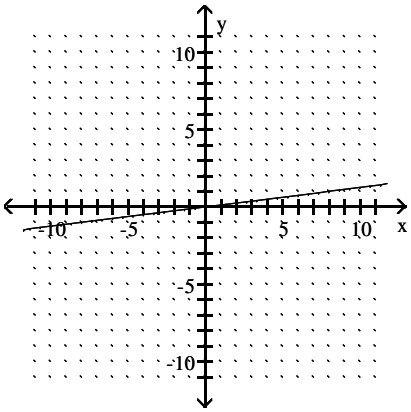
A) (0, 0)



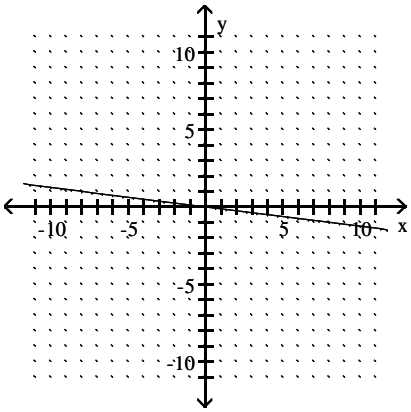
B) (0, 0)



C) (0, 0)



D) (0, 0)



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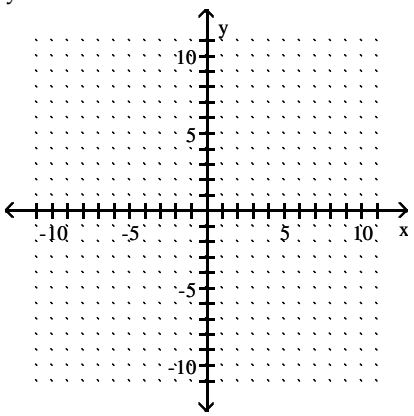
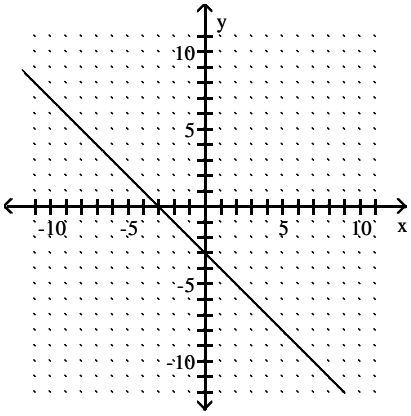
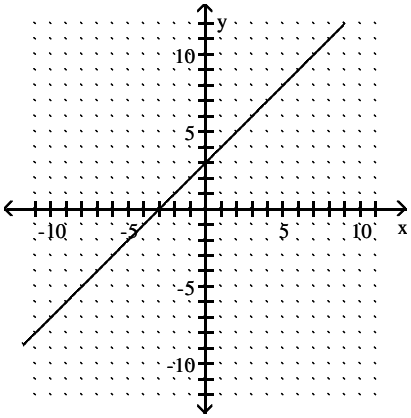
77) $y = x + 3$ 77) _____



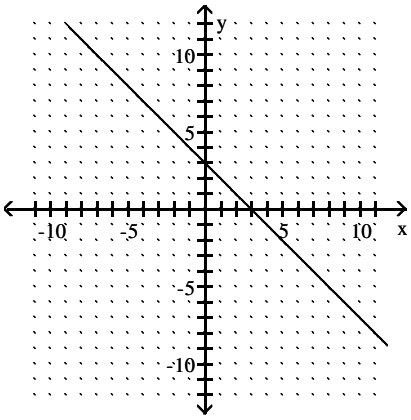
A) (0, –3), (–3, 0)



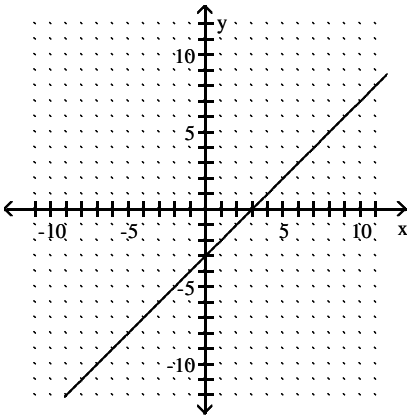
B) (–3, 0), (0, 3)



C) (0, 3), (3, 0)



D) (0, –3), (3, 0)



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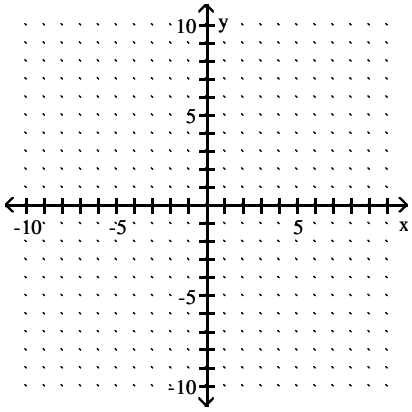
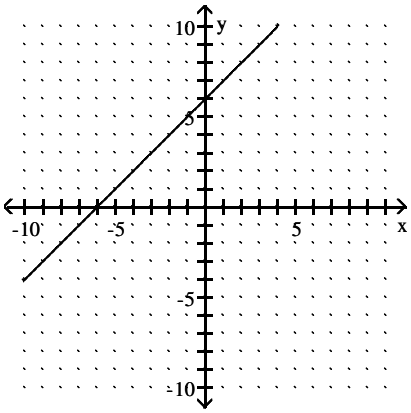
78) y = 6

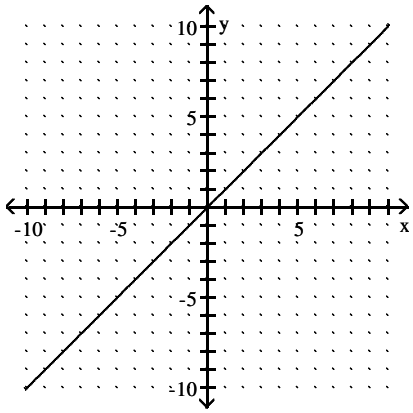
78) _____



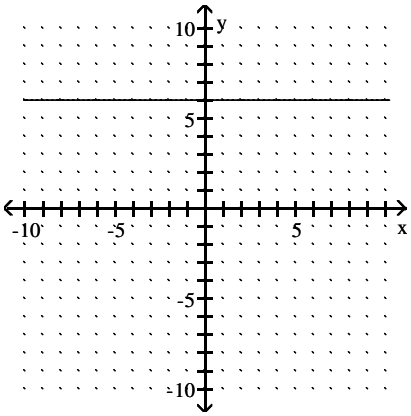
A) (–6, 0), (6, 0)



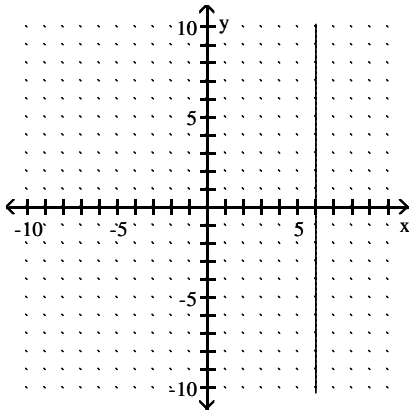
B) (0, 0)



C) (0,6)



D) (6, 0)



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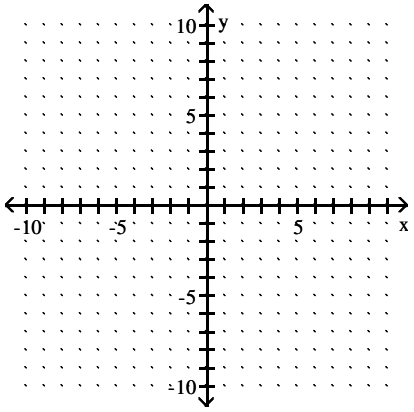
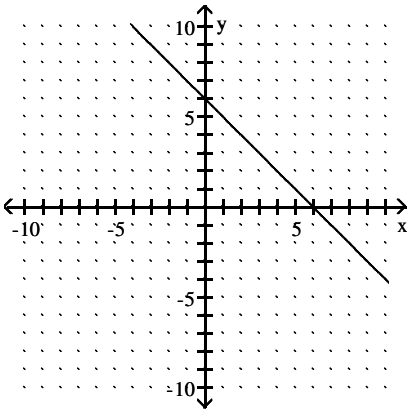
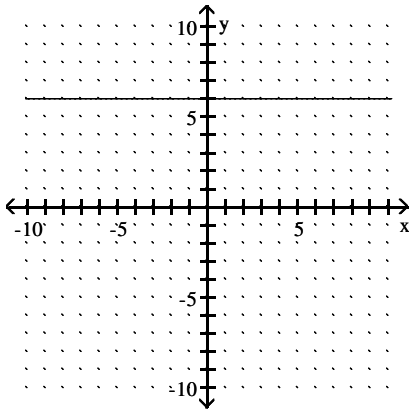
79) x = 6 79) _____



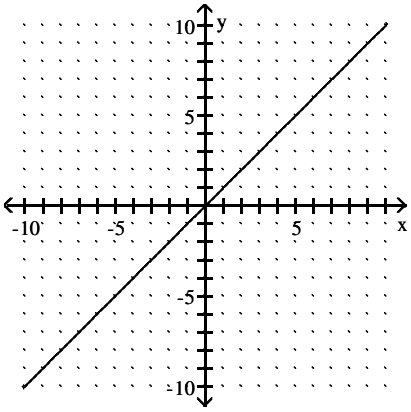
A) (0, 6), (6, 0)



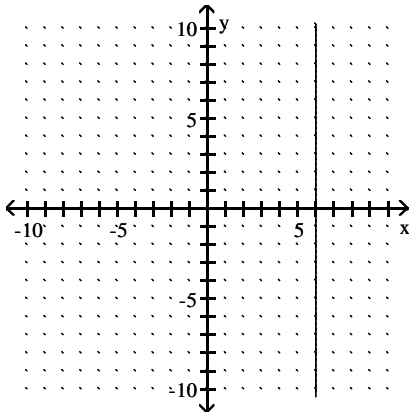
B) (0, 6)



C) (0, 0)



D) (6, 0)



Solve the problem.

80) A local phone company charges a connection fee of $1.51 plus $0.41 per minute for each phone call. If we let x represent the number of minutes spent on the phone, the equation that gives the cost (y) of each phone call can be represented by y = 0.41x + 1.51. Find the y–intercept of this equation, and explain what it signifies. 80) _____

A) (0, 0.41); The connection fee for each phone call.
B) (0, 0.41); The charge per minute for each phone call.
C) (0, 1.51); The connection fee for each phone call.
D) (0, 1.51); The charge per minute for each phone call.

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81) A local phone company charges a connection fee of $0.65 plus $0.67 per minute for each phone call. If we let x represent the number of minutes spent on the phone, the equation that gives the cost (y) of each phone call can be represented by y = 0.67x + 0.65. How much will a 10 minute phone call cost? 81) _____

A) $7.17 B) $6.70 C) $6.05 D) $7.35

82) Jeremy was ordered to perform 700 hours of community service by picking up litter along the highway. Jeremy spends 10 hours each day picking up litter. The equation that tells the number of hours (y) that remain on the sentence after x days is y = 700 – 10x. Find the y–intercept of this equation, and explain what it signifies. 82) _____

A) (0, 70) The original sentence is 70 hours.
B) (0, 700) The original sentence is 700 hours.
C) (70, 0) After 70 days, there are no more required hours.
D) (700, 0) The original sentence is 700 hours.

83) Jeremy was ordered to perform 350 hours of community service by picking up litter along the highway. Jeremy spends 7 hours each day picking up litter. The equation that tells the number of hours (y) that remain on the sentence after x days is y = 350 – 7x. Find the x–intercept of this equation, and explain what it signifies. 83) _____

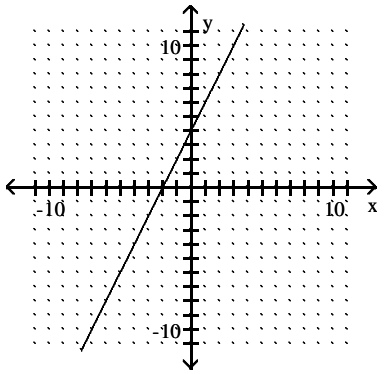
A) (0, 350) The original sentence is 350 hours.
B) (0, 50) After 50 days, there are no more required hours.
C) (50, 0) After 50 days, there are no more required hours.
D) (50, 0) The original sentence is 50 hours.

84) Jeremy was ordered to perform 210 hours of community service by picking up litter along the highway. Jeremy spends 7 hours each day picking up litter. The equation that tells the number of hours (y) that remain on the sentence after x days is y = 210 – 7x. After 18 days, how many hours of community service does Jeremy have remaining? 84) _____

A) 84 hours B) 228 hours C) 192 hours D) 126 hours

Determine whether the line has a positive or negative slope.

85) 85) _____



A) Positive B) Negative

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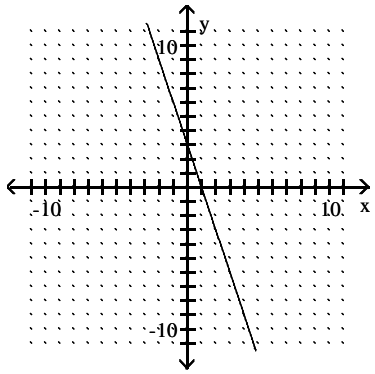
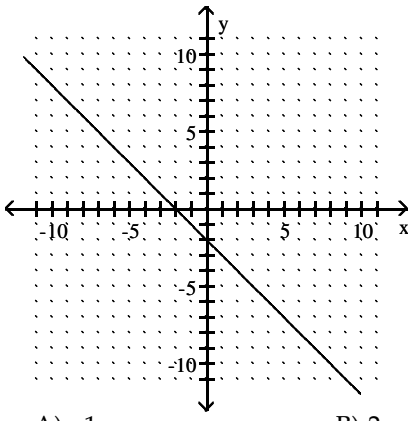
86) 86) _____



A) Negative B) Positive

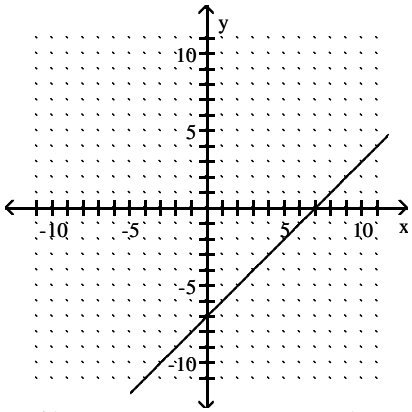
Find the slope of the line. If the slope is undefined, state this.

87) 87) _____



A) –1 B) 2 C) 1 D) –2

88) 88) _____



A) –7 B) –4 C) 1 D) –10

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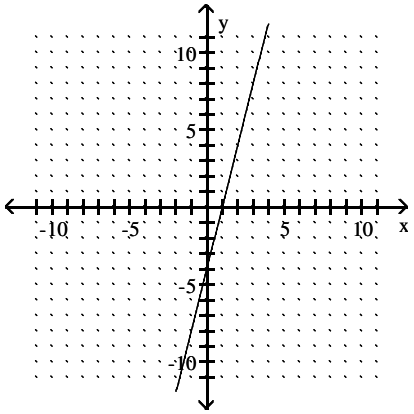
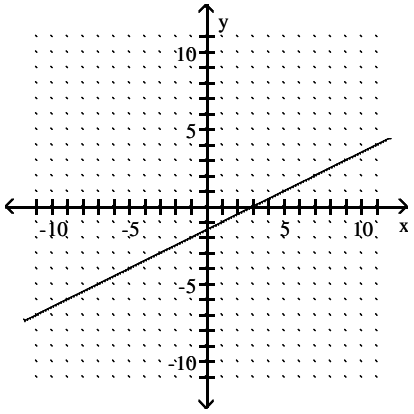
89) 89) _____



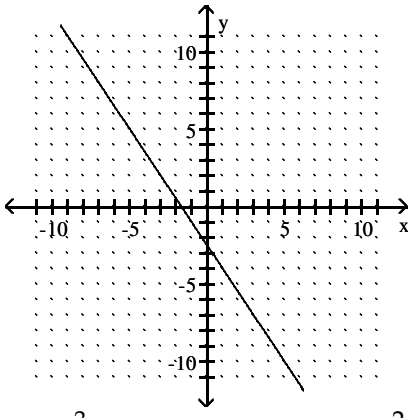
A) $-\frac{1}{4}$ B) 4 C) –4 D) $\frac{1}{4}$

90) 90) _____



A) 2 B) –2 C) $-\frac{1}{2}$ D) $\frac{1}{2}$

91) 91) _____



A) $\frac{3}{2}$ B) $-\frac{2}{3}$ C) $-\frac{3}{2}$ D) $\frac{2}{3}$

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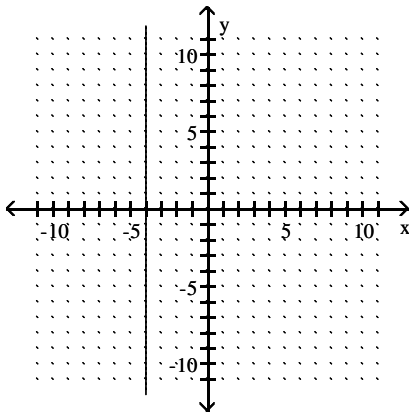
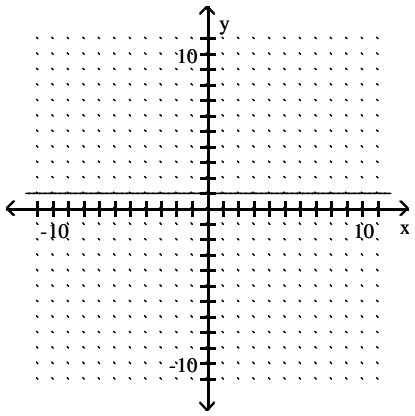
92) 92) _____



A) 0 B) –4 C) $\frac{3}{2}$ D) Undefined

93) 93) _____



A) 0 B) 1 C) Undefined D) $\frac{1}{2}$

Find the slope of the line that passes through the given two points. If the slope is undefined, state this.

94) (–6, –8) and (1, 2) 94) _____

A) $-\frac{1}{2}$ B) $\frac{7}{10}$ C) – 2 D) $\frac{10}{7}$

95) (–5, –4) and (–5, –8) 95) _____

A) 4 B) 1 C) –4 D) Undefined

96) (8, 1) and (–6, 1) 96) _____

A) 10 B) 2 C) 5 D) 0

97) (2, 4) and (11, 16) 97) _____

A) $\frac{2}{3}$ B) $\frac{4}{3}$ C) $\frac{3}{2}$ D) $\frac{3}{4}$

98) (4, 3) and (7, 1) 98) _____

A) 0 B) $-\frac{2}{3}$ C) Undefined D) $\frac{2}{3}$

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Find the rate of change.

99) The initial concentration of an enzyme is 5 moles (mol). Twenty seconds into the reaction, only 0.4 mol of the enzyme remains. Find the rate of change of the enzyme in mol/s. 99) _____

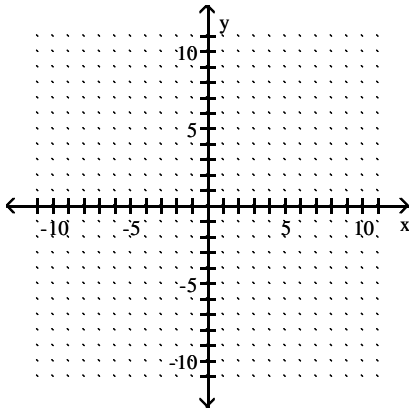
A) −0.23 mol/s B) −4.35 mol/s C) 0.23 mol/s D) 4.35 mol/s

100) A projectile is launched with an initial velocity of 100 ft/s at an angle of 40° with the ground. After 1 second, it covers a horizontal distance of 74 feet. After 1.8 seconds, it covers a horizontal distance of 152 ft. Find the rate of change of the horizontal distance traveled with respect to the time traveled in ft/s. 100) _____

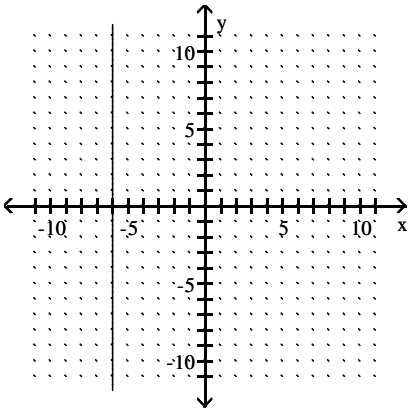
A) 82.4 ft/s B) 97.5 ft/s C) 60 ft/s D) 32.5 ft/s

Graph. Label any intercepts and determine the slope of the line. If the slope is undefined, state this.

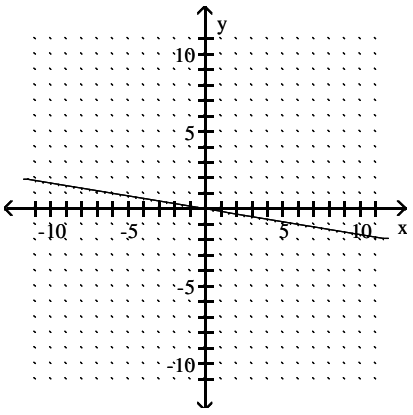
101) $x = -6$ 101) _____



A) x−intercept: (−6, 0), m: undefined



B) x−intercept: (−6, 0), m: $-\frac{1}{6}$



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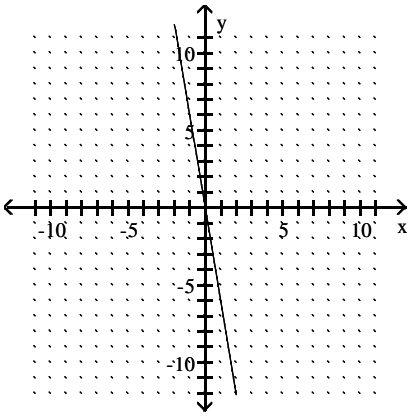
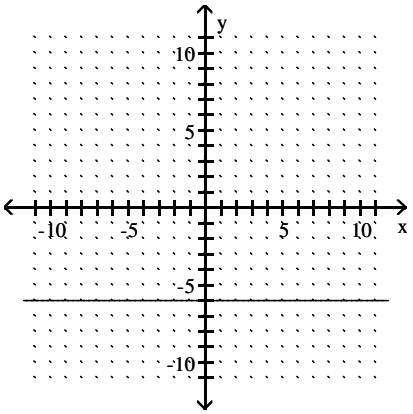
C) x–intercept: (0, 0), m: –6

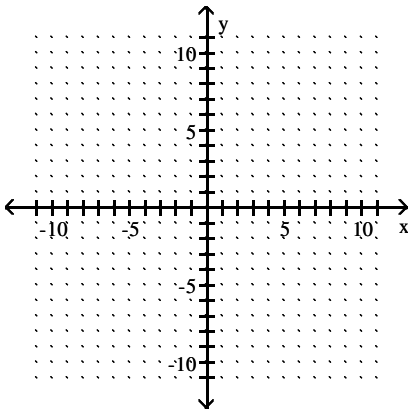


D) x–intercept: (0, –6), m: 0

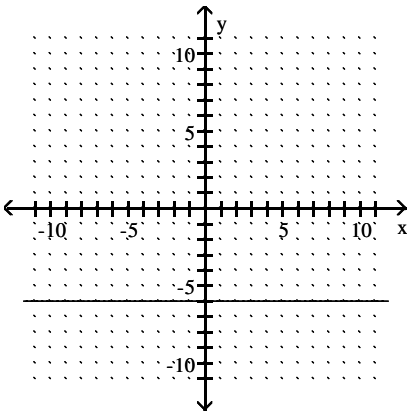


102) y = –6

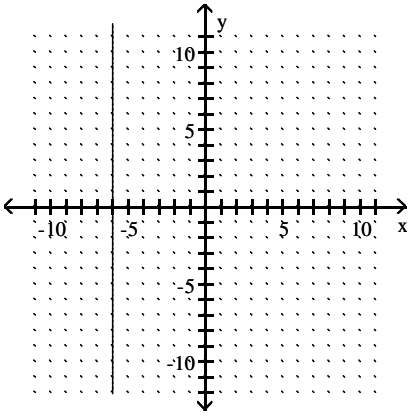
102) _____



A) y–intercept: (0, –6), m: 0



B) y–intercept: (–6, 0), m: undefined



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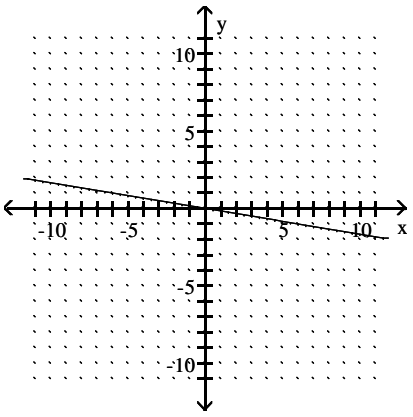
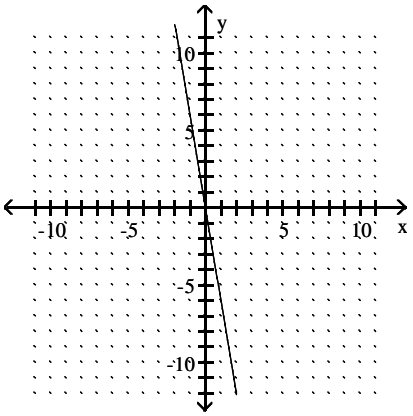
C) y–intercept: (0, 0), m: $-\frac{1}{6}$

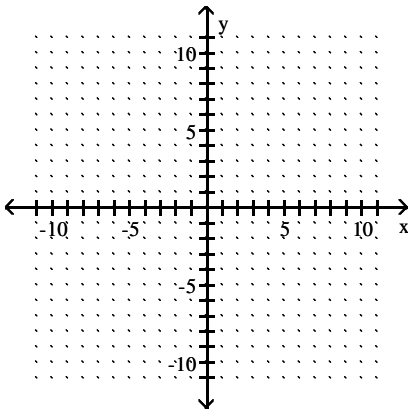


D) y–intercept: (0, 0), m: –6

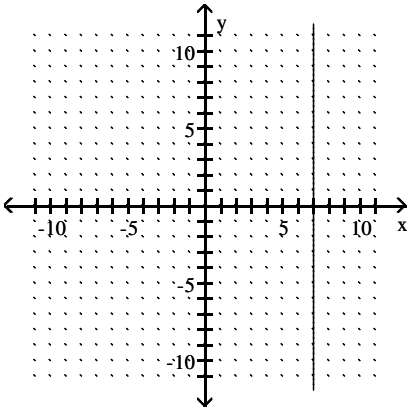


103) x = 7

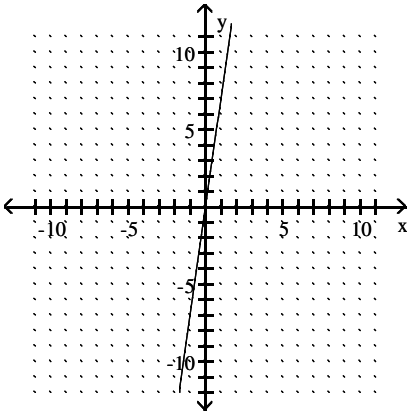
103) _____



A) x–intercept: (7, 0), m: undefined



B) x–intercept: (0, 0), m: 7



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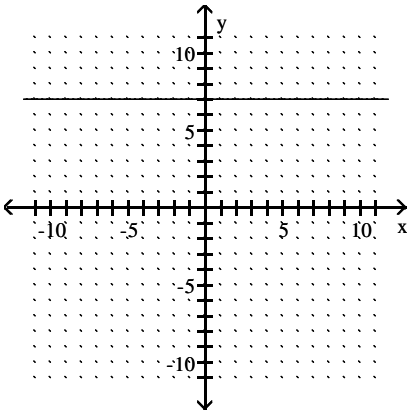
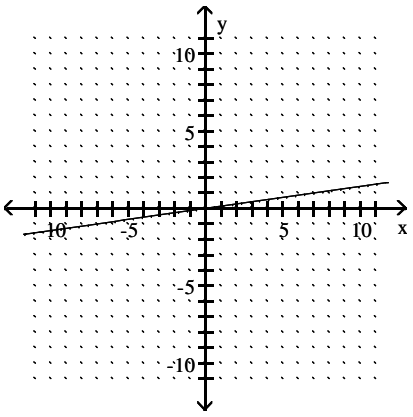
C) x–intercept: (0, 7), m: 0

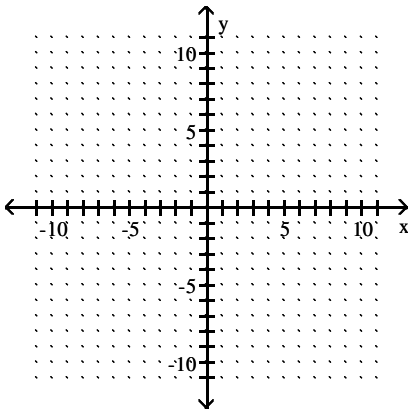


D) x–intercept: (7, 0), m: $\frac{1}{7}$

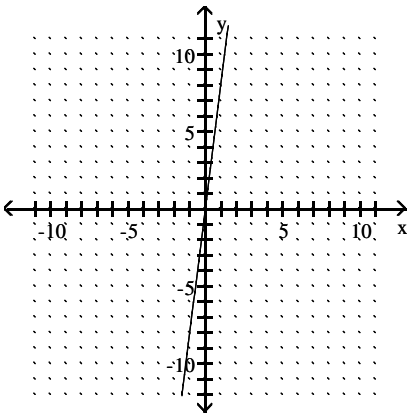


104) y = 8

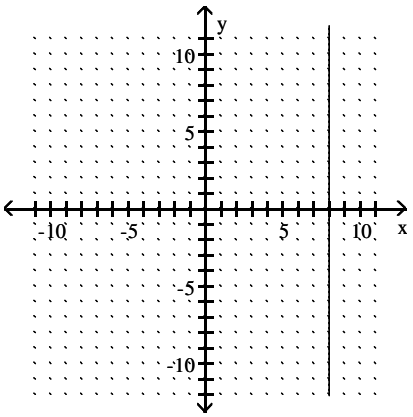
104) _____



A) y–intercept: (0, 0), m: 8



B) y–intercept: (8, 0), m: undefined



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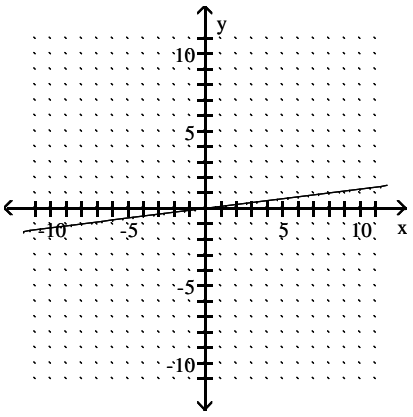
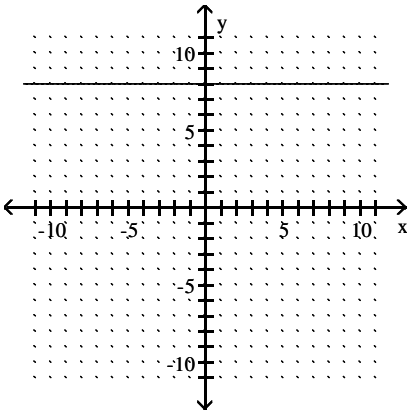
C) y–intercept: (0, 0), m: $\frac{1}{8}$



D) y–intercept: (0, 8), m: 0



Find the slope and the y–intercept of the given line.

105) $y = 2x - 4$ 105) _____

A) –4, (0, 2) B) 4, (0, 2) C) 2, (0, –4) D) 2, (0, 4)

106) $y = -3x + 5$ 106) _____

A) –3, (0, 5) B) –5, (0, –3) C) 5, (0, –3) D) –3, (0, –5)

107) $y = -\frac{1}{2}x - 2$ 107) _____

A) $-\frac{1}{2}$; (0, –2) B) $\frac{1}{2}$; (0, –2) C) $\frac{1}{2}$; (0, 2) D) $-\frac{1}{2}$; (0, 2)

108) $y = \frac{11}{4}x - 5$ 108) _____

A) $-\frac{11}{4}$; (0, 5) B) $\frac{11}{4}$; (0, –5) C) $-\frac{11}{4}$; (0, –5) D) $\frac{11}{4}$; (0, 5)

109) $5x + 9y = 52$ 109) _____

A) $\frac{5}{9}; \left(0, \frac{52}{9}\right)$ B) $-\frac{4}{5}; \left(0, \frac{9}{52}\right)$ C) $\frac{4}{5}; \left(0, \frac{9}{52}\right)$ D) $-\frac{5}{9}; \left(0, \frac{52}{9}\right)$

110) $4x + 7y = 40$ 110) _____

A) $\frac{4}{7}; \left(0, \frac{40}{7}\right)$ B) $-1\frac{3}{4}; \left(0, \frac{7}{40}\right)$ C) $-\frac{4}{7}; \left(0, \frac{40}{7}\right)$ D) $1\frac{3}{4}; \left(0, \frac{7}{40}\right)$

111) $-2x + 6y = 6$ 111) _____

A) 3; (0, –1) B) $\frac{1}{3}$; (0, 1) C) $-\frac{1}{3}$; (0, –1) D) –3; (0, 1)

112) $-3x + 4y = 8$ 112) _____

A) $\frac{3}{4}$; (0, 2) B) $1\frac{1}{3}$; (0, –2) C) $-\frac{3}{4}$; (0, –2) D) $-1\frac{1}{3}$; (0, 2)

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113) $-4x + y = 13$ 113) _____

A) 4; (0, 13) B) −4; (0, −13) C) 4; (0, −13) D) −4; (0, 13)

Find the equation of the line with the given slope and y–intercept.

114) Slope −2; y–intercept (0, −10) 114) _____

A) $y = -2x + 10$ B) $y = -2x + 2$ C) $y = -10x - 2$ D) $y = -2x - 10$

115) Slope 2; y–intercept (0, −3) 115) _____

A) $y = 2x - 3$ B) $y = 2x + 3$ C) $y = 3x + 2$ D) $y = -3x + 2$

116) Slope −3; y–intercept (0, 2) 116) _____

A) $y = 2x - 3$ B) $y = -3x - 2$ C) $y = 3x + 2$ D) $y = -3x + 2$

117) Slope 0; y–intercept (0, 4) 117) _____

A) $y = 4x$ B) $y = 4$ C) $y = 0$ D) $x = 4$

118) Slope 2; y–intercept (0, 0) 118) _____

A) $x = 2y$ B) $y = 2x$ C) $y = 2$ D) $y = x + 2$

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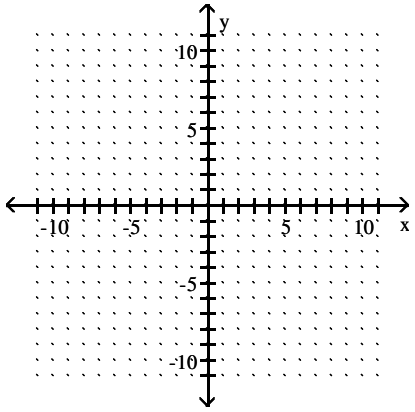
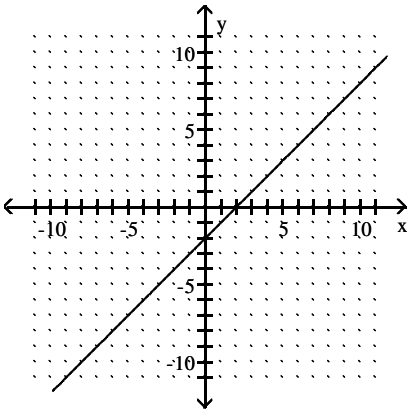
Graph using the slope and y–intercept.

119) $y = x - 2$ 119) _____



A)



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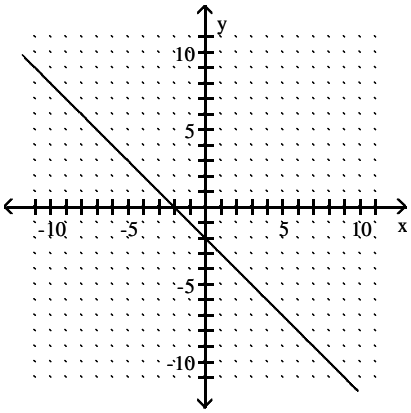

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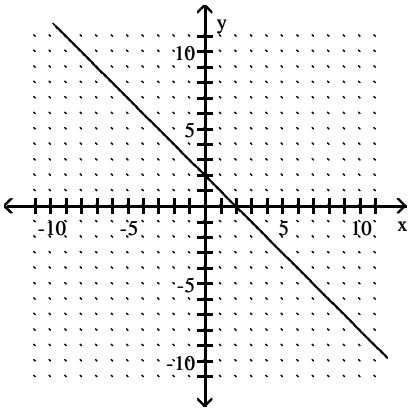

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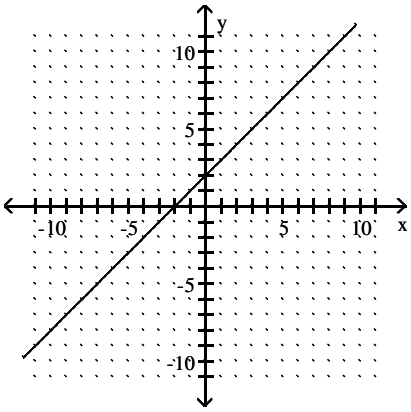

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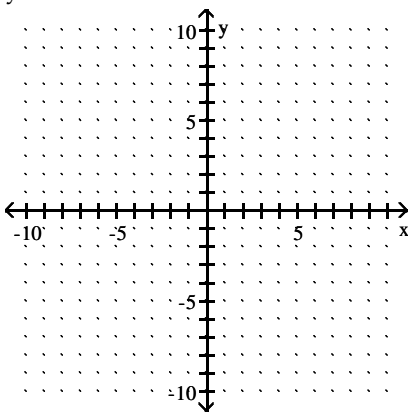
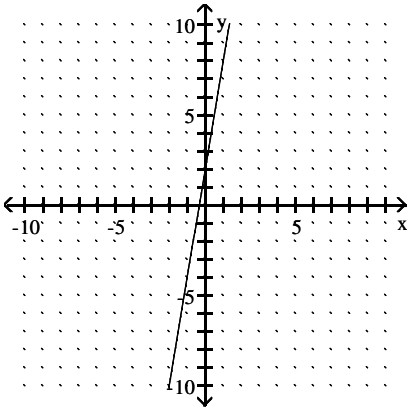
120) $y = 2x - 6$ 120) _____



A)



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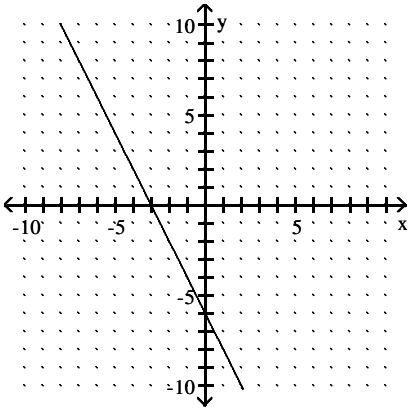

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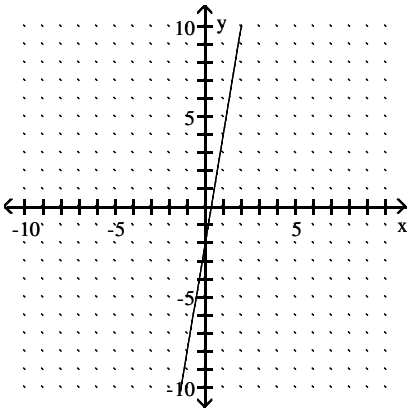

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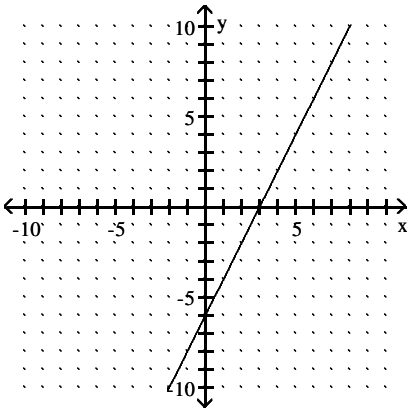

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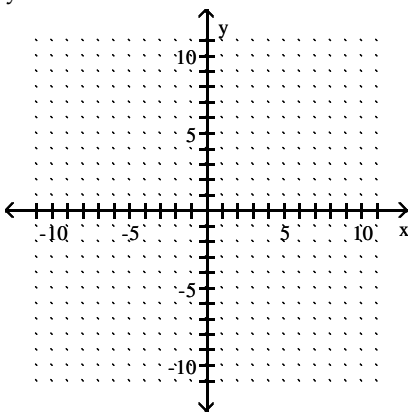
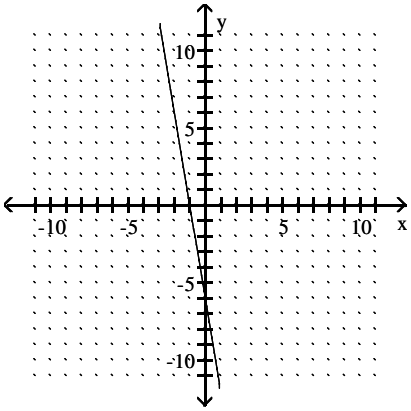
121) $y = -6x + 6$ 121) _____



A)



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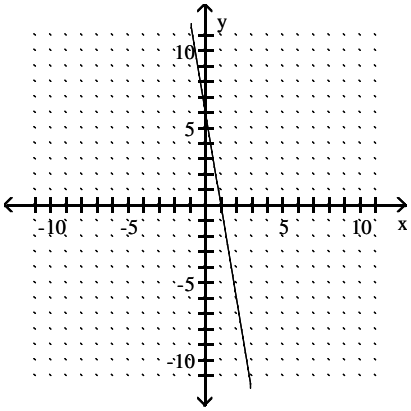
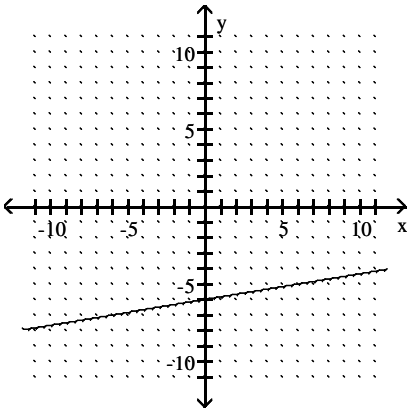


C)



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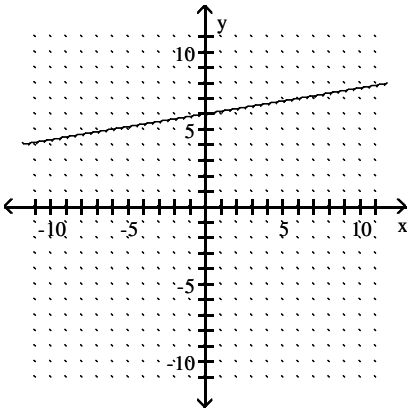

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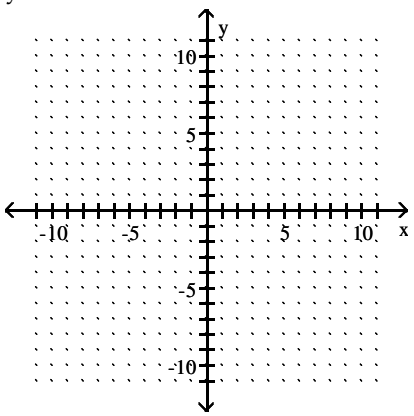
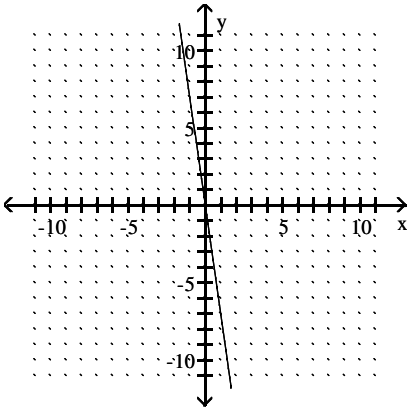
122) $y = -7x$ 122) _____



A)



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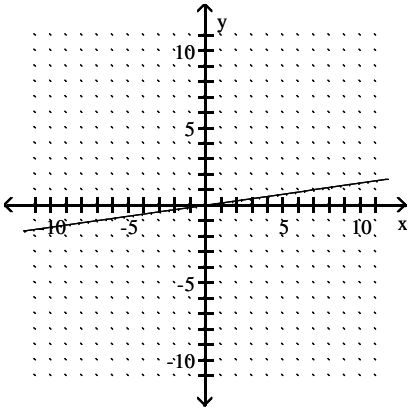

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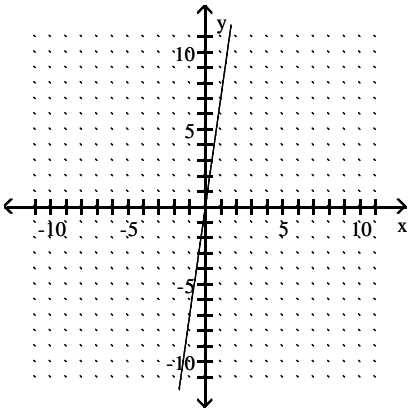

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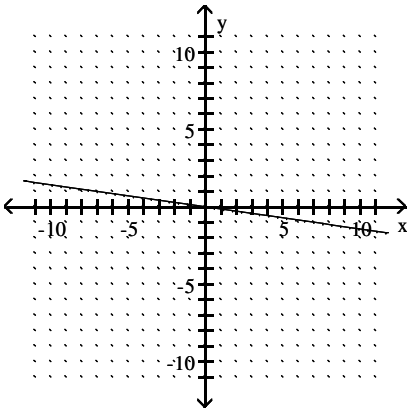

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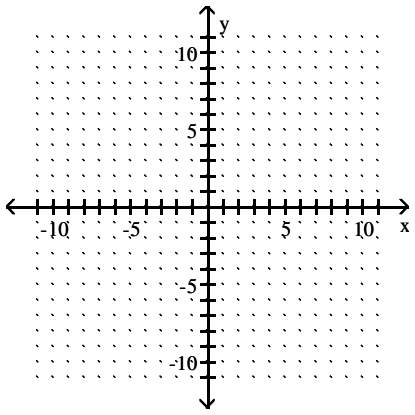
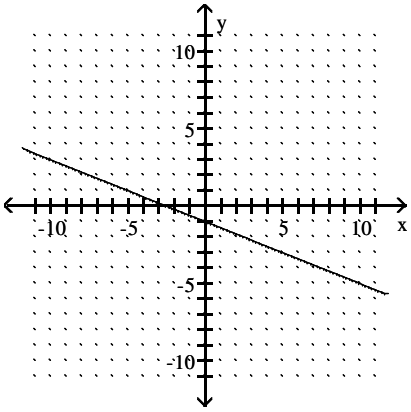
123) $y = -\frac{2}{5}x + 2$ 123) _____



A)



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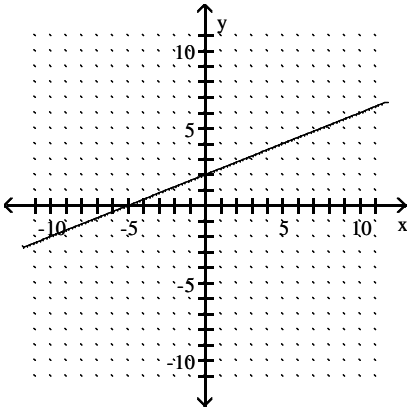

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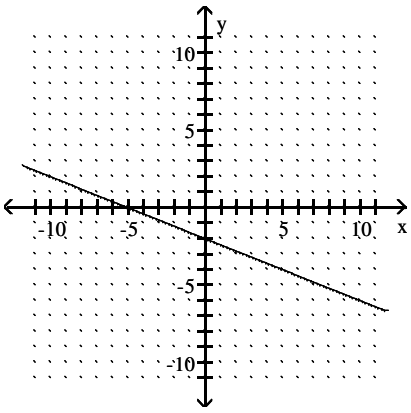

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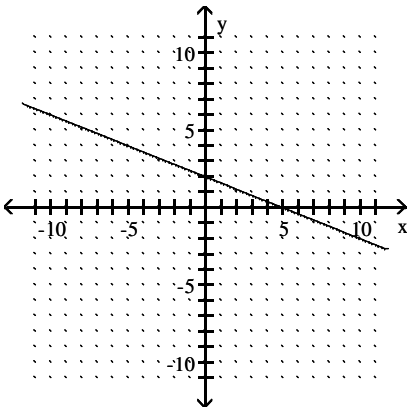

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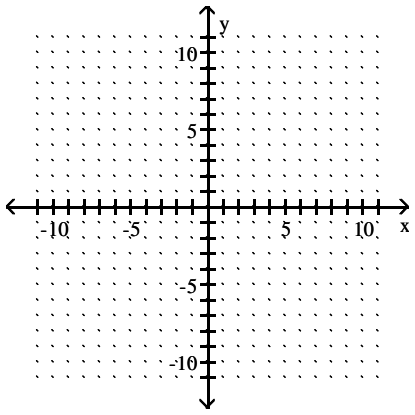
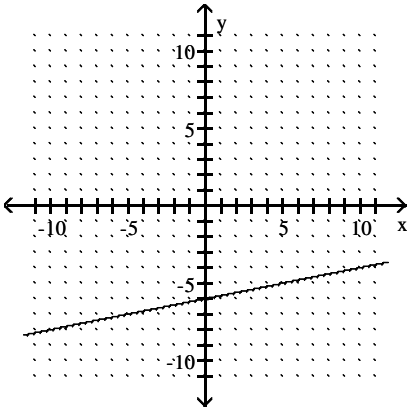
124) $y = \frac{1}{5}x + 6$ 124) _____



A)



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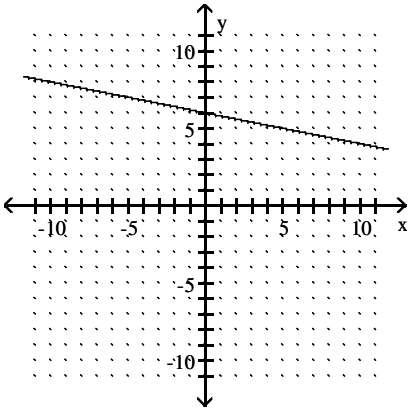

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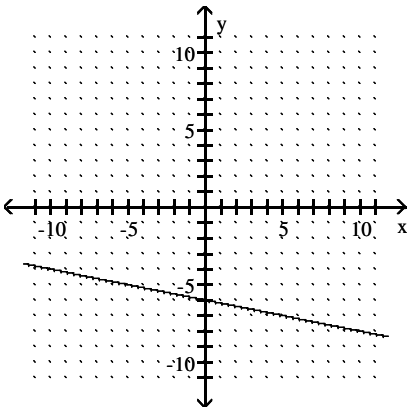

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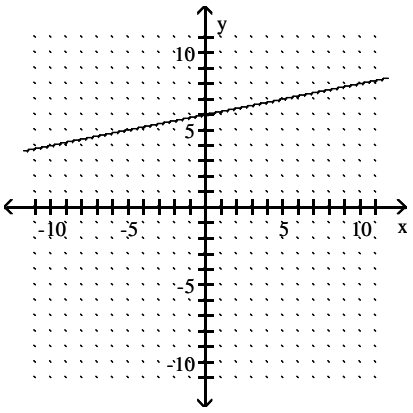

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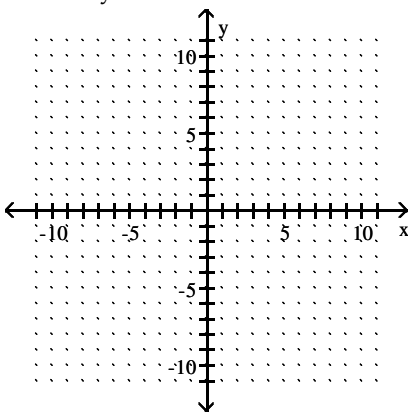
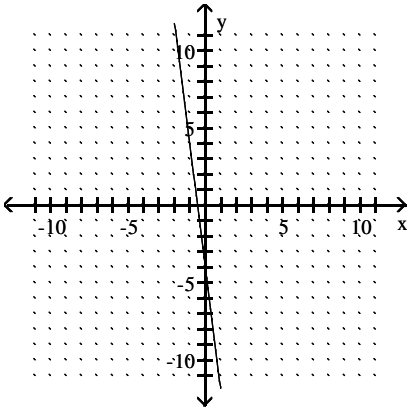
125) $-5x - 40y = -20$ 125) _____



A)



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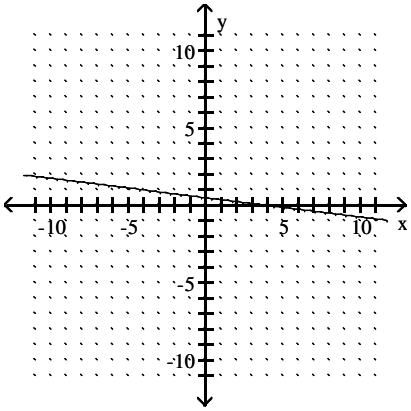

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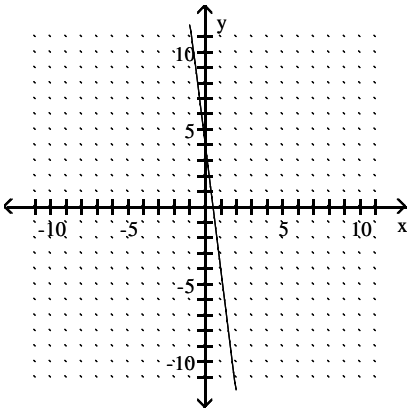

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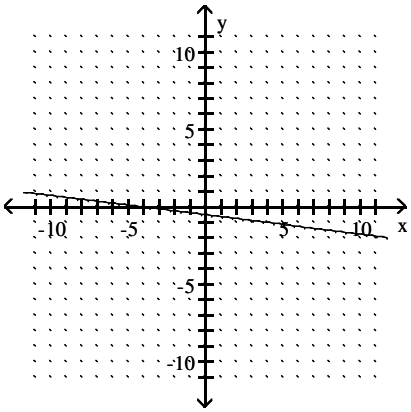

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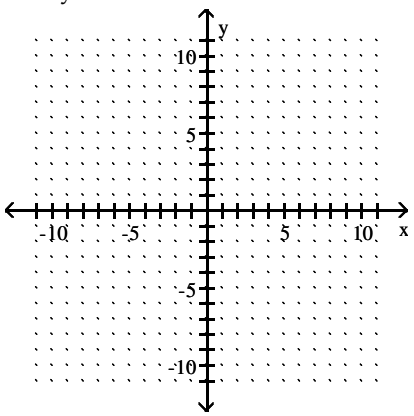
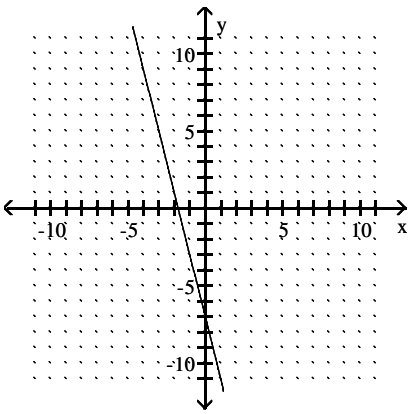
126) $4x - y = 7$ 126) _____



A)



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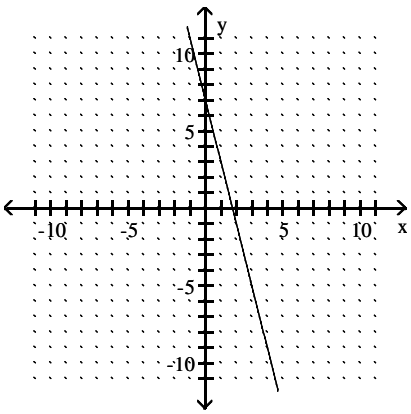

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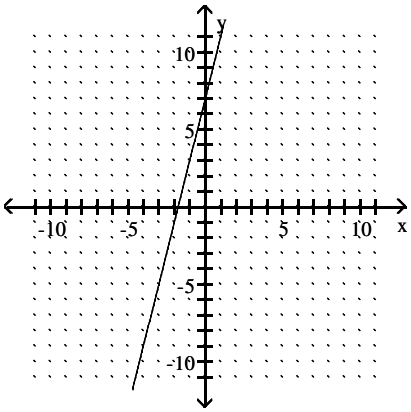

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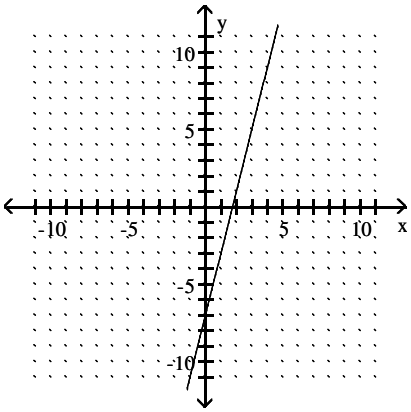
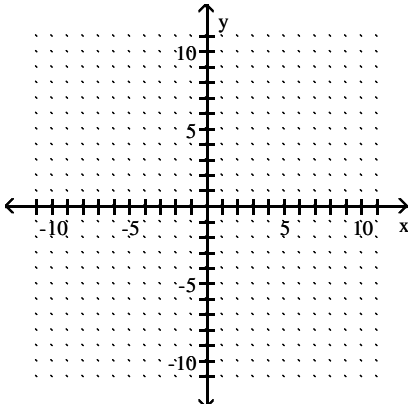


127) $-5x + y = 7$ 127) _____



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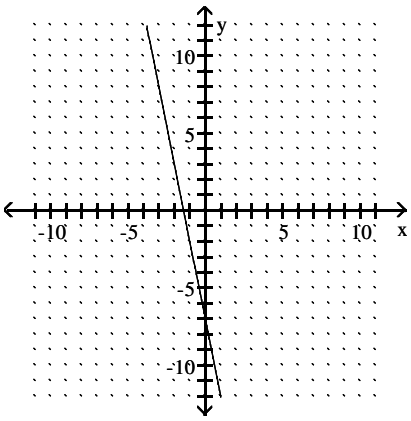
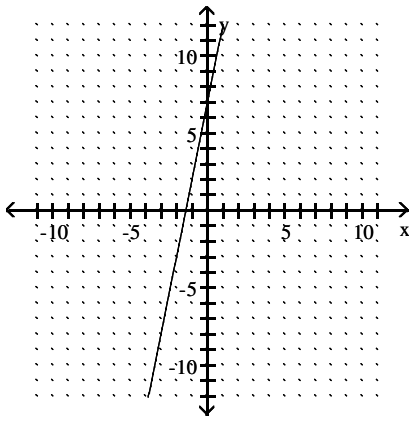
A)



B)



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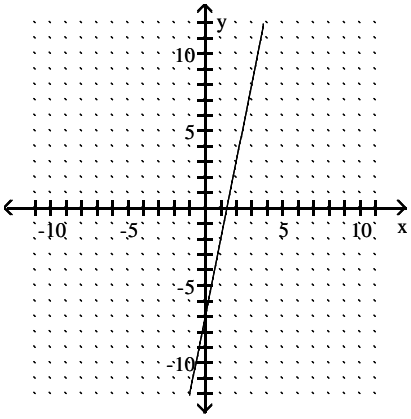

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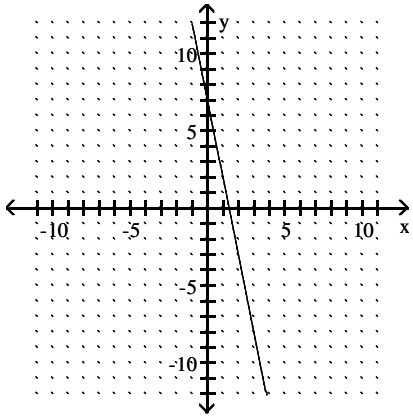

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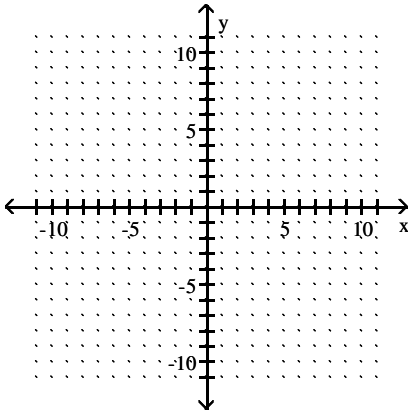
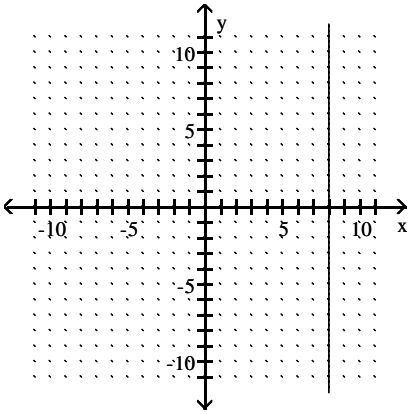
128) x = –8

128) _____



A)



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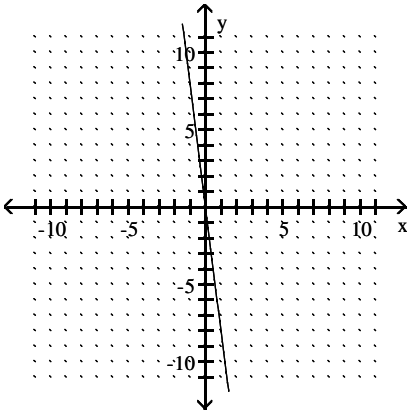

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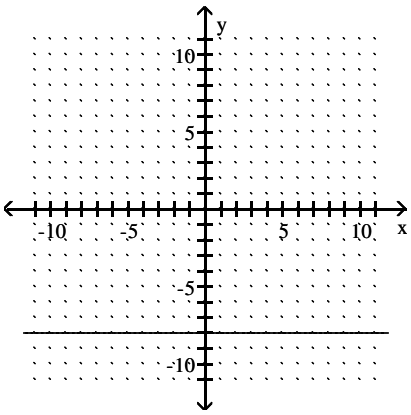

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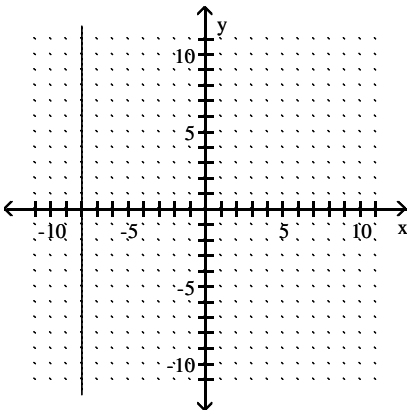

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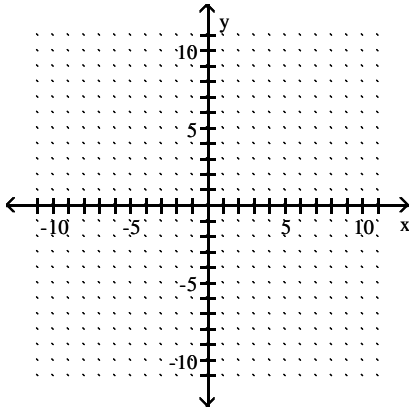
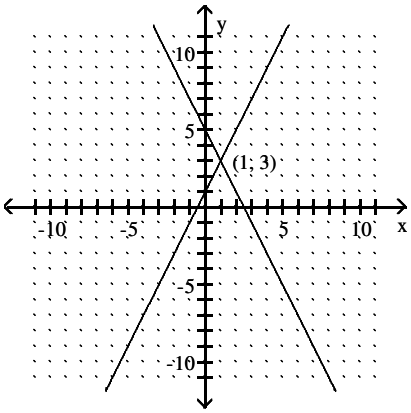
Graph the lines and find the coordinates of the point of intersection.

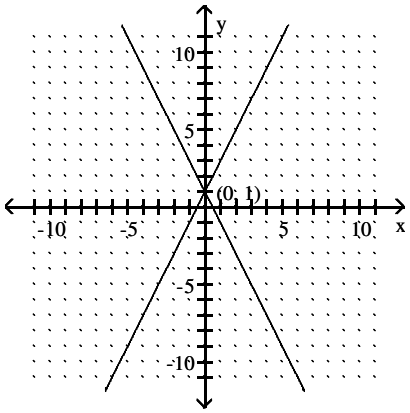
129) $y = 2x + 1$ and $y = -2x + 5$ 129) _____



A)



B)



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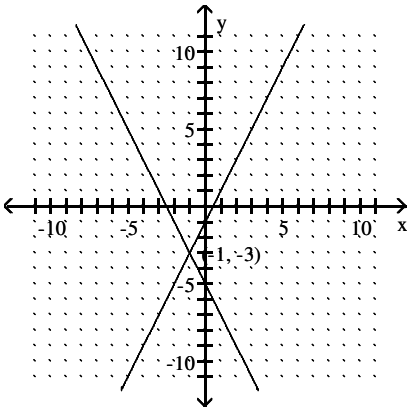
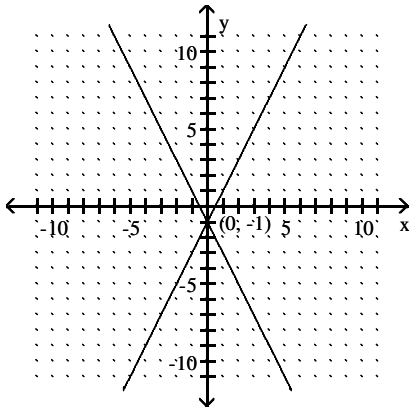


D)



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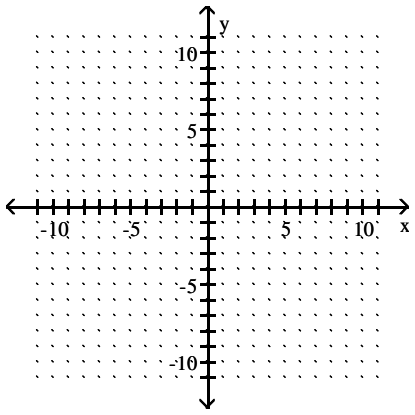
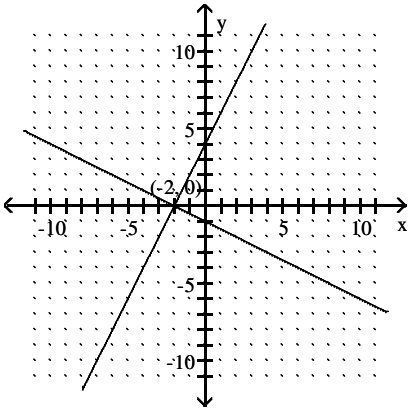
130) $y = \frac{1}{2}x - 1$ and $y = -x + 2$ 130) _____



A)



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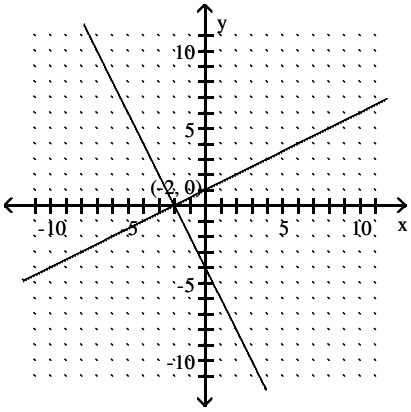
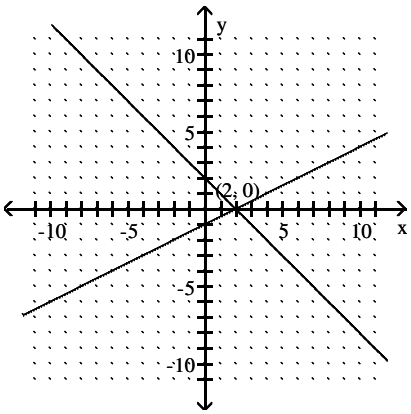
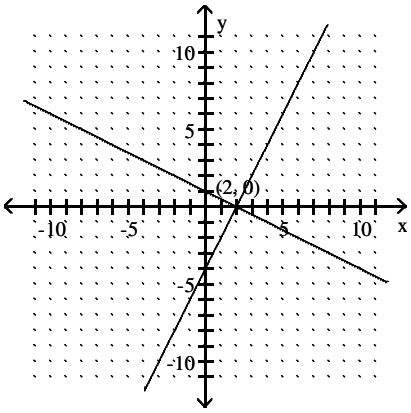


C)



D)



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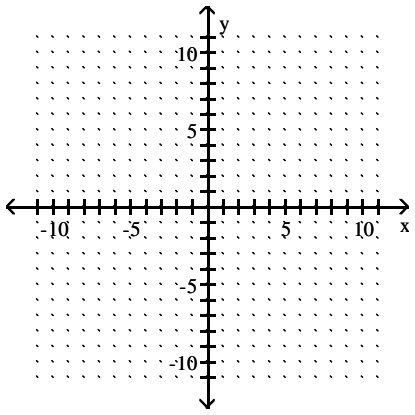
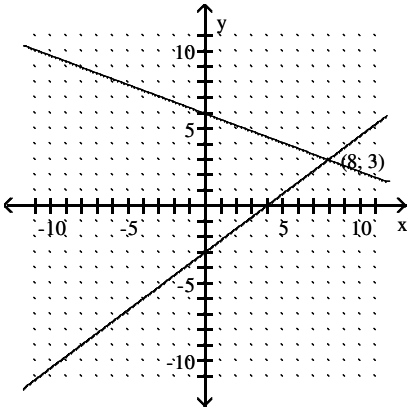
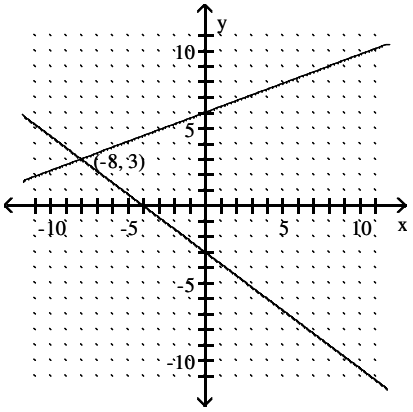
131) $3x + 4y = 12$ and $y = \frac{3}{8}x - 6$ 131) _____



A)

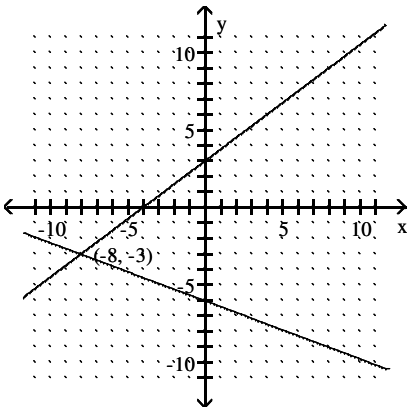
B)

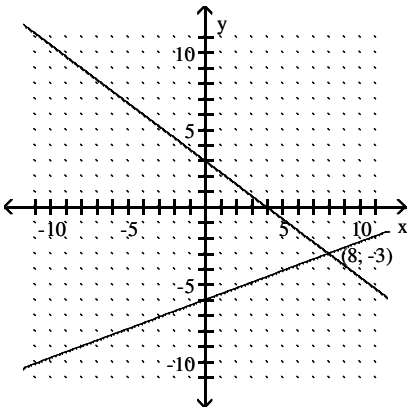




C)

D)





Determine whether the two given lines are parallel.

132) $3x - 8y = 15$
$32x + 12y = 15$ 132) _____

A) Yes B) No

133) $3x - 4y = -3$
$8x + 6y = -3$ 133) _____

A) Yes B) No

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134) $6x + 2y = 8$
$24x + 8y = 35$
A) Yes B) No

135) $9x + 3y = 12$
$12x + 4y = 20$
A) Yes B) No

136) $3x - 8y = -10$
$64x + 12y = -10$
A) Yes B) No

137) $y = 3x - 4$
$12x + 4y = 7$
A) Yes B) No

138) $4x = 3y - 4$
$9y = 12 - 12x$
A) Yes B) No

Determine whether the two given lines are perpendicular.

139) $y + 3 = -4x$
$2y = 12x - 7$
A) Yes B) No

140) $3x - 4y = 3$
$8x + 6y = 3$
A) Yes B) No

141) $6x + 2y = 8$
$12x + 4y = 19$
A) Yes B) No

142) $3x - 9y = 11$
$18x + 12y = 11$
A) Yes B) No

143) $x = -10$
$y = 5$
A) Yes B) No

144) $y = -4x$
$x = 9$
A) Yes B) No

Determine whether the given lines are parallel, perpendicular, or neither.

145) $y = 9x + 6$
$y = 9x - 8$
A) Perpendicular B) Parallel C) Neither

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146) $y = 6x + 3$
$y = -6x + 2$
A) Parallel B) Neither C) Perpendicular 146) _____

147) $y = 8x - 6$
$y = -\frac{1}{8}x + 7$
A) Neither B) Perpendicular C) Parallel 147) _____

148) $y + 4 = -4x$
$2y = 10x - 7$
A) Perpendicular B) Parallel C) Neither 148) _____

149) $y = x + 8$
$x + y = 0$
A) Parallel B) Neither C) Perpendicular 149) _____

150) $7x + 9y = -15$
$y = -\frac{7}{9}x - 17$
A) Parallel B) Perpendicular C) Neither 150) _____

151) $3x - 2y = 12$
$2x + 3y = -12$
A) Neither B) Parallel C) Perpendicular 151) _____

152) $6x + 2y = 8$
$27x + 9y = 37$
A) Neither B) Parallel C) Perpendicular 152) _____

153) $x = 6$
$y = -4$
A) Neither B) Parallel C) Perpendicular 153) _____

154) $y = 7$
$y = -2$
A) Neither B) Perpendicular C) Parallel 154) _____

Solve the problem.

155) Is the line that passes through (1, 8) and (–7, 0) parallel to the line $8x - 8y = 17$?
A) Yes B) No 155) _____

156) Is the line that passes through (–6, –9) and (–1, –7) parallel to the line $2x + 5y = 16$?
A) Yes B) No 156) _____

157) Is the line that passes through (–4, 2) and (–1, –7) perpendicular to the line $3x - 9y = 18$?
A) Yes B) No 157) _____

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158) Is the line that passes through (9, –8) and (0, –13) perpendicular to the line –5x – 9y = 13? 158) _____

A) Yes B) No

159) Is the line that passes through (3, –5) and (–2, –8) perpendicular to the line that passes through (1, 9) and (–4, 6)? 159) _____

A) Yes B) No

160) Is the line that passes through (9, –2) and (10, –8) parallel to the line that passes through (–3, 5) and (–2, –1)? 160) _____

A) Yes B) No

161) A children's slide rises 12 feet over a horizontal distance of 10 feet. Find the slope of the slide. 161) _____

A) 10 B) $\frac{5}{6}$ C) $\frac{6}{5}$ D) 12

162) A ladder is resting against a wall. The foot of the ladder is 8 feet from the wall, and the top of the ladder is 18 feet from the ground. Find the slope of the ladder. 162) _____

A) 18 B) 8 C) $\frac{4}{9}$ D) $\frac{9}{4}$

163) A hill on a hiking trail goes up 67 feet over a distance of 128 feet. Find the slope of the hill. 163) _____

A) $\frac{128}{67}$ B) 128 C) 67 D) $\frac{67}{128}$

164) The cost, in dollars, of retaining the services of a computer repairman in Anchorville is given by c = 66x + 18, where x is the number of hours worked. Find the slope and y–intercept of the equation and explain what each signifies. 164) _____

A) 84 signifies the cost for an on–site inspection.
B) –66 signifies the hourly rate, and 18 signifies the travel cost.
C) 18 signifies the hourly rate, and 66 signifies the overhead charge.
D) 66 signifies the hourly rate, and 18 signifies the overhead charge.

165) The cost, in dollars, of cellular phone service with Econo–phone is given by c = 0.19x + 26.55, where x is the number of minutes used in one month. Find the slope and y–intercept of the equation and explain what each signifies. 165) _____

A) 26.55 signifies the total phone bill, and 0.19 signifies the number of minutes used.
B) 0.19 signifies the hourly phone rent, and 26.55 signifies the cost of the hardware.
C) 26.55 signifies the cost per minute, and 0.19 signifies the monthly service charge.
D) 0.19 signifies the cost per minute, and 26.55 signifies the monthly service charge.

166) The value, in dollars, of a particular KX37B computer is given by v = –456.05x + 7441, where x is the number of years the computer has been in existence. Find the slope and y–intercept of the equation and explain what each signifies. 166) _____

A) –456.05 signifies the number of computers owned, and 7441 signifies the cost of electricity.
B) –456.05 signifies the hourly cost of repairs, and 7441 signifies the cost of software.
C) –456.05 signifies the amount of depreciation per year, and 7441 signifies the initial cost.
D) 7441 signifies the amount of depreciation per year, and –456.05 signifies the initial cost.

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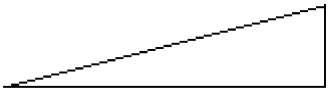
167) The cost, in dollars, of a one–day car rental is given by $c = 35 + 0.23x$ where x is the number of miles driven. Find the slope and y–intercept of the equation and explain what each signifies. 167) _____

A) \$0.23 is the cost per day to rent the car and \$35 is the cost per mile.
B) \$35 is the cost per day to rent the car and \$23 is the extra cost for unlimited miles.
C) \$23 is the cost per day to rent the car and \$0.35 is the cost per mile.
D) \$35 is the cost per day to rent the car and \$0.23 is the cost per mile.

168) The population, in millions, of a city t years after 1990 is given by $p = 2.5 + 0.07t$. Find the slope and y–intercept of the equation and explain what each signifies. 168) _____

A) 0.07 million is the population of the city in 1990 and 2.5 million is the increase per year in the population .
B) 2.5 million is the population of the city in 1990 and 0.07 million is the decrease per year in the population .
C) 2.5 million is the population of the city in 1990 and 0.07 million is the increase per year in the population .
D) 2.5 million is the population of the city in 1991 and 2.57 million is the population in 1992.

169) A motorcycle daredevil is planning a stunt to perform at a county fair. A ramp must be built to give him a 20% grade, or slope. If the vertical height at the end of the ramp must be 11 ft to assure that th stunt is a success, what must be the length of the horizontal run? 169) _____



A) 55 ft B) 11 ft C) 198 ft D) 1.98 ft

Write the equation in slope–intercept form.

170) $8x + 9y = 67$ 170) _____

A) $y = -\frac{1}{8}x + \frac{9}{67}$ B) $y = \frac{1}{8}x + \frac{9}{67}$ C) $y = -\frac{8}{9}x + \frac{67}{9}$ D) $y = \frac{8}{9}x + \frac{67}{9}$

171) $3x + 7y = 41$ 171) _____

A) $y = \frac{3}{7}x + \frac{41}{7}$ B) $y = -\frac{3}{7}x + \frac{41}{7}$ C) $y = -\frac{7}{3}x + \frac{7}{41}$ D) $y = \frac{7}{3}x + \frac{7}{41}$

172) $15x - 4y = 5$ 172) _____

A) $y = -\frac{15}{4}x + 5$ B) $y = \frac{15}{4}x + 5$ C) $y = \frac{15}{4}x - \frac{5}{4}$ D) $y = -\frac{15}{4}x - 5$

173) $-3x + y = 15$ 173) _____

A) $y = -3x - 15$ B) $y = 3x - 15$ C) $y = 3x + 15$ D) $y = -3x + 15$

174) $x - 4y = 15$ 174) _____

A) $y = \frac{1}{4}x - 15$ B) $y = \frac{1}{4}x + \frac{15}{4}$ C) $y = \frac{1}{4}x + 15$ D) $y = \frac{1}{4}x - \frac{15}{4}$

175) $6x - 7y = 0$ 175) _____

A) $y = \frac{6}{7}x$ B) $y = -\frac{6}{7}x$ C) $y = 6x - 7$ D) $y = -6x + 7$

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Find the equation of a line with the given slope and y–intercept.

176) Slope 3, y–intercept (0, –4) 176) _____

A) $y = 3x + 4$ B) $y = 3x - 4$ C) $y = -4x + 3$ D) $y = 4x + 3$

177) Slope –6, y–intercept (0, 5) 177) _____

A) $y = 5x - 6$ B) $y = -6x - 5$ C) $y = -6x + 5$ D) $y = 6x + 5$

178) Slope $-\frac{3}{2}$, y–intercept (0, 6) 178) _____

A) $y = \frac{3}{2}x - 6$ B) $y = \frac{3}{2}x + 6$ C) $y = -\frac{3}{2}x + 6$ D) $y = -\frac{3}{2}x - 6$

179) Slope $\frac{3}{2}$, y–intercept (0, 2) 179) _____

A) $y = \frac{3}{2}x - 2$ B) $y = -\frac{3}{2}x + 2$ C) $y = \frac{3}{2}x + 2$ D) $y = -\frac{3}{2}x - 2$

180) Slope $\frac{1}{2}$, y–intercept (0, 2) 180) _____

A) $y = -\frac{1}{2}x + 2$ B) $y = \frac{1}{2}x - 2$ C) $y = \frac{1}{2}x + 2$ D) $y = -\frac{1}{2}x - 2$

181) Slope $\frac{8}{3}$, y–intercept (0, –5) 181) _____

A) $y = \frac{8}{3}x - 5$ B) $y = -\frac{8}{3}x - 5$ C) $y = \frac{8}{3}x + 5$ D) $y = -\frac{8}{3}x + 5$

182) Slope 0, y–intercept (0, 2) 182) _____

A) $y = 2$ B) $x = 2$ C) $y = 2x$ D) $y = 0$

Find the slope–intercept form of the equation of a line with the given slope that passes through the given point.

183) Slope –9, through (2, –3) 183) _____

A) $y = -9x + 13$ B) $y = -9x + 15$ C) $y = 9x + 14$ D) $y = -9x + 16$

184) Slope –9, through (–6, 6) 184) _____

A) $y = 9x - 50$ B) $y = -9x - 56$ C) $y = -9x - 49$ D) $y = -9x - 48$

185) Slope 6, through (–5, 0) 185) _____

A) $y = 6x - 31$ B) $y = 6x - 33$ C) $y = 6x + 30$ D) $y = -6x + 26$

186) Slope $-\frac{1}{3}$, through (9, –1) 186) _____

A) $y = -\frac{1}{3}x + 4$ B) $y = \frac{1}{3}x - 2$ C) $y = -\frac{1}{3}x + \frac{8}{3}$ D) $y = -\frac{1}{3}x + 2$

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187) Slope – 8, through (3, 3) 187) _____

A) $y = -8x + \frac{1}{27}$ B) $y = -8x - 27$ C) $y = -\frac{1}{8}x + 27$ D) $y = -8x + 27$

188) Slope $\frac{3}{7}$, through (7, 3) 188) _____

A) $y = -\frac{3}{7}x$ B) $y = \frac{7}{3}x + 6$ C) $y = \frac{3}{7}x - 6$ D) $y = \frac{3}{7}x$

189) Slope 0, through (–6, –5) 189) _____

A) $y = -5$ B) $x = -6$ C) $y = -6$ D) $x = -5$

190) Undefined slope, through (8, –2) 190) _____

A) $y = -2$ B) $y = 8$ C) $x = 8$ D) $x = -2$

Find the slope–intercept form of the equation of a line that passes through the given points.

191) (3, 3), (5, –3) 191) _____

A) $y = 3x + 12$ B) $y = -3x + 12$ C) $y = 12x - 3$ D) $y = 12x + 3$

192) (0, 0), (1, –7) 192) _____

A) $y = \frac{1}{7}x$ B) $y = -7x$ C) $y = 7x$ D) $y = -\frac{1}{7}x$

193) (–7, –3), (–2, –3) 193) _____

A) $y = -\frac{2}{7}x$ B) $y = -3$ C) $y = -\frac{7}{2}x$ D) $y = -7$

194) (–2, 4), (–2, –10) 194) _____

A) $y = 4$ B) $x = 4$ C) $x = -2$ D) $y = -2$

195) (1, 0), (0, 2) 195) _____

A) $y = -\frac{1}{2}x + 2$ B) $y = -2x + 2$ C) $y = -2x - 2$ D) $y = 2x + 2$

196) (–5, 0), (0, –9) 196) _____

A) $y = \frac{9}{5}x - 9$ B) $y = -\frac{5}{9}x - 9$ C) $y = -\frac{9}{5}x + 9$ D) $y = -\frac{9}{5}x - 9$

Find the slope–intercept form of the equation of a line whose x–intercept and y–intercept are given.

197)

x–intercept	y–intercept
(6, 0)	(0, 5)

197) _____

A) $y = \frac{5}{6}x - 5$ B) $y = \frac{5}{6}x + 5$ C) $y = -\frac{5}{6}x + 5$ D) $y = -\frac{5}{6}x - 5$

198)

x–intercept	y–intercept
(–8, 0)	(0, –7)

198) _____

A) $y = -\frac{7}{8}x + 7$ B) $y = -\frac{7}{8}x - 7$ C) $y = \frac{7}{8}x + 7$ D) $y = \frac{7}{8}x - 7$

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199) $\begin{array}{c|c} \text{x–intercept} & \text{y–intercept} \\ \hline (-7, 0) & (0, 5) \end{array}$ 199) _____

A) $y = \frac{5}{7}x - 5$ B) $y = \frac{5}{7}x + 5$ C) $y = -\frac{5}{7}x - 5$ D) $y = -\frac{5}{7}x + 5$

200) $\begin{array}{c|c} \text{x–intercept} & \text{y–intercept} \\ \hline (8, 0) & (0, -9) \end{array}$ 200) _____

A) $y = -\frac{9}{8}x - 9$ B) $y = -\frac{9}{8}x + 9$ C) $y = \frac{9}{8}x + 9$ D) $y = \frac{9}{8}x - 9$

Find the slope–intercept form of the equation of a line parallel or perpendicular to the given line and passing through the given point.

201) Parallel to $y = 3x - 7$, through $(1, -4)$ 201) _____

A) $y = -3x + 1$ B) $y = 3x + 7$ C) $y = 3x - 7$ D) $y = -3x - 1$

202) Parallel to $y = -\frac{1}{4}x - 8$, through $(-4, -2)$ 202) _____

A) $y = -\frac{1}{4}x - 3$ B) $y = 4x + 14$ C) $y = 4x - 14$ D) $y = -\frac{1}{4}x + 3$

203) Parallel to $2x - 5y = -5$, through $(-10, 6)$ 203) _____

A) $y = \frac{2}{5}x + 10$ B) $y = -\frac{5}{2}x + 10$ C) $y = -\frac{2}{5}x + 2$ D) $y = \frac{5}{2}x + 10$

204) Parallel to $x + y = 12$, through$(2, 7)$ 204) _____

A) $y = x - 5$ B) $y = -x - 9$ C) $y = x + 5$ D) $y = -x + 9$

205) Perpendicular to $8x + 3y = -41$, through $(-7, 10)$ 205) _____

A) $y = \frac{3}{8}x + \frac{101}{8}$ B) $y = -\frac{3}{8}x - \frac{101}{8}$ C) $y = -\frac{3}{8}x - \frac{41}{8}$ D) $y = \frac{8}{3}x + \frac{101}{3}$

206) Perpendicular to $5x - 9y = 64$, through $(2, 6)$ 206) _____

A) $y = -\frac{2}{9}x + \frac{64}{9}$ B) $y = -\frac{5}{9}x - \frac{5}{9}$ C) $y = -\frac{9}{5}x + \frac{48}{5}$ D) $y = \frac{9}{5}x + \frac{48}{5}$

207) Perpendicular to $y = \frac{1}{4}$, through $(7, 5)$ 207) _____

A) $x = 5$ B) $x = 7$ C) $y = 5$ D) $y = 7$

208) Perpendicular to $x = 5$, through $(4, 6)$ 208) _____

A) $x = 6$ B) $x = 4$ C) $y = 4$ D) $y = 6$

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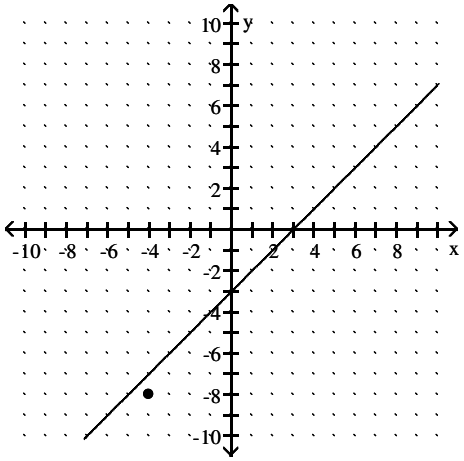
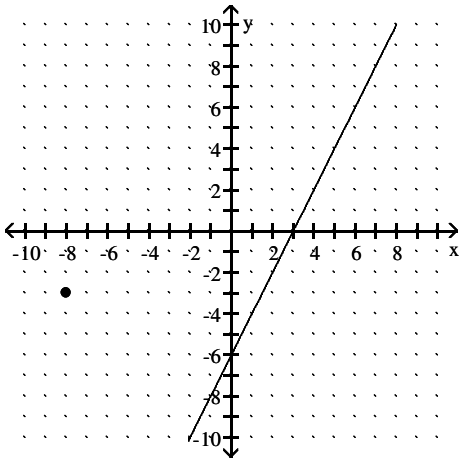
Provide an appropriate response.

209) Find the slope–intercept form of the equation of a line that is parallel to the graphed line and that pa 209) _____
through the point plotted on the graph.



A) $y = x + 4$ B) $y = -x + 4$ C) $y = x - 4$ D) $y = -x - 4$

210) Find the slope–intercept form of the equation of a line that is perpendicular to the graphed line and 210) _____
passes through the point plotted on the graph.



A) $y = 2x + 13$ B) $y = -\frac{1}{2}x - \frac{19}{2}$ C) $y = -2x - 19$ D) $y = -\frac{1}{2}x - 7$

Solve the problem.

211) An object is dropped from a helicopter. After 2 seconds, the speed of the object was 60 ft/s, and after 211) _____
seconds, its speed had increased to 108 ft/s.
a) Find a linear equation that calculates the object's speed y after x seconds.
b) What is the speed of the object after 5 seconds?

A) a) $y = 40x$, b) 200 ft/s
B) a) $y = 34x$, b) 170 ft/s
C) a) $y = 38x$, b) 190 ft/s
D) a) $y = 42x$, b) 210 ft/s

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212) A banquet hall hosts parties. There is a charge to rent the hall, in addition to a per person charge for meal. Neil had 110 guests at his graduation party and paid a total of $5250. Caroline had 160 guests wedding and paid a total of $7500. 212) _____

a) Find a linear equation for the total charge y to host a party with x guests.
b) What is the charge to rent the hall?
c) What is the charge for each person's dinner?
d) What would the charge be to host a party with 185 guests?

A) a) $y = 45x + 300$
b) $300,
c) $45,
d) $8625

B) a) $y = 40x + 350$
b) $350,
c) $40,
d) $7750

C) a) $y = 40x + 550$
b) $550,
c) $40,
d) $7950

D) a) $y = 55x + 400$
b) $400,
c) $55,
d) $10,575

Determine whether the ordered pair is a solution to the linear inequality.

213) $3x - 6y \le 3$; $(-4, 3)$ 213) _____
A) Yes B) No

214) $8x + 3y \le -5$; $(1, 2)$ 214) _____
A) Yes B) No

215) $6x + 3y \ge 24$; $(3, 2)$ 215) _____
A) Yes B) No

216) $y < \frac{1}{3}x - 1$; $(6, 0)$ 216) _____
A) Yes B) No

217) $x - y \le 3$; $(5, 1)$ 217) _____
A) Yes B) No

218) $x + 2y > 6$; $(-3, 5)$ 218) _____
A) Yes B) No

219) $y > -x - 2$; $(-1, 1)$ 219) _____
A) Yes B) No

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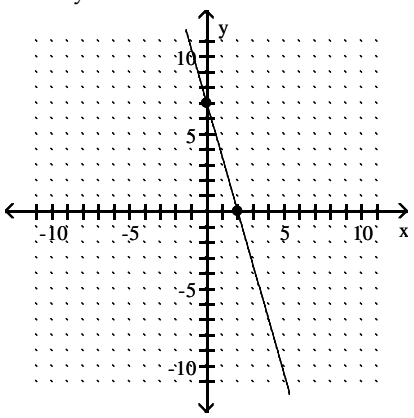
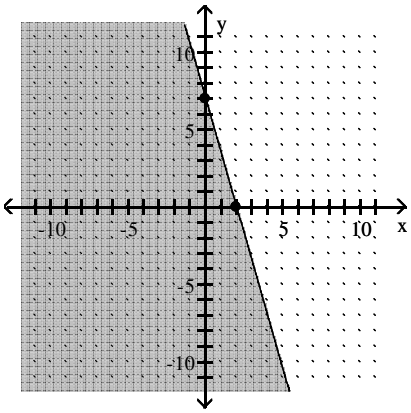
Complete the solution of the linear inequality by shading the appropriate region.

220) $7x + 2y \leq 14$ 220) _____



A)



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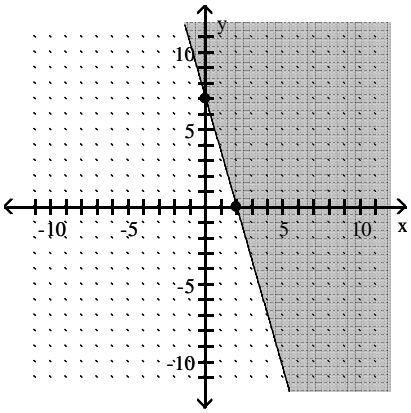

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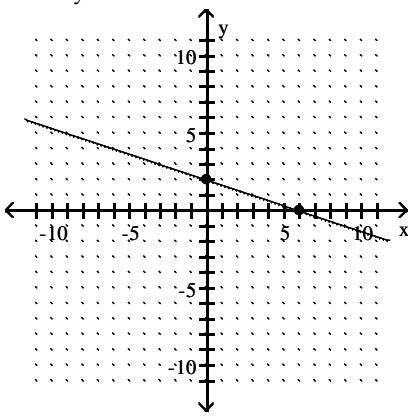
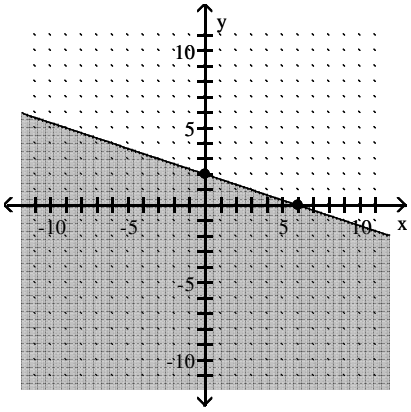
221) $2x + 6y \geq 12$ 221) _____



A)



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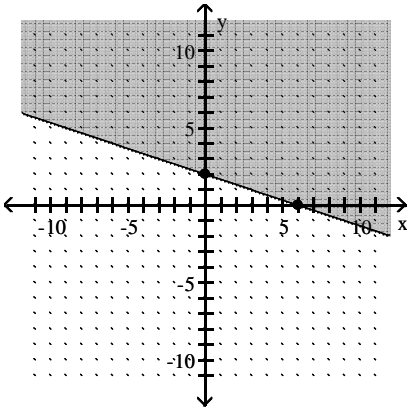

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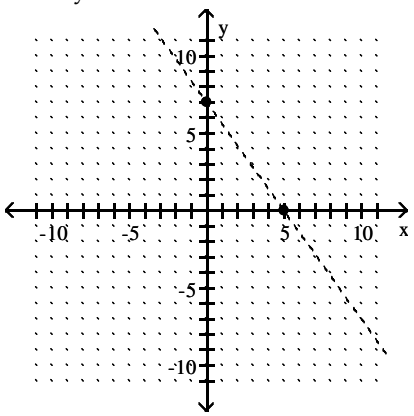
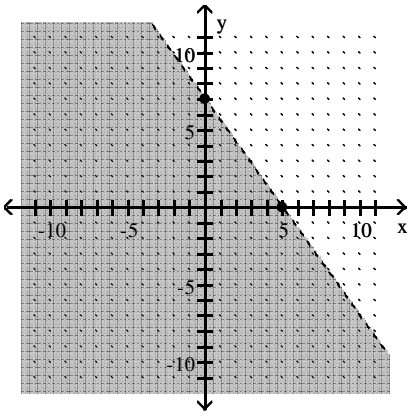
222) $7x + 5y < 35$ 222) _____



A)



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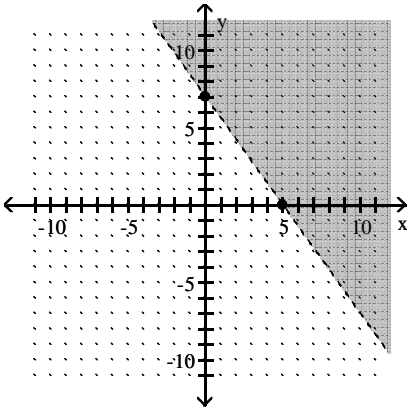

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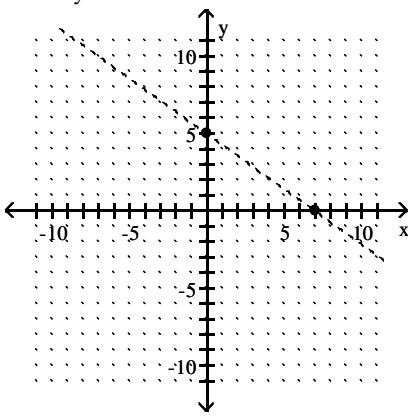
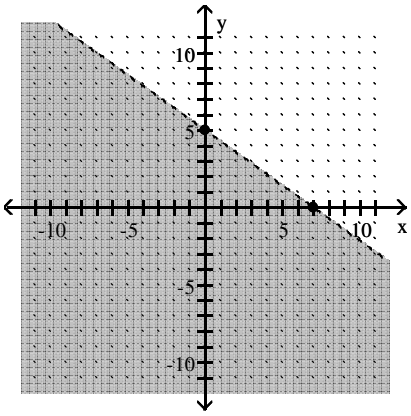
223) $5x + 7y > 35$ 223) _____



A)



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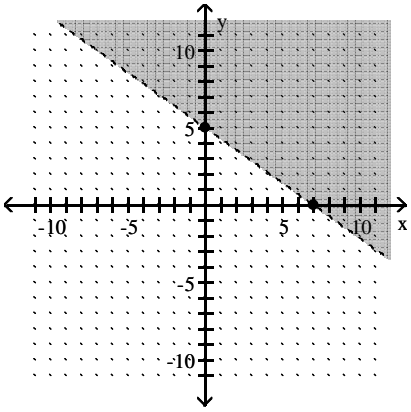
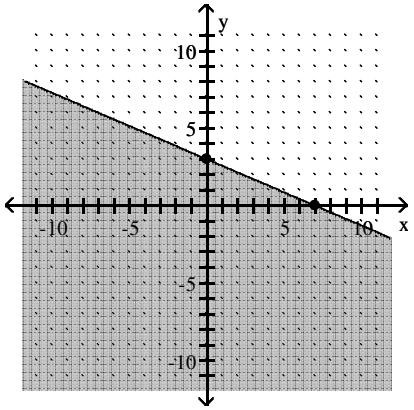


Determine the missing inequality sign (<, >, ≤, or ≥) for the linear inequality based on the given graph.

224) $3x + 7y$ ___ 21 224) _____



A) ≤ B) < C) > D) ≥

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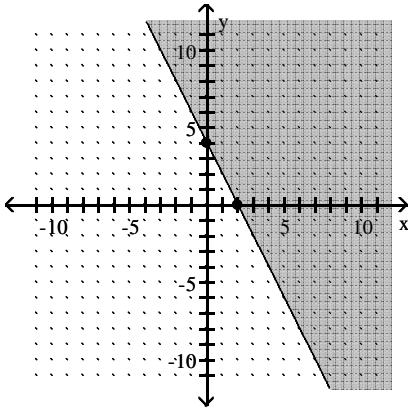
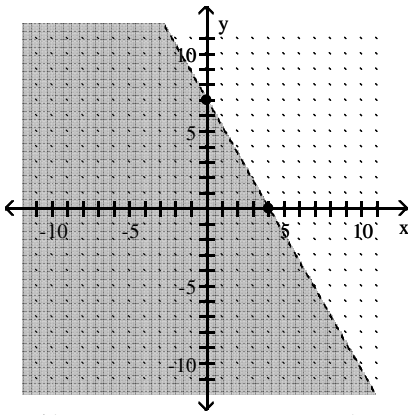
225) $4x + 2y$ ___ 8 225) _____



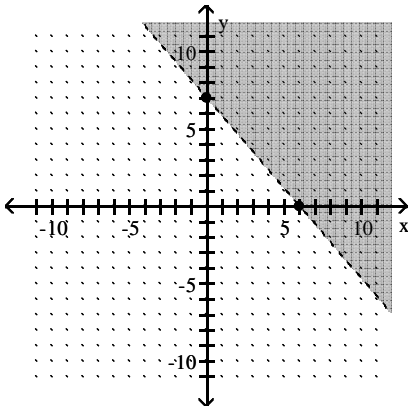
A) > B) < C) ≥ D) ≤

226) $7x + 4y$ ___ 28 226) _____



A) ≤ B) < C) > D) ≥

227) $7x + 6y$ ___ 42 227) _____



A) > B) < C) ≤ D) ≥

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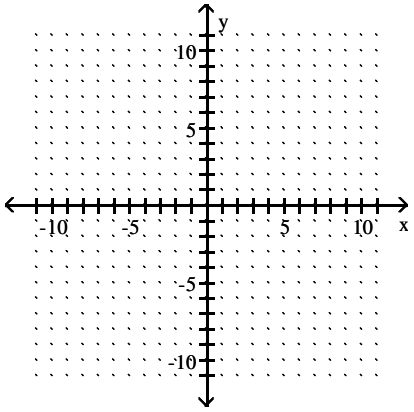
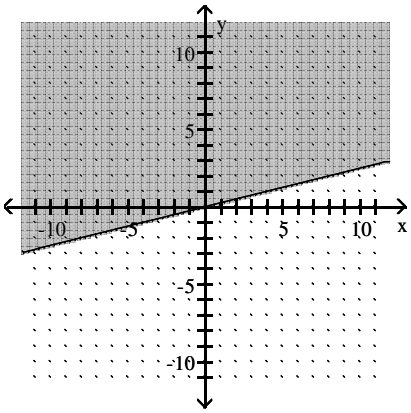
Graph the linear inequality.

228) $y \geq 4x$ 228) _____



A)



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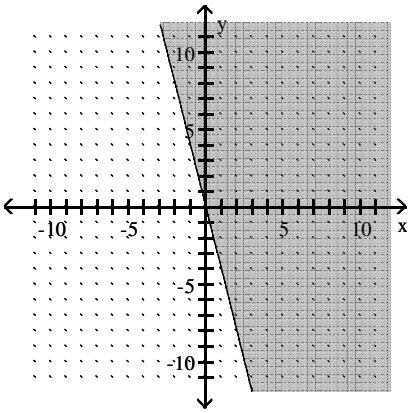
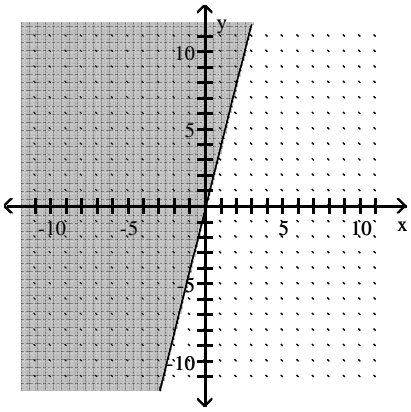


C)



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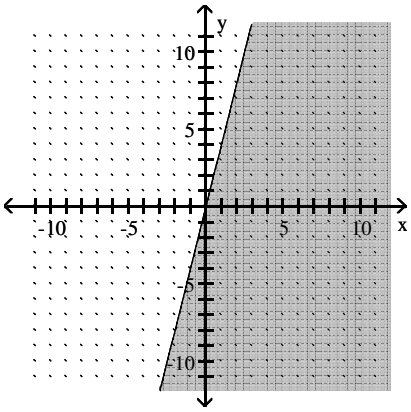

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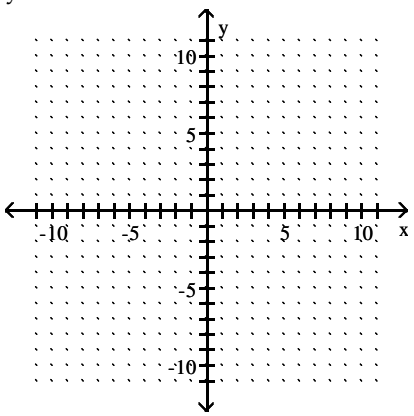
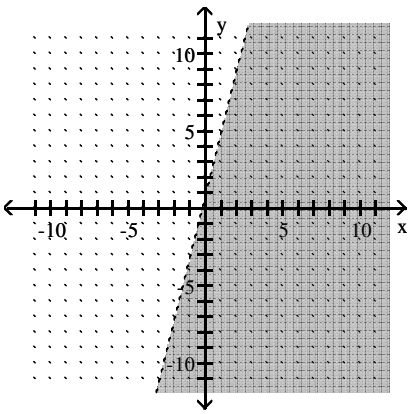
229) $y < -4x + 1$ 229) _____



A)



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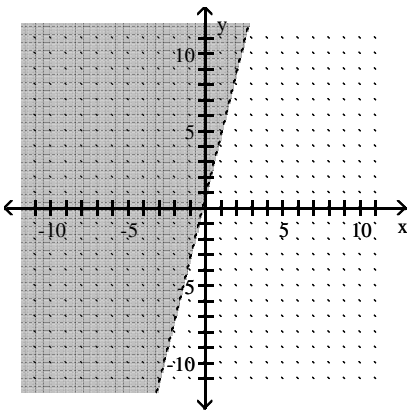

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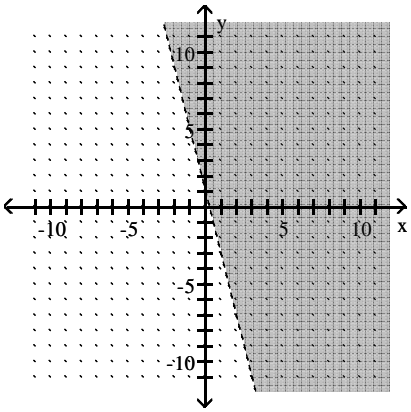

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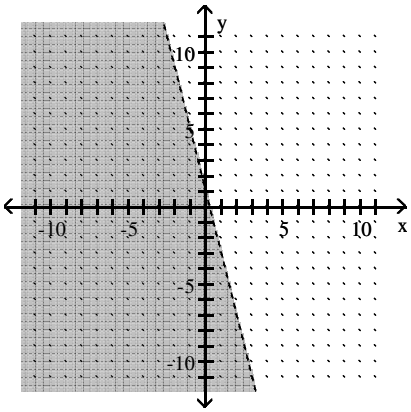
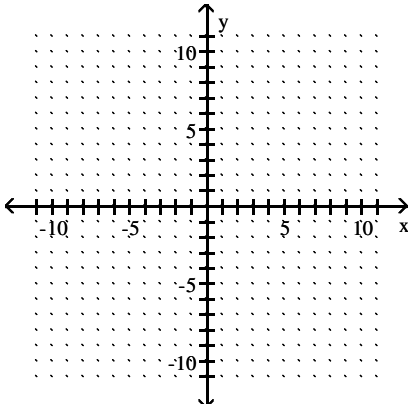


230) $y \leq -4x + 1$ 230) _____



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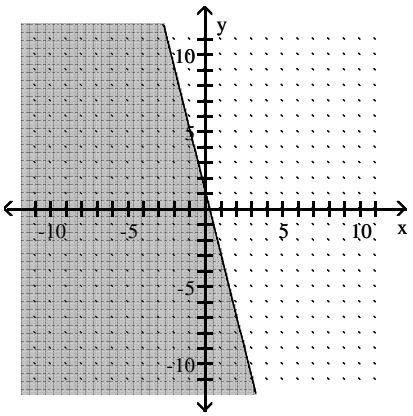
A)



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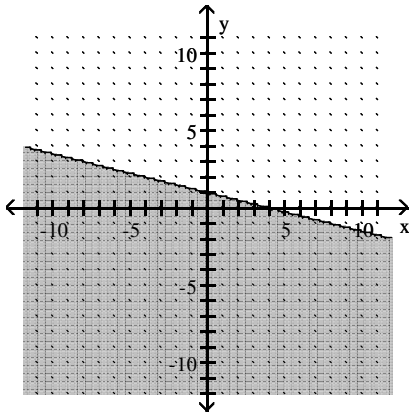

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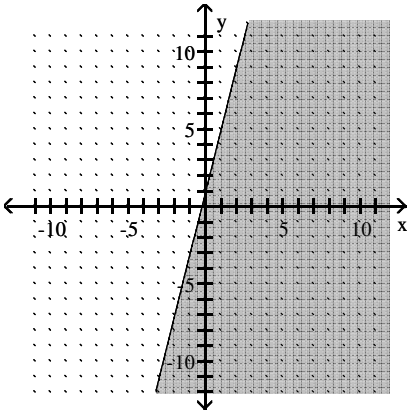

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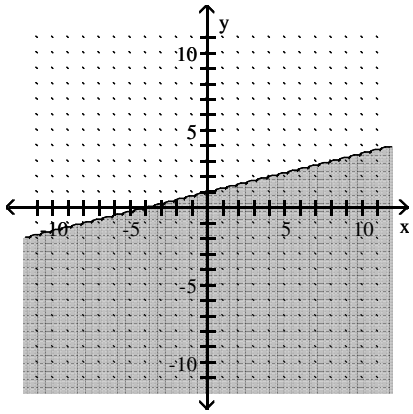

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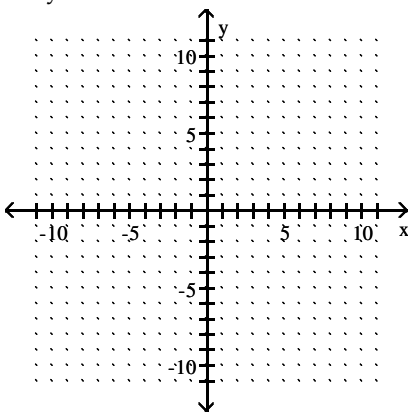
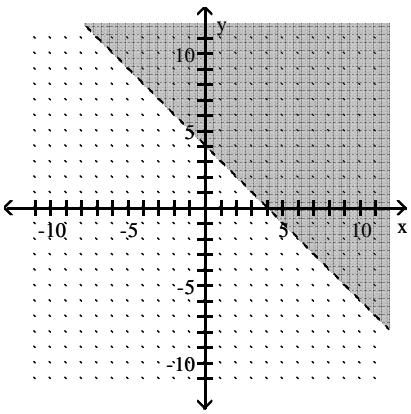
231) $x - y > -4$ 231) _____



A)



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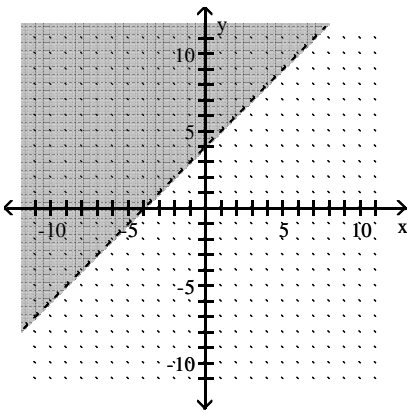

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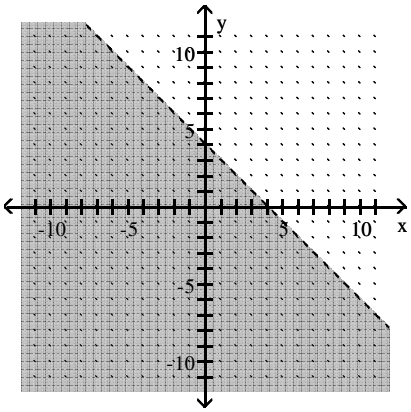

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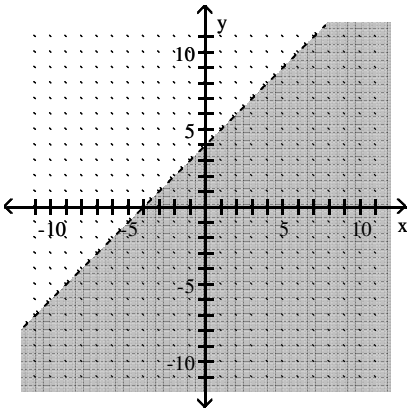

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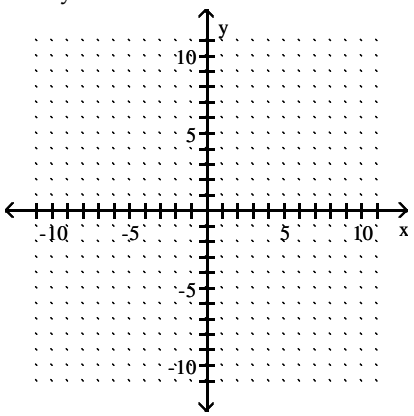
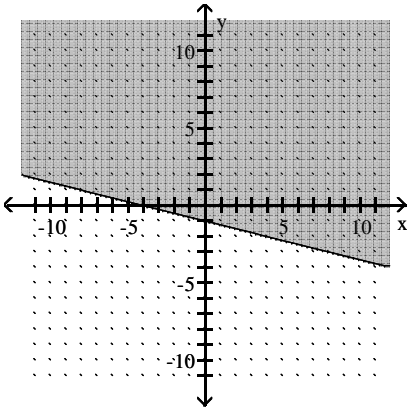
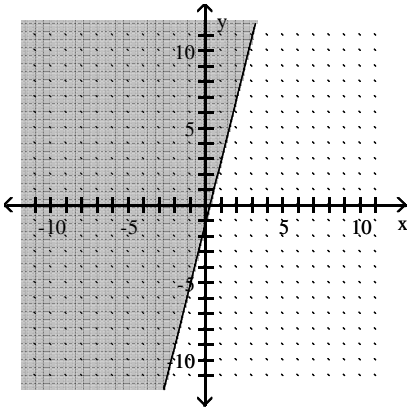
232) $4x + y \leq -1$ 232) _____



A)



B)



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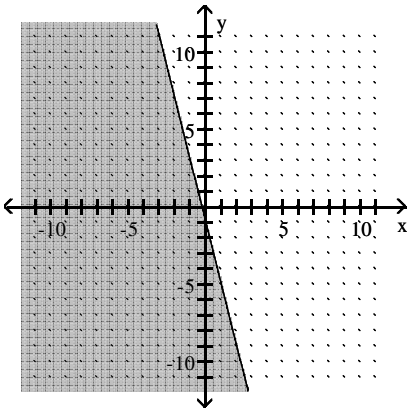
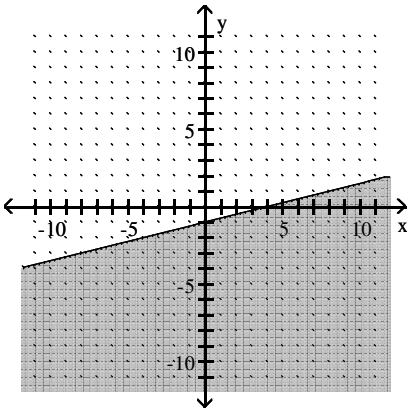


D)



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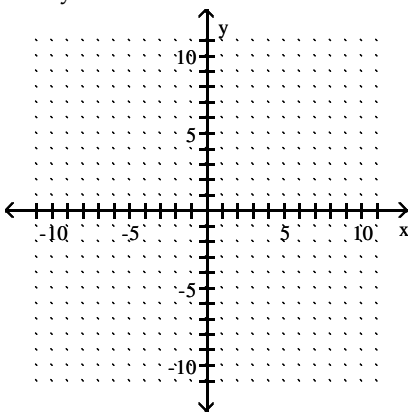
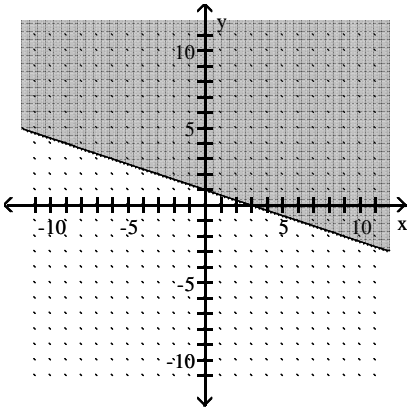
233) $x + 3y \geq 3$ 233) _____



A)



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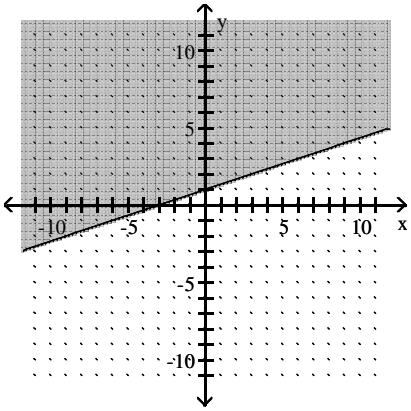

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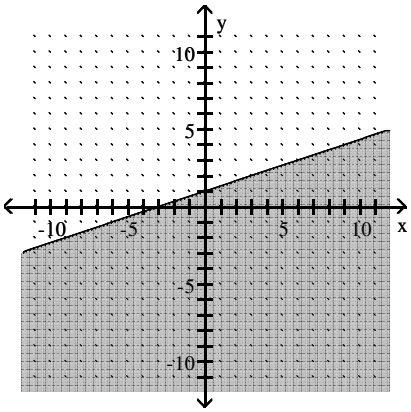

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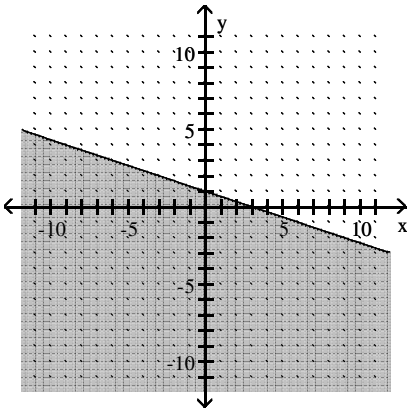

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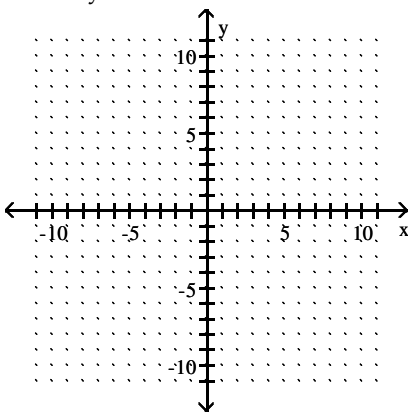
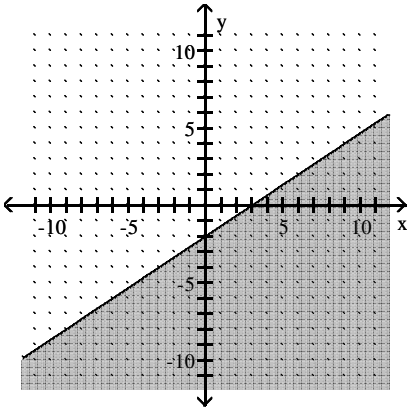
234) $-2x - 3y \leq 6$ 234) _____



A)



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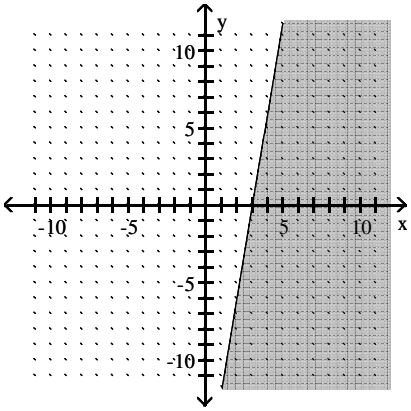

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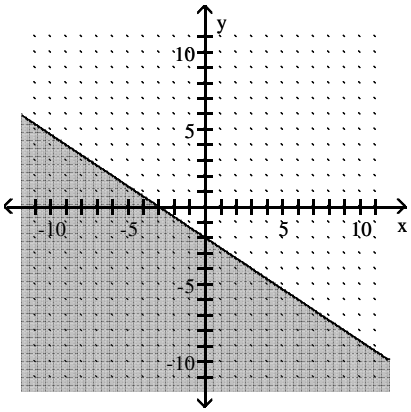
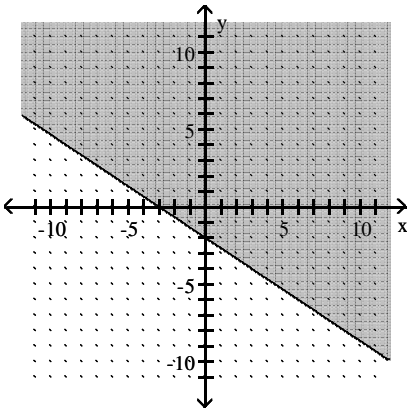


D)



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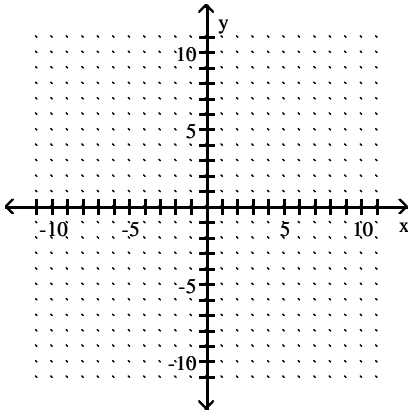
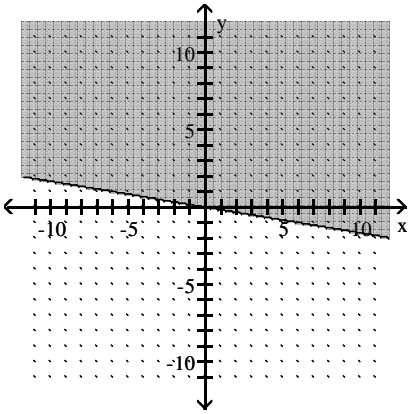
235) $x - 6y \geq 0$ 235) _____



A)



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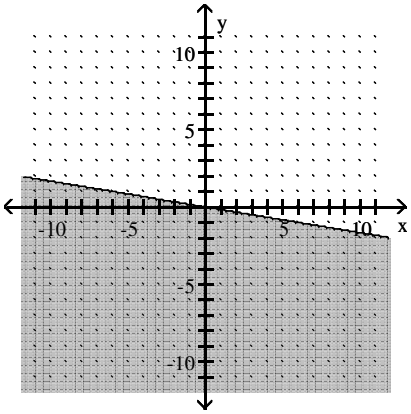

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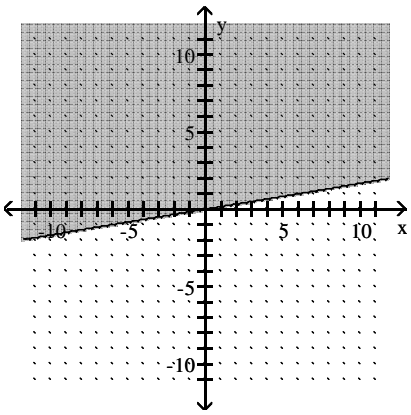

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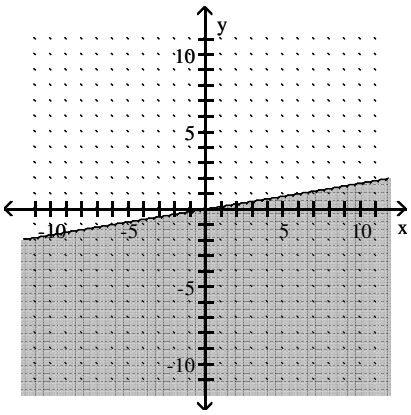

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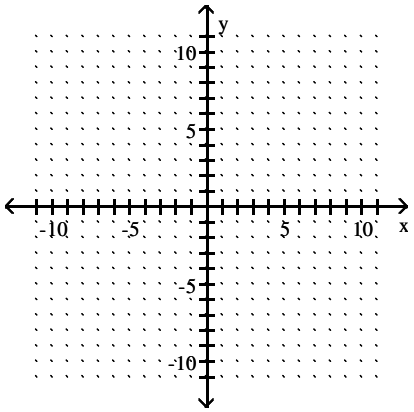
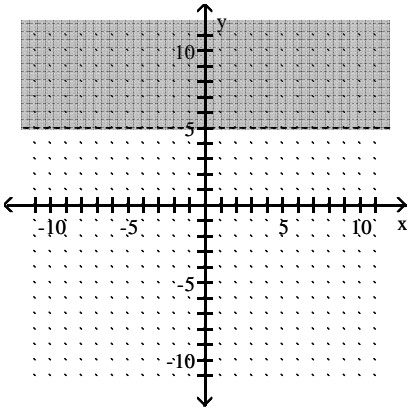
236) $x \geq 5$ 236) _____



A)



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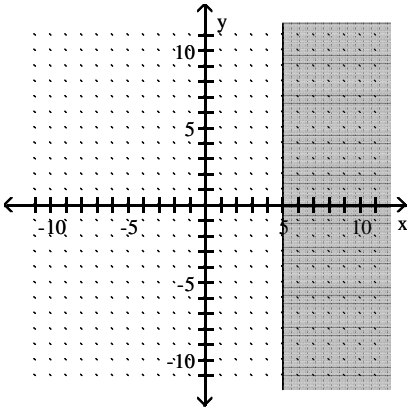

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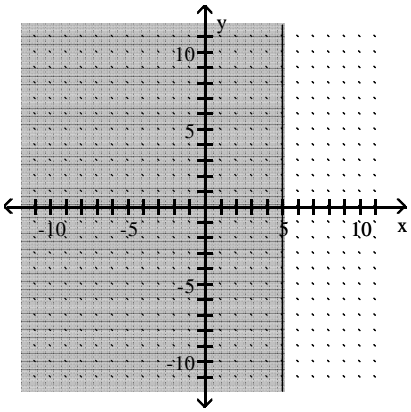

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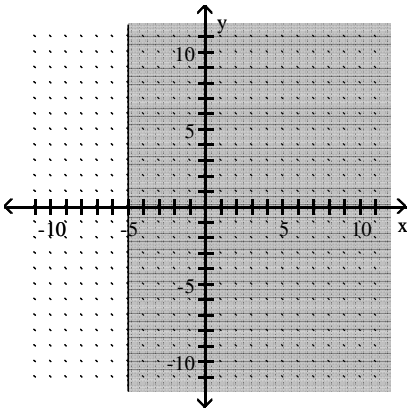

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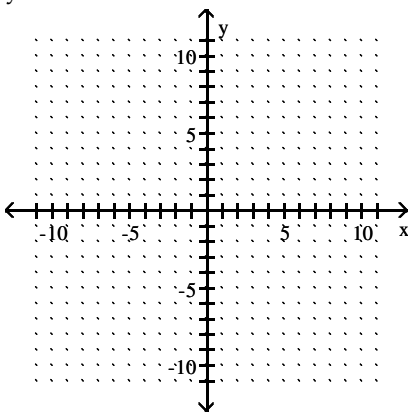
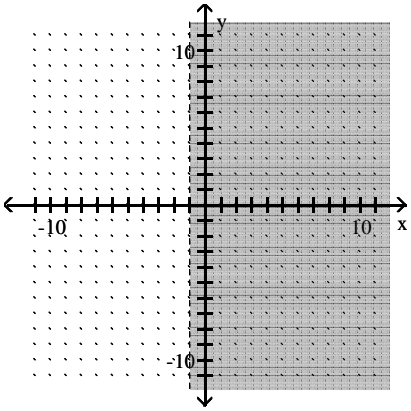
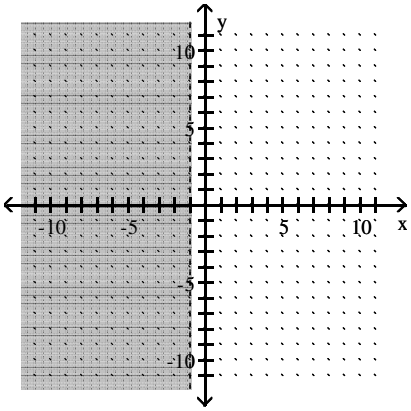
237) $y < -1$ 237) _____



A)



B)



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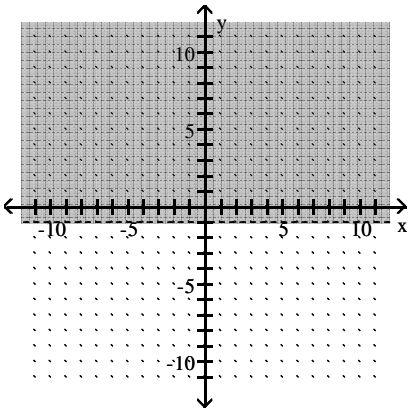
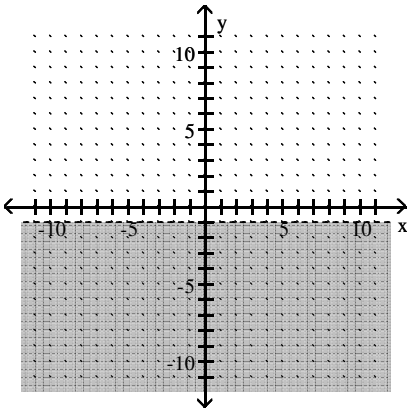


D)



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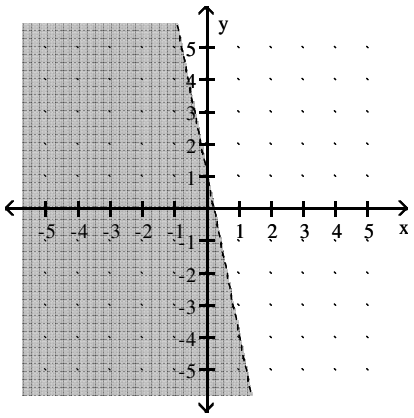
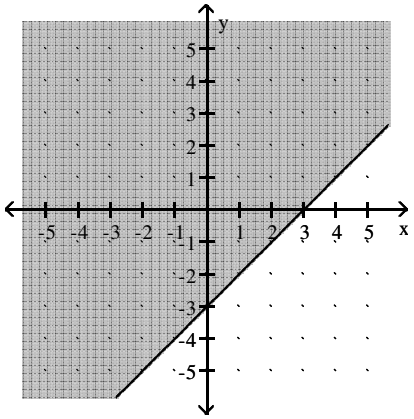
Determine the linear inequality associated with the given solution.

238) 238) _____



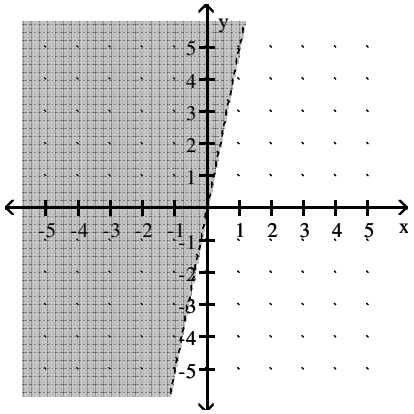
A) $y > -5x + 1$ B) $y > 5x + 1$ C) $y < 5x + 1$ D) $y < -5x + 1$

239) 239) _____



A) $y \geq 3x$ B) $y \geq x - 3$ C) $y \leq 3x$ D) $y \geq x + 3$

240) 240) _____



A) $y > -5x$ B) $y > 5x$ C) $y < 5x$ D) $y < -5x$

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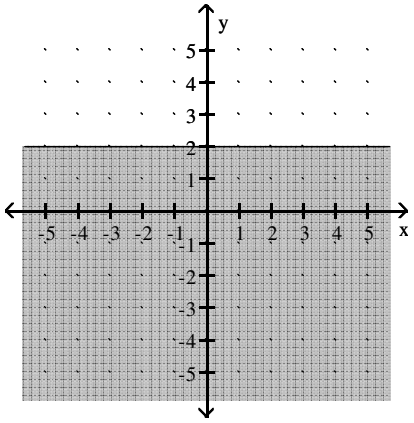
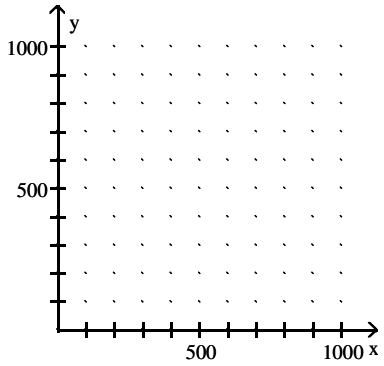
241) 241) _____



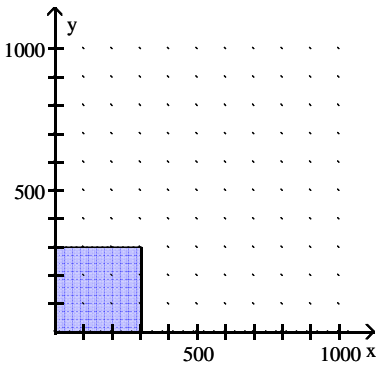
A) $y \geq 2$ B) $y \leq 2$ C) $x \geq 2$ D) $x \leq 2$

Solve the problem.

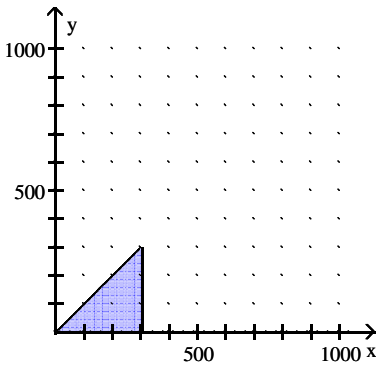
242) A hardware store has room for 300 bags of fertilizer. The fertilizer manufacturer plans to ship two kinds of fertilizer, one with weed killer and one without weed killer. Set up and graph an inequality involving the number of bags of fertilizer with weed killer and the number of bags without weed kil being shipped to the hardware store. 242) _____



A) $x + y \leq 300$



B) $x + y \leq 300$



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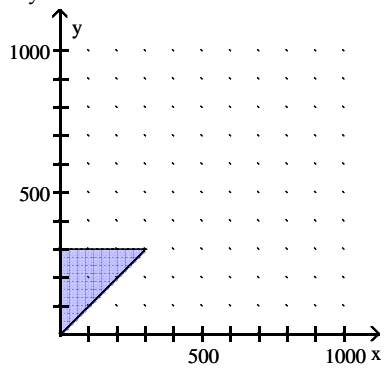
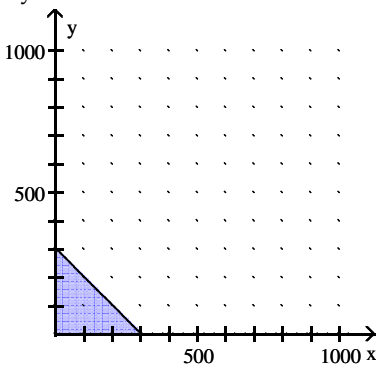
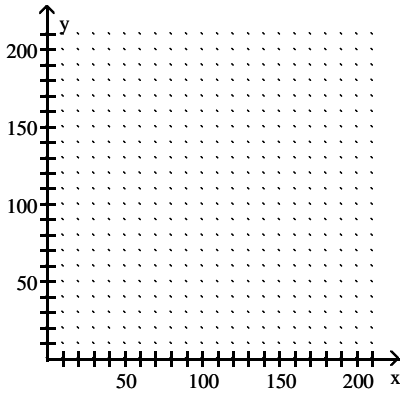
C) $x + y \leq 300$



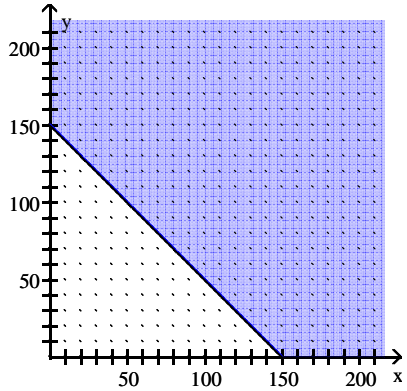
D) $x + y \leq 300$



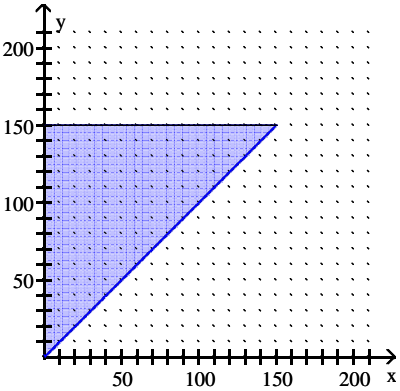
243) Xavier and Yolanda talked on their mother's cell phone for at least 150 minutes last month. Set up and graph an inequality the number of minutes Xavier talked and the number of minutes Yolanda ta last month. 243) _____



A) $x + y \geq 150$



B) $x + y \geq 150$



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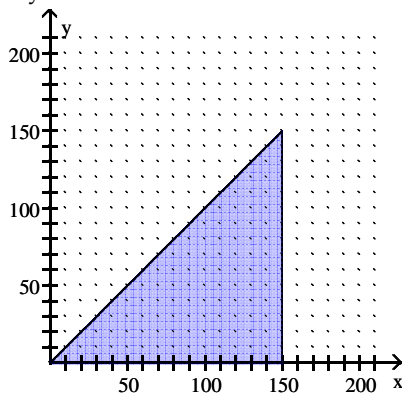
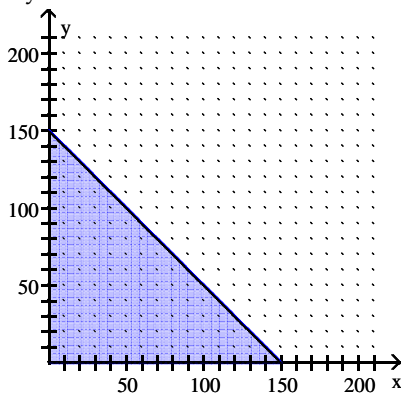
C) $x + y \leq 150$



D) $x + y \leq 150$



244) A hardware store has room for 500 bags of fertilizer. The fertilizer manufacturer plans to ship x bags of fertilizer with weed killer and y bags of fertilizer without weed killer. This can be represented by $x + y \leq 500$. Which of the following ordered pairs satisfies the inequality? (50, 440), (50, 500), (0, 550), (500, 500) 244) _____

A) (50, 500) B) (500, 500) C) (0, 550) D) (50, 440)

245) Tickets to a ballet cost $15 if bought in advance. If bought on the date of the ballet, they cost $24. For the ballet to make a profit, the total money collected from ticket sales must be at least $390. Write an inequality to represent this situation. 245) _____

A) $15x + 24y \leq 390$ B) $15x - 24y \geq 390$ C) $15x - 24y \leq 390$ D) $15x + 24y \geq 390$

246) Jason purchased rose plants and sunflower plants for his garden. Rose plants cost $9 each, and sunflower plants cost $14 each. If his spending limit was $276, write an inequality to show the possible combinations of rose plants and sunflower plants he could have purchased. 246) _____

A) $14x + 9y \leq 276$ B) $9x + 14y \leq 276$ C) $9x + 14y \geq 276$ D) $14x + 9y \geq 276$

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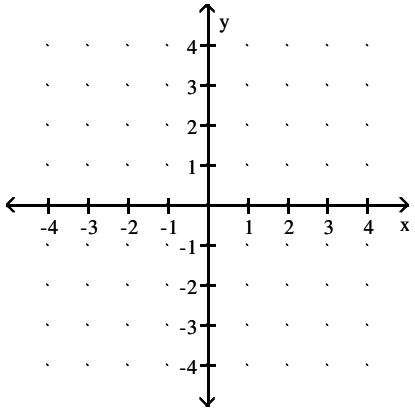
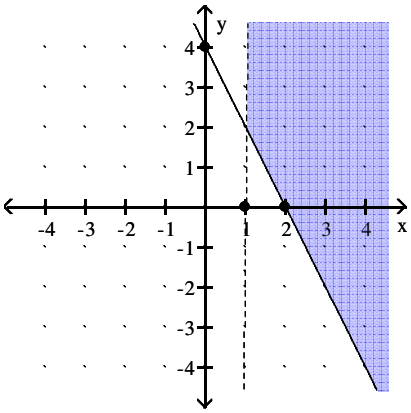
Find the region that contains ordered pairs that are solutions to both inequalities.

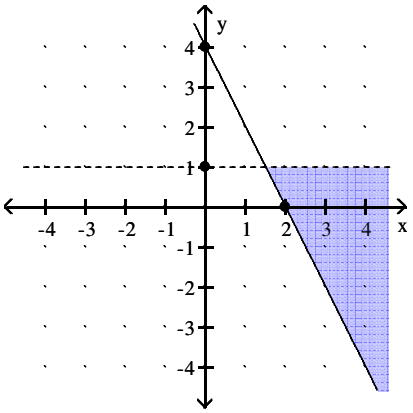
247) $2x + y \leq 4$ and $x - 1 > 0$ 247) _____



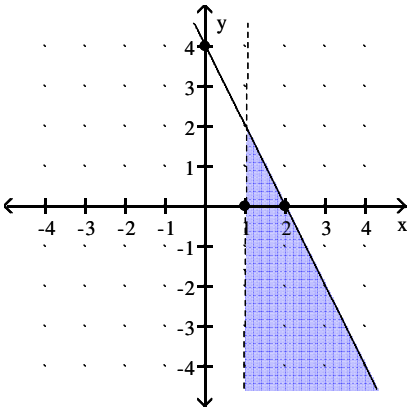
A)



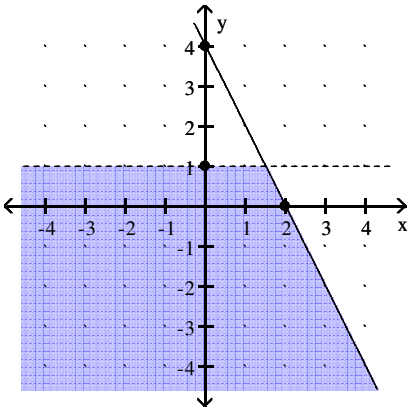
B)



C)



D)



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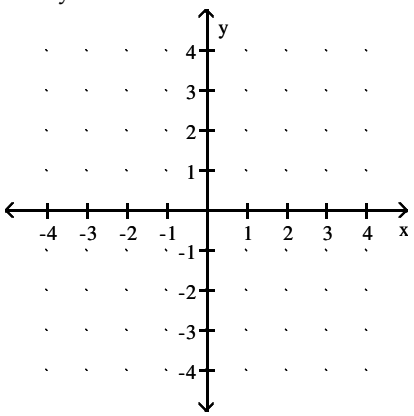
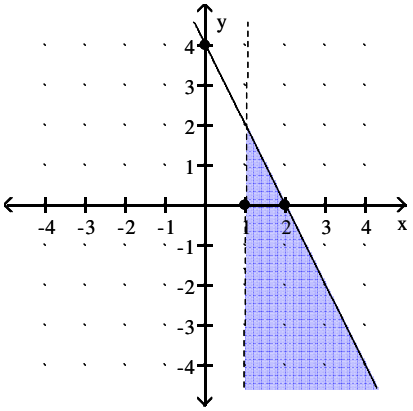
248) $2x + y \geq 4$ and $x - 1 > 0$ 248) _____



A)



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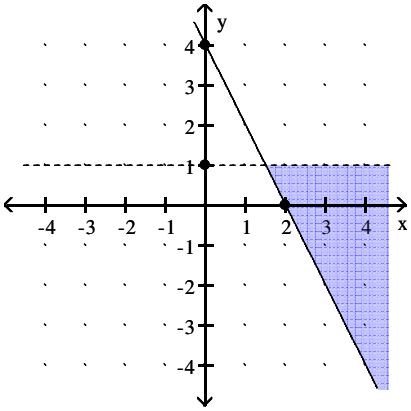

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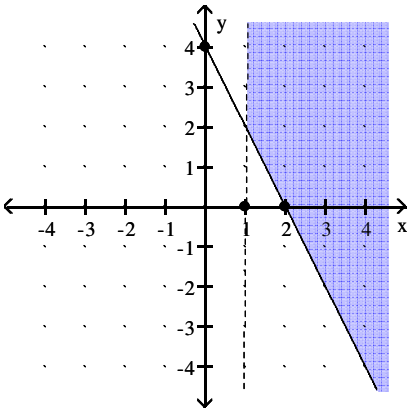

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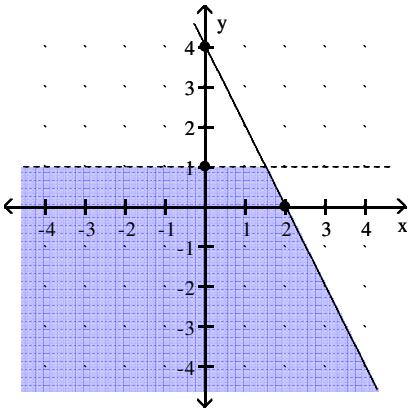

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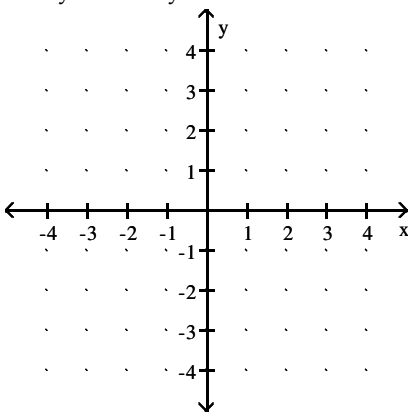
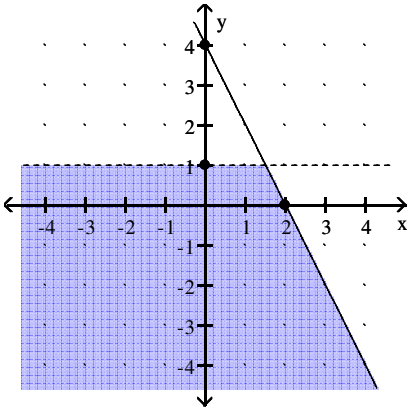
249) $2x + y \leq 4$ and $y - 1 < 0$ 249) _____



A)



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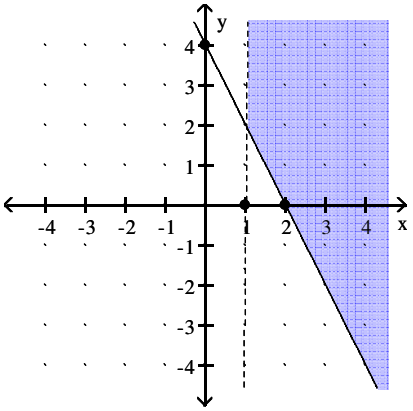

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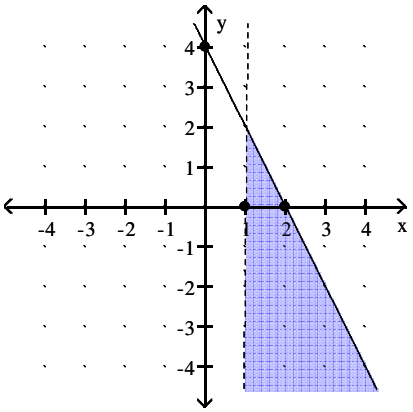
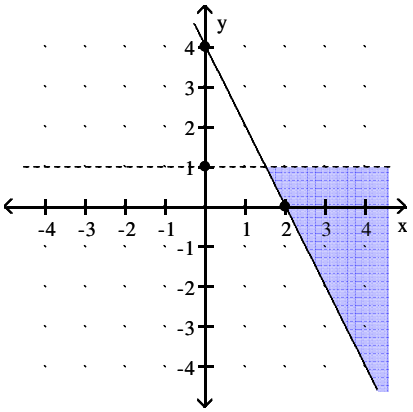


D)



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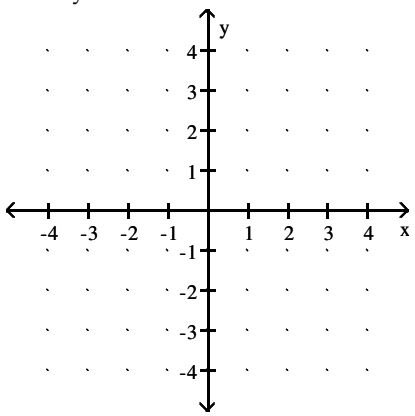
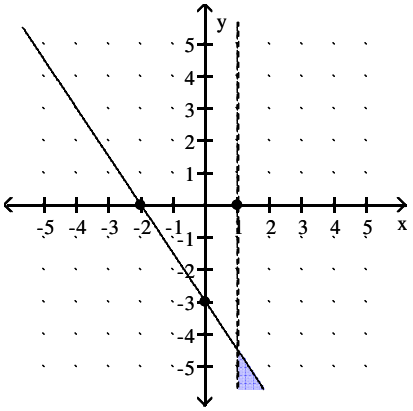
250) $3x - 2y \leq 6$ and $x - 1 > 0$ 250) _____



A)



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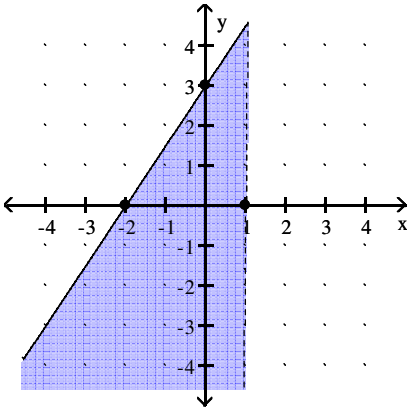

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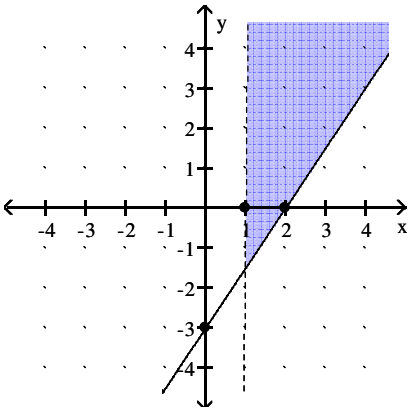

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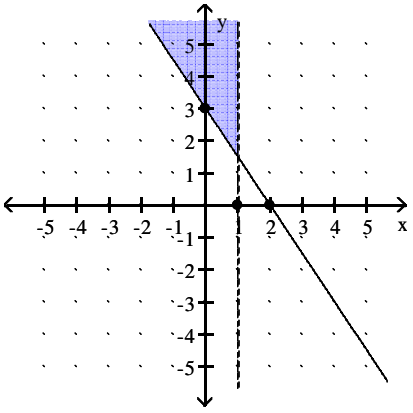

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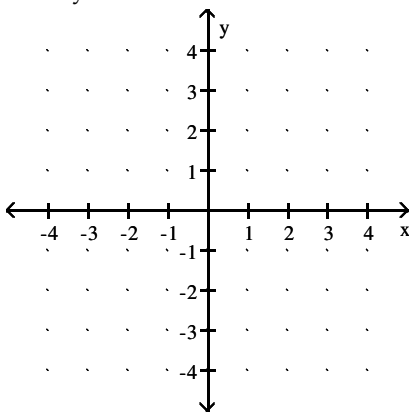
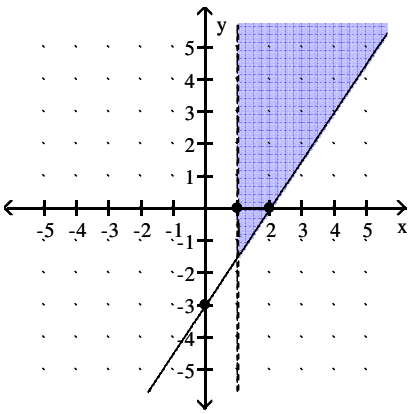
251) $3x - 2y \geq -6$ and $x - 1 < 0$ 251) _____



A)



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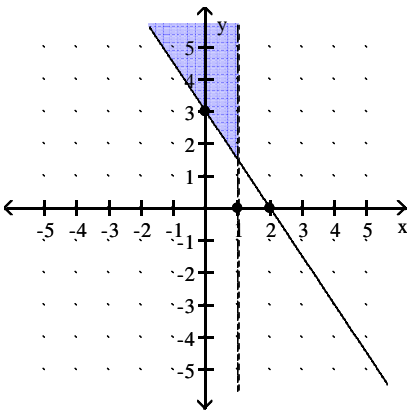

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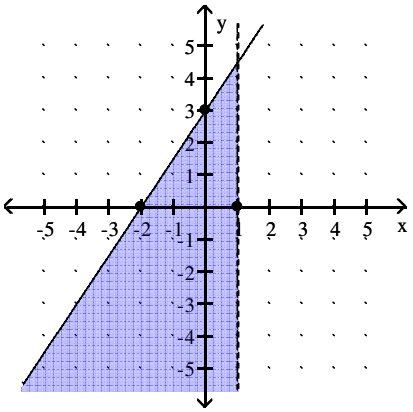
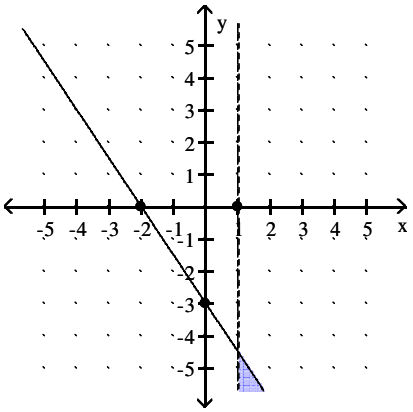


D)



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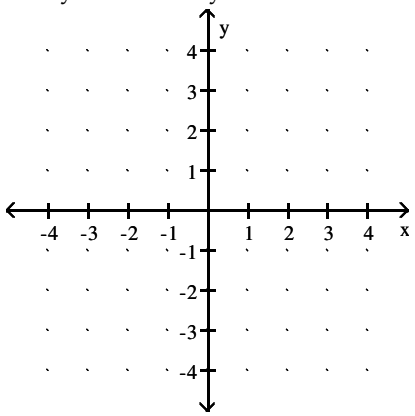
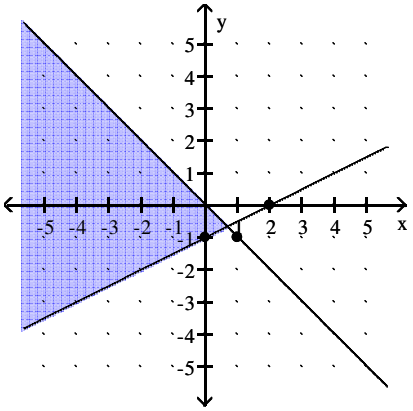
252) $x + 2y \leq 2$ and $x + y \geq 0$ 252) _____



A)



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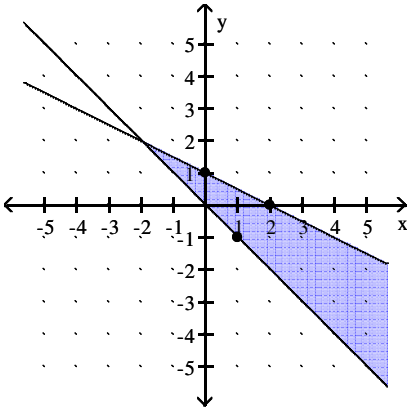

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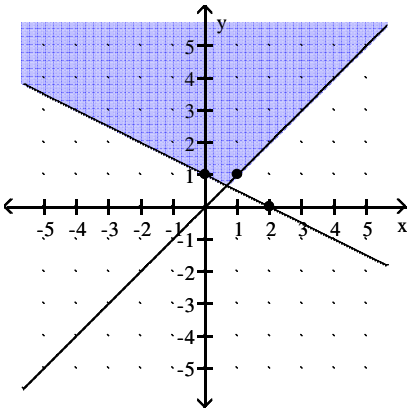

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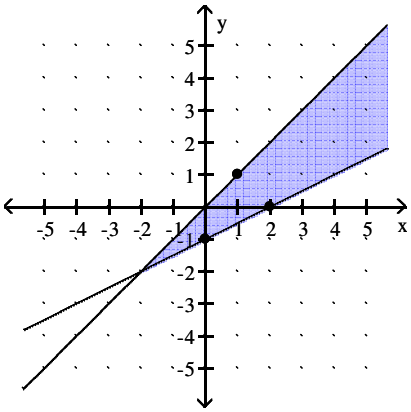

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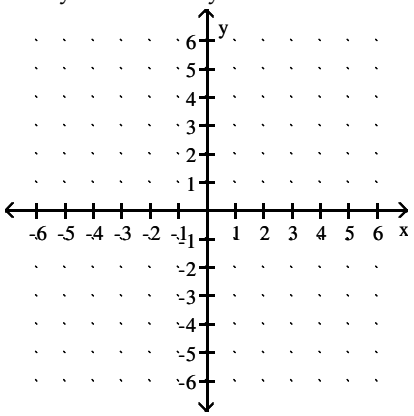
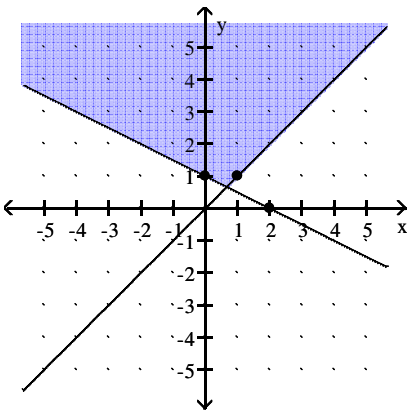
253) $x - 2y \leq 2$ and $x + y \leq 0$ 253) _____



A)



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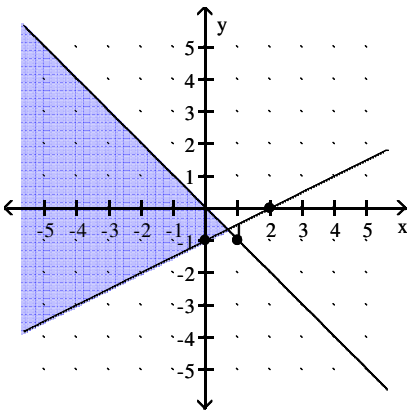

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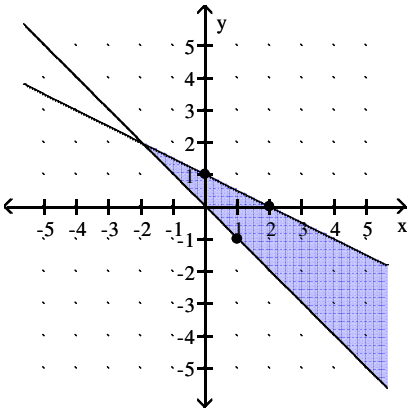

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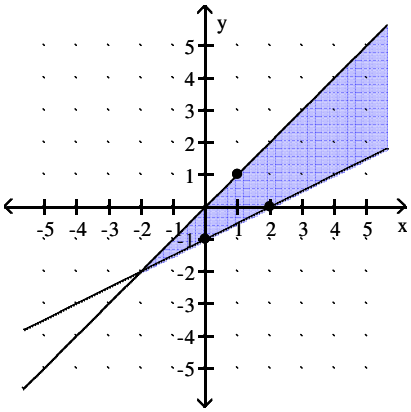

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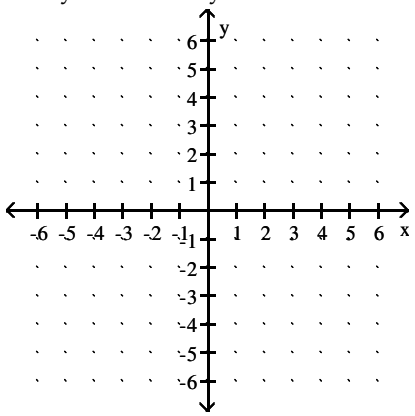
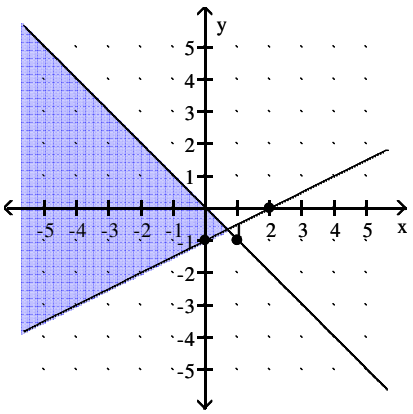
254) $x + 2y \geq 2$ and $x - y \leq 0$ 254) _____



A)



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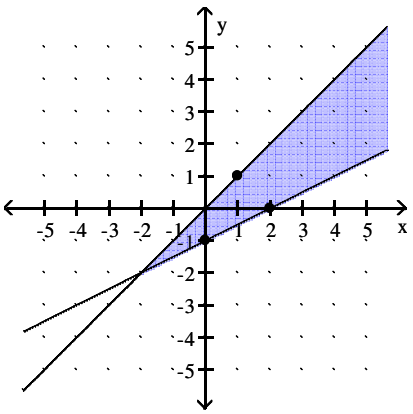

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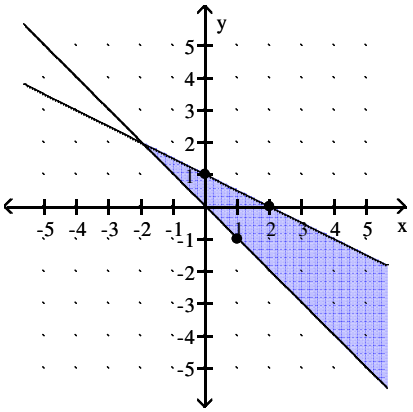
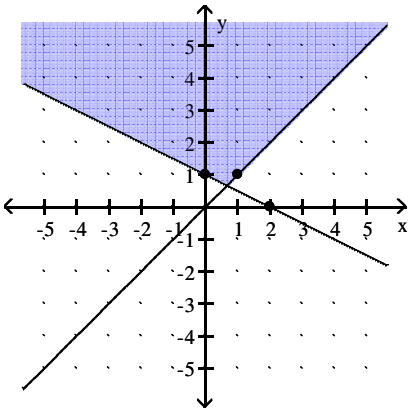


D)



Provide an appropriate response.

255) True or False? In quadrant II, the y-coordinate of a point is always negative. 255) _____

A) False B) True

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

256) Explain how you would find the x intercept of a line with an equation of the form $Ax + By = C$. 256) _____

257) What can you say about the graph of $Ax + By = C$ if B is equal to zero? 257) _____

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258) Why is the slope of a horizontal line zero? Give an example. 258) _____

259) What is wrong with the statement "The line has no slope."? 259) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

260) True or False? The graph of $y = c$, where c is a real number constant, is a line parallel to the y–axis. 260) _____
A) True B) False

261) What is the relationship between the slopes of two parallel lines? 261) _____
A) They are equal.
B) There is no general relationship, because the y–intercepts can be different.
C) One slope is the negative of the other.
D) One slope is the reciprocal of the other.

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

262) If the product of the slopes of two lines is –1, what do we know about the lines? 262) _____

263) What is the difference between the graphs of $y < mx + b$ and $y \leq mx + b$? 263) _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Determine whether a function exists with set A as the input and set B as the output.

264) 264) _____

Set A Name	Set B Test Score
Bob L.	92
Susan H.	83
Jim H.	76
Bruce B.	96

A) Yes B) No

265) 265) _____

Set A Subject	Set B Credits
Math	10
English	7
History	10
Biology	6
Psychology	4

A) Yes B) No

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266) 266) _____

Set A Person	Set B Month
Thompson	April
McGraw	May
Robinson	June
Thompson	July
Martinez	August

A) Yes B) No

267) 267) _____

Set A Person	Set B Pay Rate
Mary	$49
Lucy	$31
Eric	$23
Simon	$49
Ruth	$65

A) Yes B) No

268) 268) _____

Set A Location	Set B Receipt
Gas station	$16.55
Restaurant	$58.00
Grocery	$82.99
Restaurant	$69.50
Gas station	$19.47

A) Yes B) No

For the given set of ordered pairs, determine whether a function could be defined for which the input would be an x–coordinate and the output would be the corresponding y–coordinate.

269) {(–2, –9), (3, 4), (4, 8), (8, –9)} 269) _____

A) Yes B) No

270) {(–6, –4), (–1, 3), (4, –5), (4, –6)} 270) _____

A) Yes B) No

271) {(–7, 4), (–7, 3), (2, 7), (4, 5)} 271) _____

A) Yes B) No

272) {(2, –9), (6, 5), (7, 2), (2, 9)} 272) _____

A) Yes B) No

273) {(–3, 3), (–1, 2), (1, –7), (6, 8)} 273) _____

A) Yes B) No

274) {(6, 7), (–9, –1), (–9, 7), (2, 4)} 274) _____

A) Yes B) No

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275) {(–7, –1), (–4, –4), (–2, –6), (3, –7)} 275) _____

A) Yes B) No

276) {(–6, 3), (–2, 2), (4, –8), (4, –9)} 276) _____

A) Yes B) No

277) {(–5, 4), (–1, 5), (1, –1), (7, –3)} 277) _____

A) Yes B) No

278) {(1, 9), (3, –5), (5, 7), (7, 4), (10, –3)} 278) _____

A) Yes B) No

Solve the problem.

279) To convert inches to centimeters, multiply the number of inches by 2.54. Create a function, f(x), that converts x inches to centimeters. 279) _____

A) f(x) = x – 2.54 B) $f(x) = \frac{x}{2.54}$ C) f(x) = 2.54x D) $f(x) = \frac{2.54}{x}$

280) Surveyors use the "link" as a unit of measure. To convert links to inches, multiply the number of links by 7.92. Create a function, f(x), that converts x links to inches. 280) _____

A) f(x) = 7.92x B) $f(x) = \frac{x}{7.92}$ C) f(x) = x + 7.92 D) $f(x) = \frac{7.92}{x}$

281) Bob buys a car that gets 12 miles per gallon of gasoline. Create a function, f(x), that represents the number of miles that Bob can travel with x gallons of gasoline. 281) _____

A) $f(x) = \frac{12}{x}$ B) $f(x) = \frac{x}{12}$ C) f(x) = 12x D) f(x) = x + 12

282) In a certain state, 3900 acres of farmland are being developed into housing developments per year. Create a function, f(x), that models the acres of farmland lost to development in x years. 282) _____

A) f(x) = –2190x B) f(x) = –3900x C) f(x) = 3900x D) f(x) = 2190x

283) A student gets a part time job selling magazine subscriptions. He is paid $36 for a 5–hour shift. He also earns $3 for each subscription sold. Create a function f(x) for the amount he earns on a shift when he sells x subscriptions. Use the function f(x) to determine how much he earns on a shift that he sells 12 subscriptions. 283) _____

A) f(x) = 3x + 180; $216 B) f(x) = 5x + 36; $96

C) f(x) = 36x + 3; $435 D) f(x) = 3x + 36; $72

284) A school holds a fundraising event. Attendees are charged $10 for dinner, plus 50¢ for each raffle ticket. Create a function f(x) for the amount that a person pays if she eats dinner and purchases x raffle tickets. Use the function f(x) to determine how much a person pays if she eats dinner and plays 25 games. 284) _____

A) f(x) = 10x + 0.5; $250.50 B) f(x) = 50x + 10; $1260.00

C) f(x) = 0.5x + 10; $22.50 D) f(x) = 0.5x; $12.50

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285) Create a linear function whose graph has a slope of $-\frac{1}{8}$ and a y–intercept at $\left(0, \frac{5}{9}\right)$. 285) _____

A) $f(x) = \frac{5}{9}x - \frac{1}{8}$ B) $f(x) = \frac{1}{8}x + \frac{5}{9}$ C) $f(x) = -\frac{1}{8}x + \frac{5}{9}$ D) $f(x) = -\frac{5}{9}x + \frac{1}{8}$

286) Create a linear function whose graph has a slope of 4 and a y–intercept at $(0, 7)$. 286) _____

A) $f(x) = 4x + 7$ B) $f(x) = -7x + 4$ C) $f(x) = -4x + 7$ D) $f(x) = 7x - 4$

287) Create a linear function whose graph has a slope of 0 and a y–intercept at (0, –23). 287) _____

A) $f(x) = 23$ B) $f(x) = x - 23$ C) $f(x) = x + 23$ D) $f(x) = -23$

288) Create a linear function whose graph has a slope of 0 and a y–intercept at (0, 27). 288) _____

A) $f(x) = 27$ B) $f(x) = x - 27$ C) $f(x) = x + 27$ D) $f(x) = -27$

Evaluate the function.

289) $f(x) = -x + 8$, $f(5)$ 289) _____

A) 5 B) –3 C) 3 D) 15

290) $h(x) = x + 3$, $h(-3)$ 290) _____

A) –9 B) 0 C) –1 D) –6

291) $f(x) = 20 - 4x$, $f(7)$ 291) _____

A) 48 B) –8 C) 13 D) 16

292) $g(x) = 6x - 5$, $g(\frac{5}{6})$ 292) _____

A) 10 B) 25 C) 0 D) 35

293) $f(x) = -4x + 28$, $f(8)$ 293) _____

A) –112 B) 28 C) –4 D) 5

294) $f(x) = -14x - 12$, $f(-5)$ 294) _____

A) 58 B) –14 C) –82 D) 82

295) $f(x) = 5x + 5$, $f(c)$ 295) _____

A) 10 B) 10c C) 5c + 5 D) 25c

296) $g(x) = 5x - 3$, $g(a + 1)$ 296) _____

A) $\frac{1}{5}a - 3$ B) 5a + 2 C) 5a – 3 D) 5a – 1

297) $f(x) = 14 - 9x$, $f(8a - 4)$ 297) _____

A) –72a – 50 B) –72a + 50 C) 72a + 50 D) 72a – 50

298) $f(x) = 6x + 2$, $f(x + k)$ 298) _____

A) 6x + 6k + 2 B) 6k + 2 C) 6xk + 2 D) 6x + k + 2

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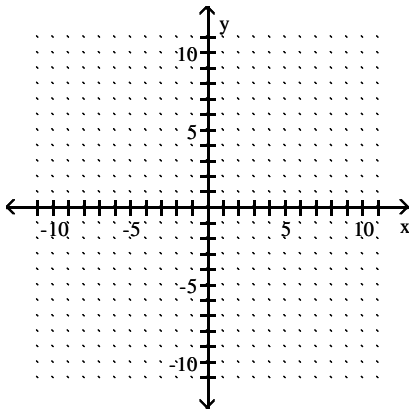
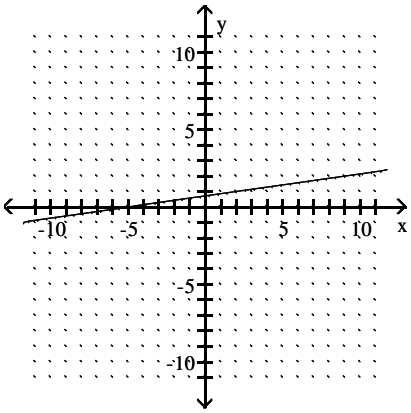
Graph the linear function.

299) $f(x) = -7x - 5$ 299) _____



A)



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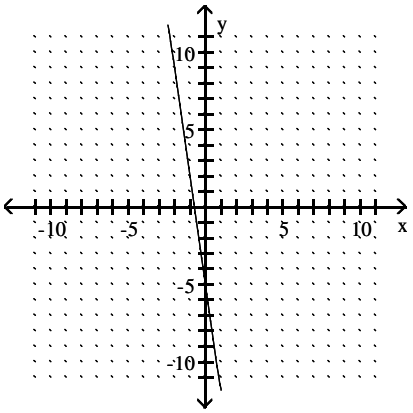

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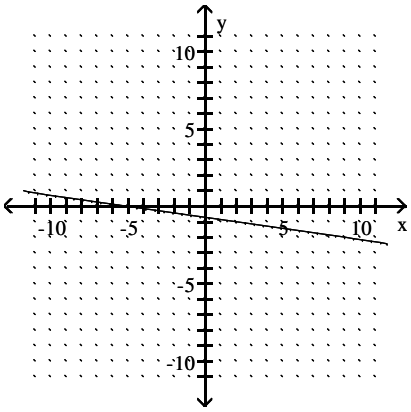

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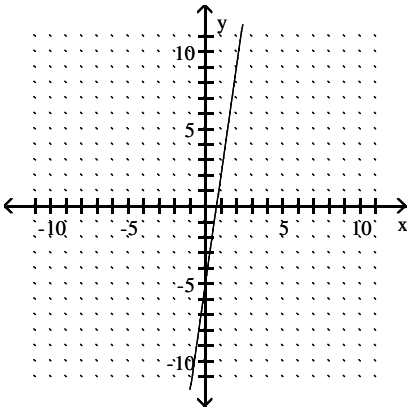

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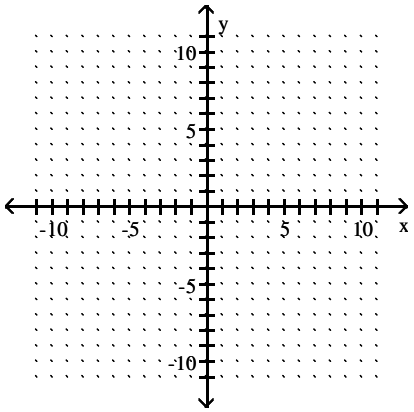
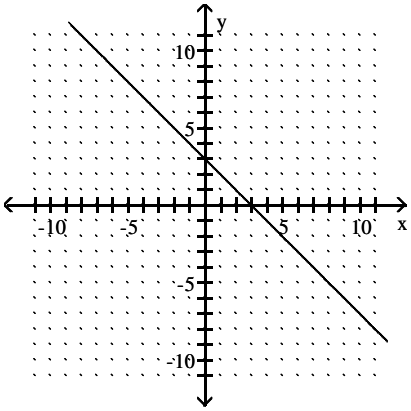
300) f(x) = x – 3 300) _____



A)



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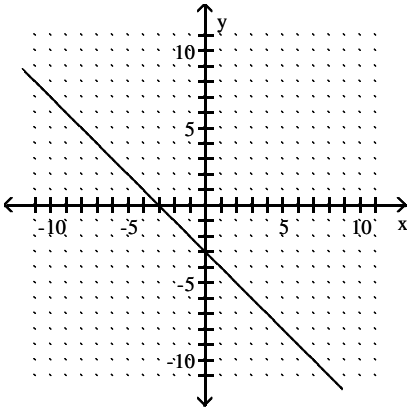

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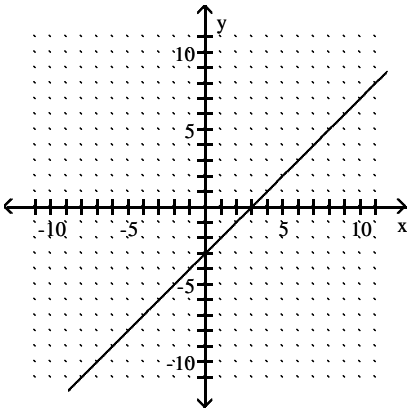
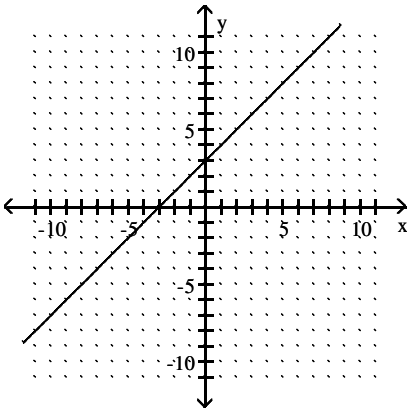
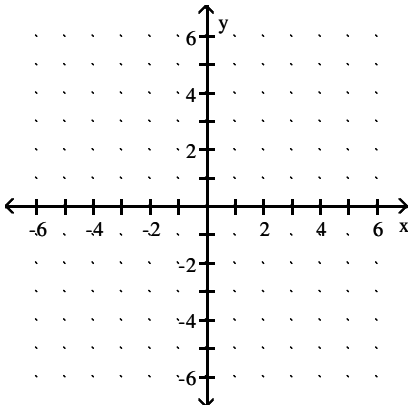


D)



301) h(x) = 4x 301) _____



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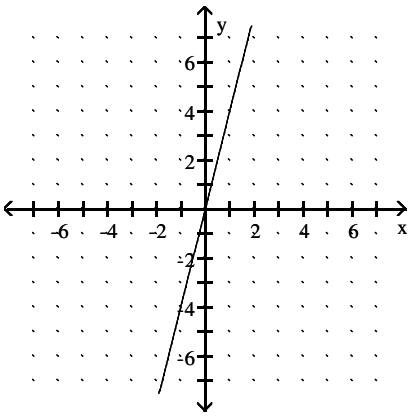
A)



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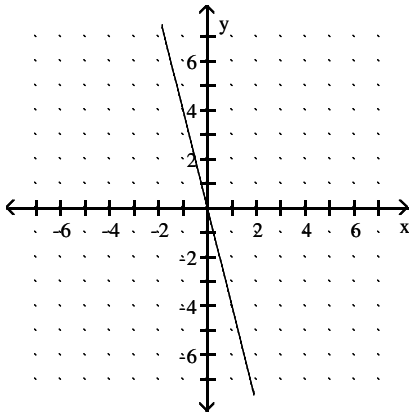

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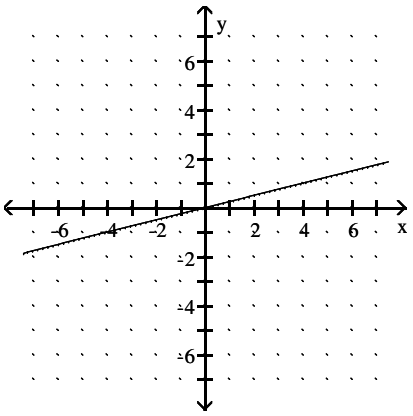
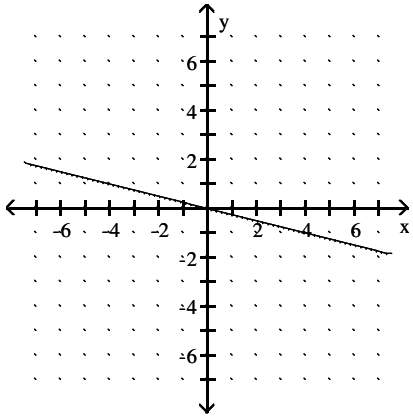


D)



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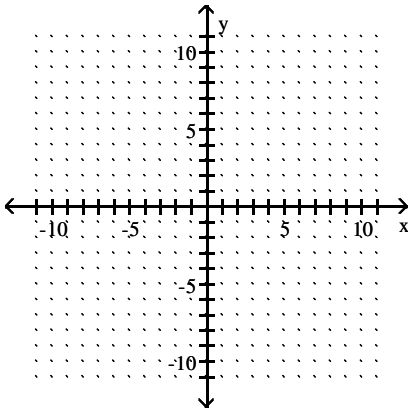
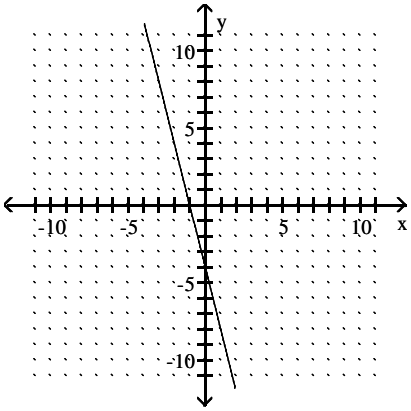
302) f(x) = 4x – 4

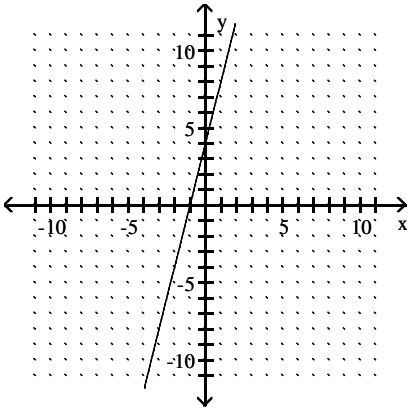
302) _____



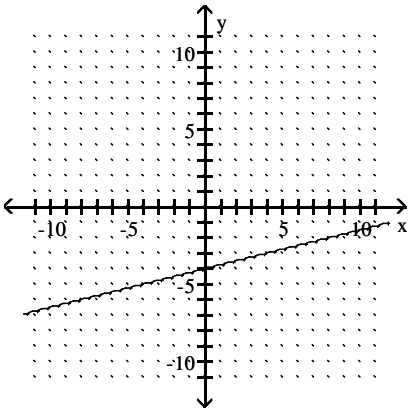
A)



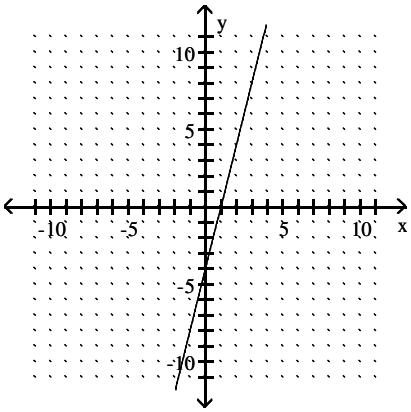
B)



C)



D)



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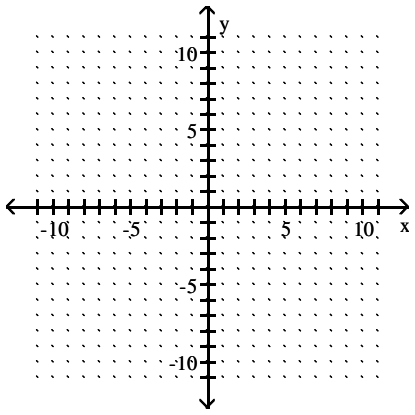
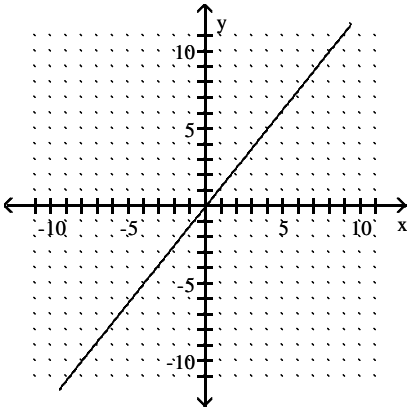
303) $f(x) = \frac{4}{5}x$ 303) _____



A)



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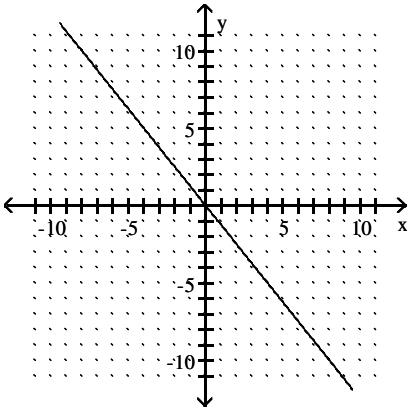

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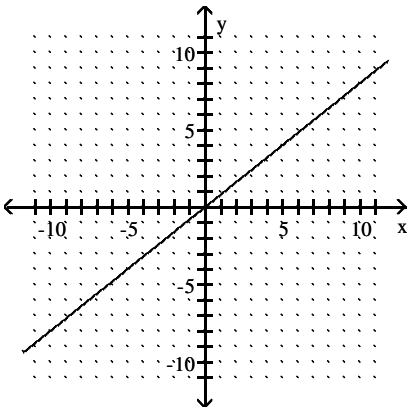
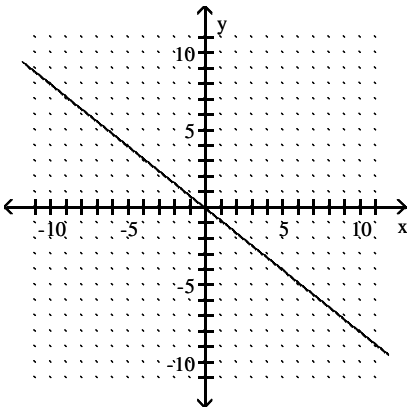


D)



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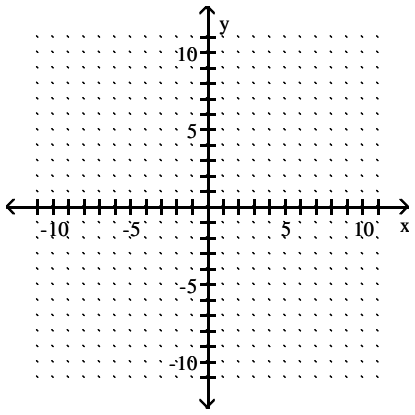
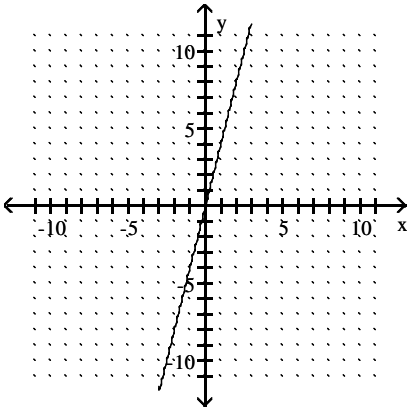
304) $f(x) = -\frac{1}{4}x$ 304) _____



A)



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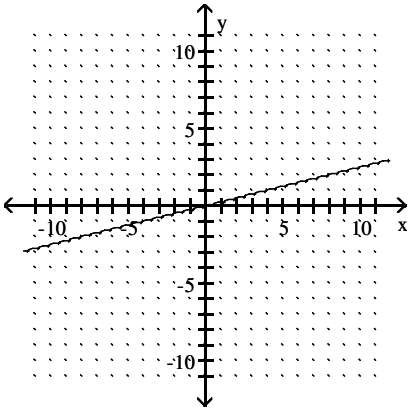

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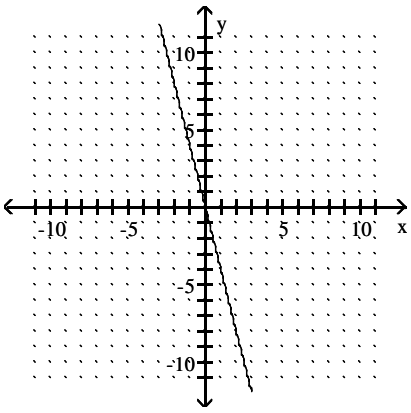

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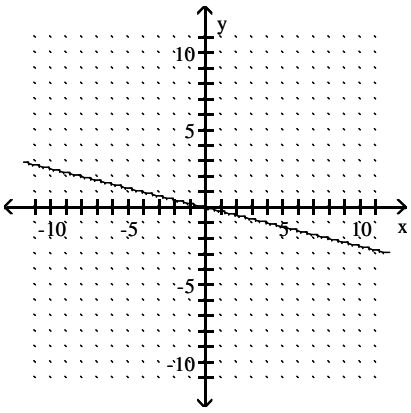

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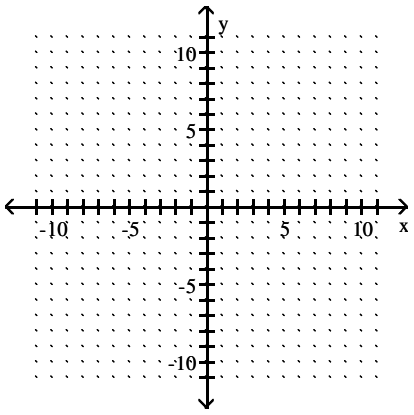
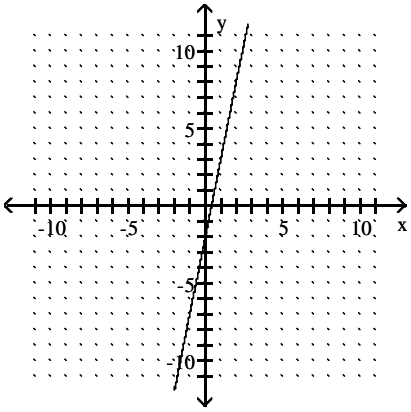
305) $f(x) = \frac{1}{5}x - 2$ 305) _____



A)



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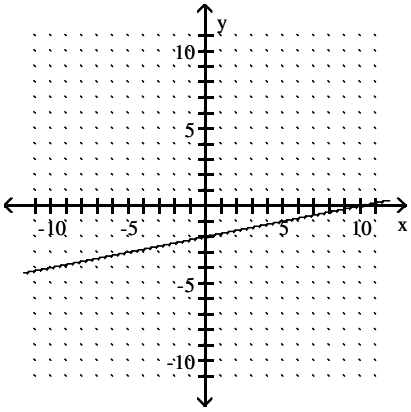

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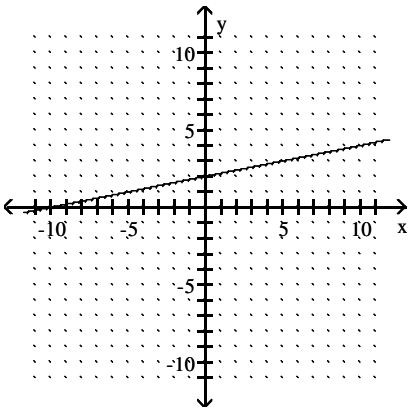
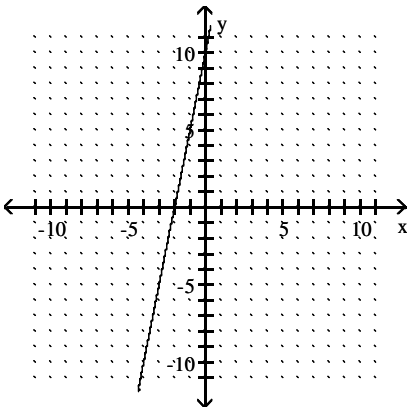


D)



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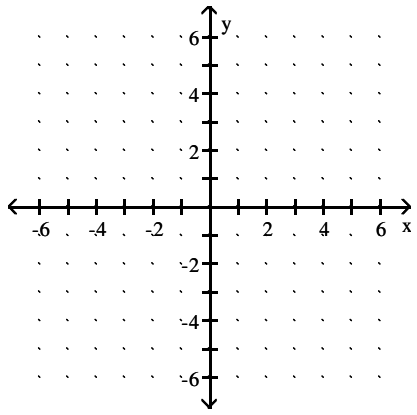
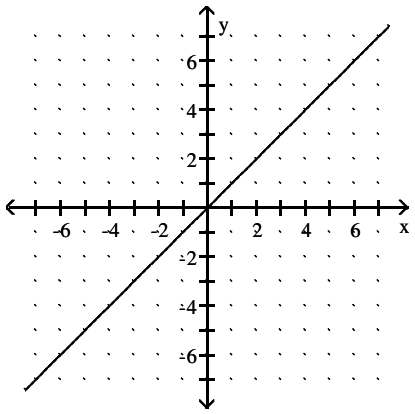
306) $f(x) = \frac{1}{4}x - 1$ 306) _____



A)



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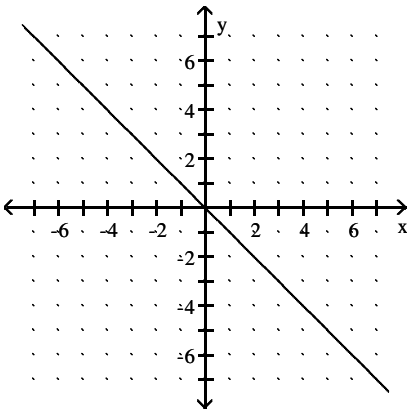

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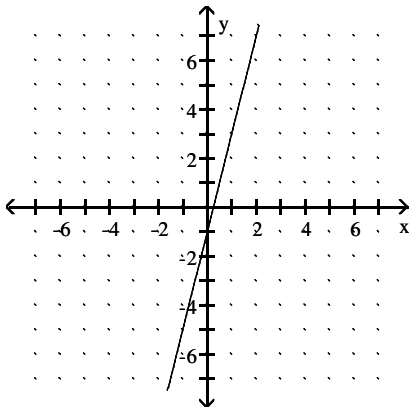

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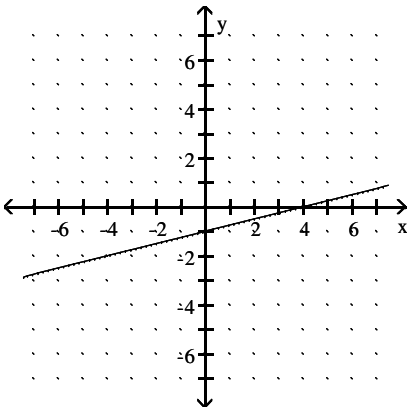

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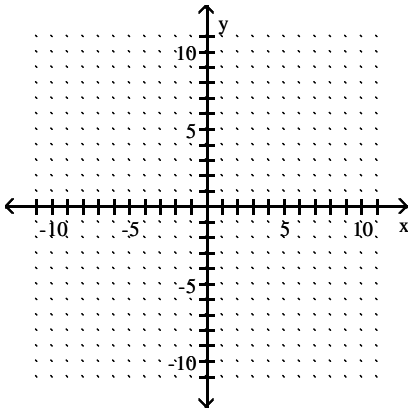
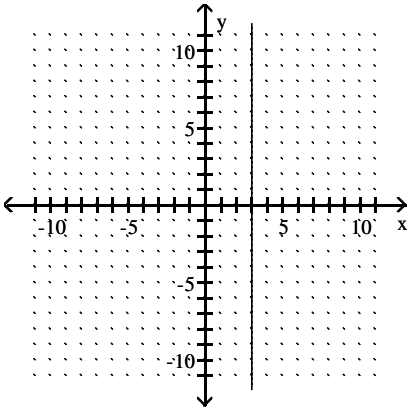
307) f(x) = –1

307) _____



A)



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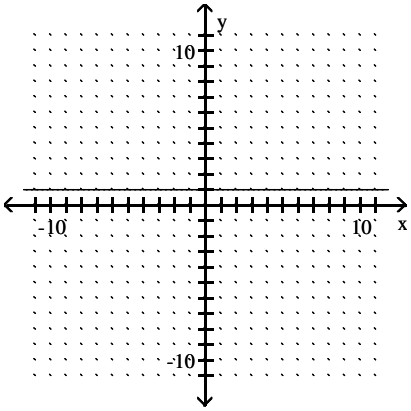

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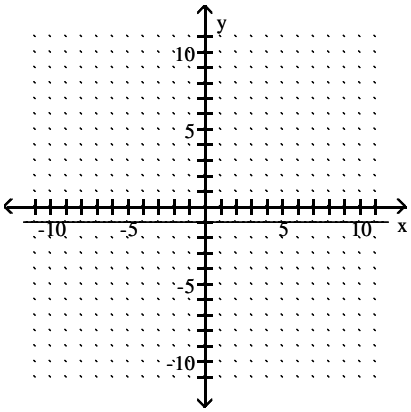

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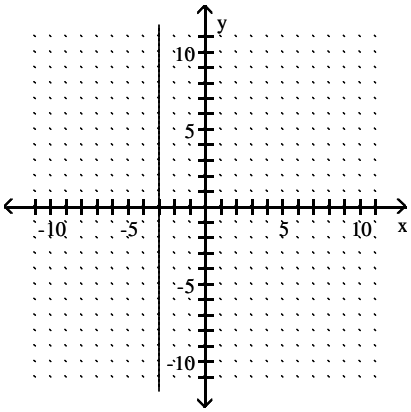

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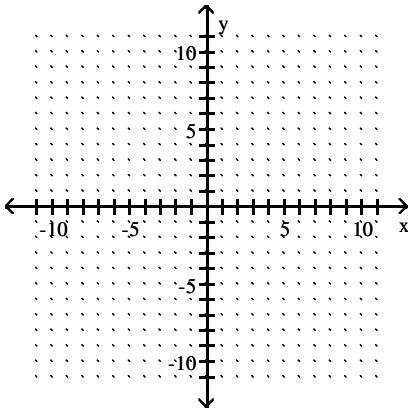
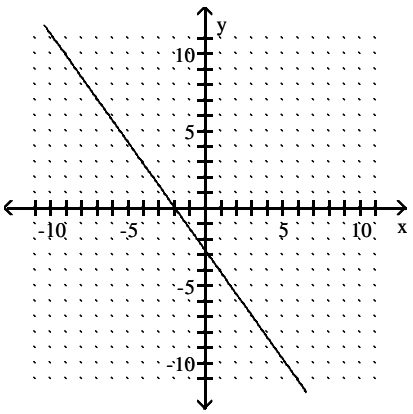
308) f(x) = 1.4x – 2.7 308) _____



A)



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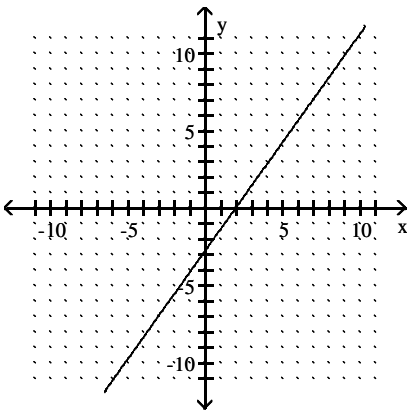

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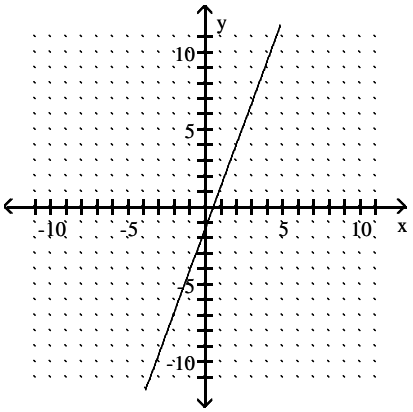

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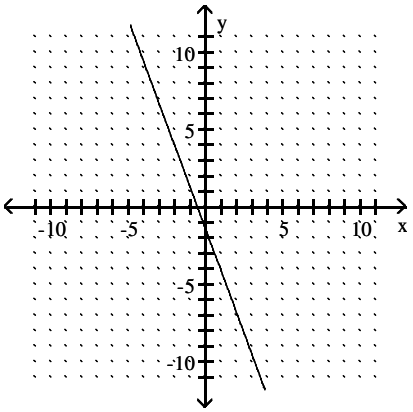
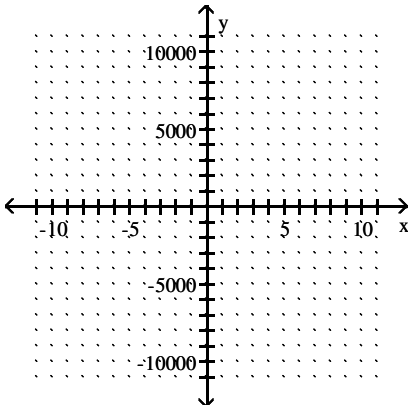


309) f(x) = 1500x + 2000 309) _____



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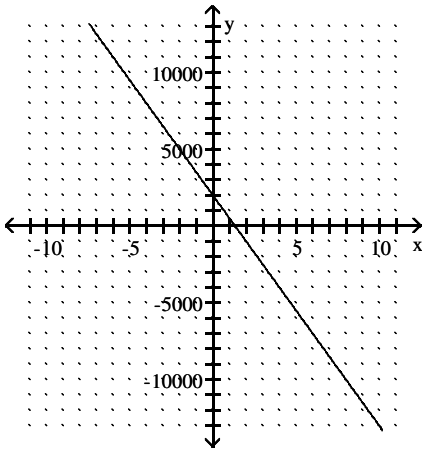
A)



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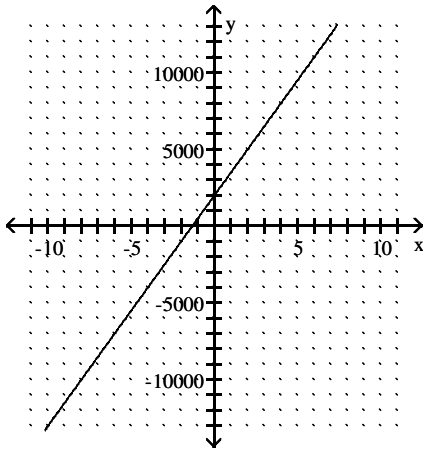

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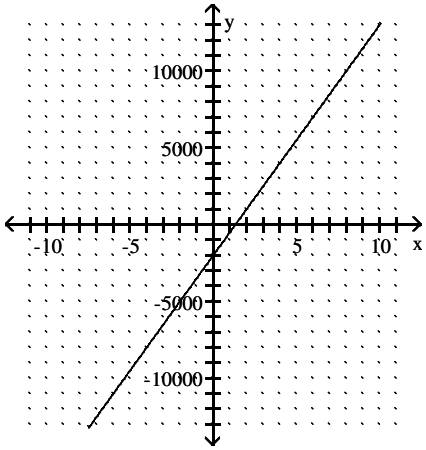
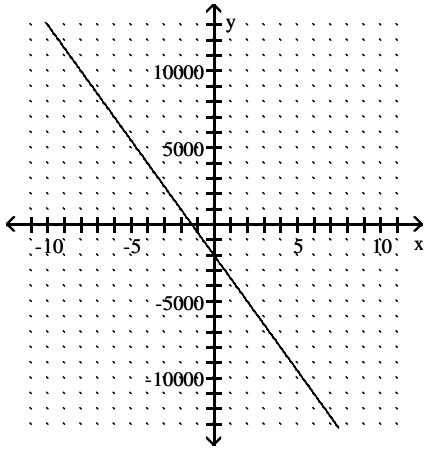


D)



Simplify the difference quotient for the linear function f(x), and use it to identify the rate of change of the function.

310) f(x) = 7x + 2 310) _____

A) –7 B) 7 C) 2 D) –2

311) f(x) = –18x – 37 311) _____

A) –37 B) 18 C) –18 D) 37

312) f(x) = –3x + 2000 312) _____

A) 3 B) 2000 C) –2000 D) –3

313) f(x) = 75x – 675 313) _____

A) 75 B) –675 C) –75 D) 675

Graph the function f(x) by applying horizontal and vertical transformations. State the transformations that were performed.

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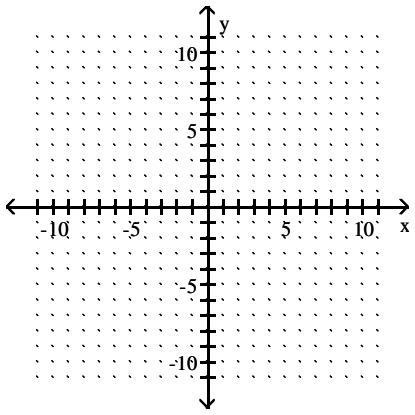
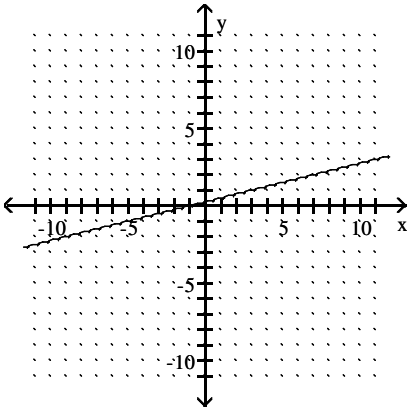
314) $f(x) = \frac{1}{4}(x - 2) - 9$ 314) _____

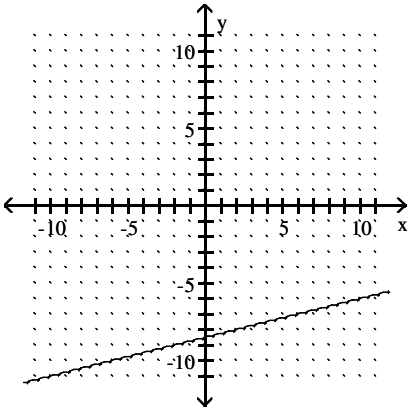


A)



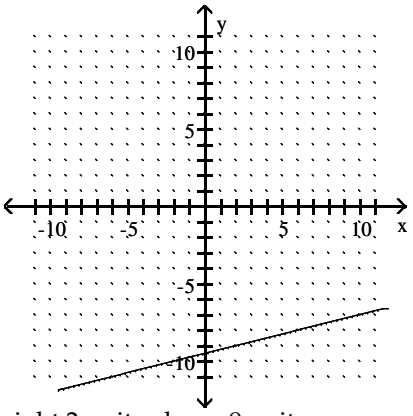
left 9 units, down 2 units

B)



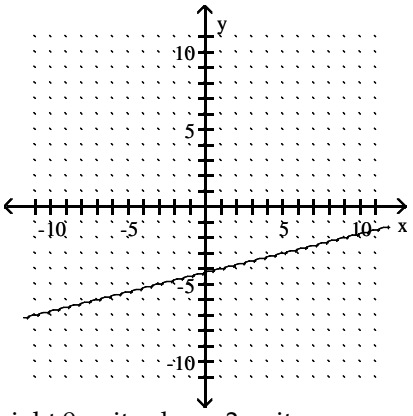
left 2 units, down 9 units

C)



right 2 units, down 9 units

D)



right 9 units, down 2 units

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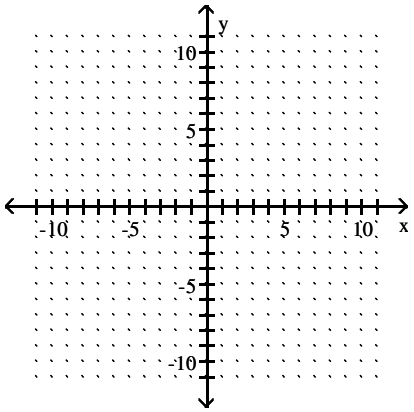
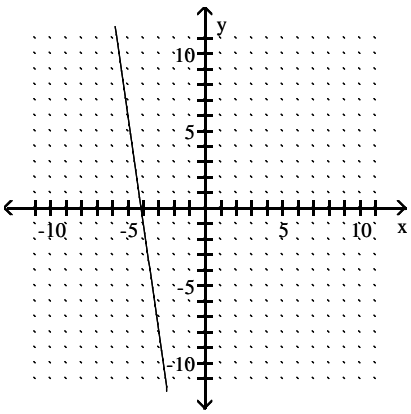
315) $f(x) = -7(x + 5) + 6$ 315) _____



A)



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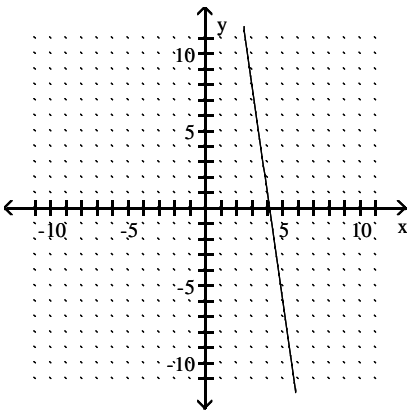
B)



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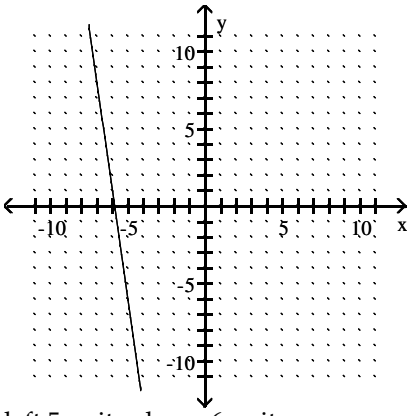
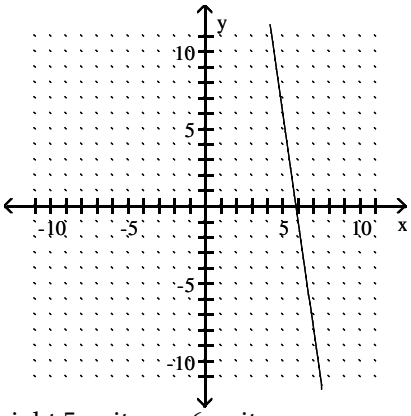


left 5 units, down 6 units

D)



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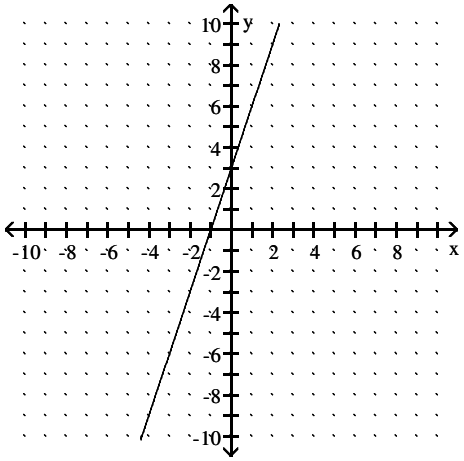
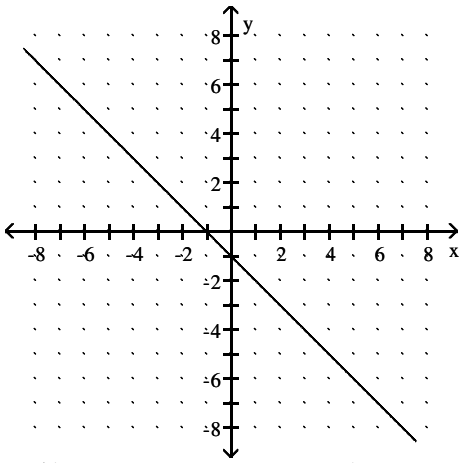
Refer to the graph of the function f(x). Provide an appropriate response.

316) Find the x– and y–intercepts. 316) _____



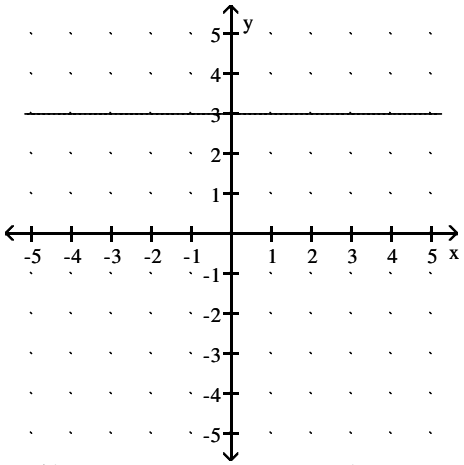
A) (0, –1), (3, 0) B) (0, 0), (–1, 3) C) (3, –1), (0, 0) D) (0, 3), (–1, 0)

317) Find f(–3). 317) _____



A) 0 B) –2 C) –4 D) 2

318) Find f(–3). 318) _____



A) 3 B) –3 C) Undefined D) –5

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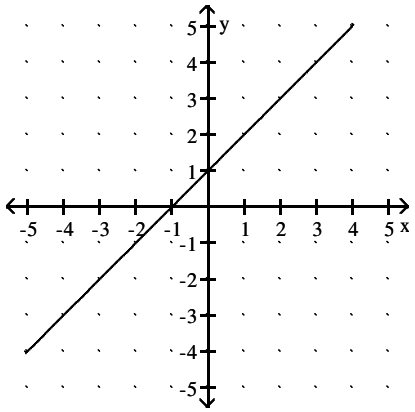
319) Find a value a such that f(a) = 2. 319) _____



A) 0 B) 3 C) –1 D) 1

Create a linear function f(x), whose graph has the given slope, that meets the given condition.

320) Slope of –3, f(8) = –3 320) _____

A) f(x) = 3x + 20 B) f(x) = –3x + 22 C) f(x) = –3x + 21 D) f(x) = –3x + 19

321) Slope of –9, f(–3) = 6 321) _____

A) f(x) = 9x – 23 B) f(x) = –9x – 29 C) f(x) = –9x – 22 D) f(x) = –9x – 21

322) Slope of – 4, f(3) = 2 322) _____

A) f(x) = –4x + 14 B) f(x) = –4x + $\frac{1}{14}$ C) f(x) = – $\frac{1}{4}$x + 14 D) f(x) = –4x – 14

323) Slope of – $\frac{1}{3}$, f(11) = –3 323) _____

A) f(x) = $\frac{1}{3}$x – $\frac{2}{3}$ B) f(x) = – $\frac{1}{3}$x + $\frac{20}{3}$ C) f(x) = – $\frac{1}{3}$x + $\frac{8}{3}$ D) f(x) = – $\frac{1}{3}$x + $\frac{2}{3}$

Find the slope–intercept form of the equation of a line that passes through the given points.

324) f(1) = –4, f(2) = –1 324) _____

A) f(x) = 3x – 7 B) f(x) = –7x + 3 C) f(x) = –7x – 3 D) f(x) = –3x – 7

325) f(0) = 0, f(1) = –6 325) _____

A) f(x) = $\frac{1}{6}$x B) f(x) = 6x C) f(x) = –6x D) f(x) = – $\frac{1}{6}$x

326) f(1) = 6, f(–3) = 6 326) _____

A) f(x) = 6 B) f(x) = $\frac{1}{3}$x C) f(x) = 3x D) f(x) = 1

327) f(10) = 0, f(0) = 5 327) _____

A) f(x) = – 2x + 5 B) f(x) = $\frac{1}{2}$x + 5 C) f(x) = – $\frac{1}{2}$x + 5 D) f(x) = – $\frac{1}{2}$x – 5

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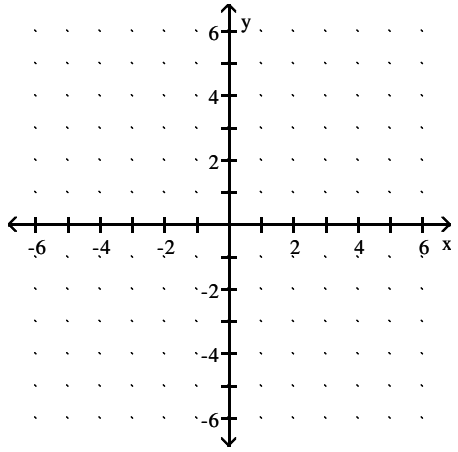
328) $f(-1) = 0, f(0) = -3$ 328) _____

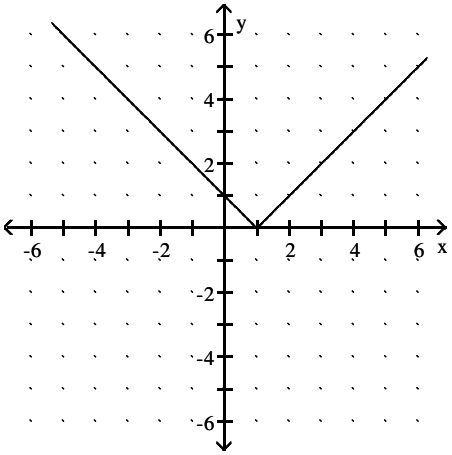
A) $f(x) = -3x + 3$ B) $f(x) = -3x - 3$ C) $f(x) = -\frac{1}{3}x - 3$ D) $f(x) = 3x - 3$

Graph the absolute value function. State the domain and range.

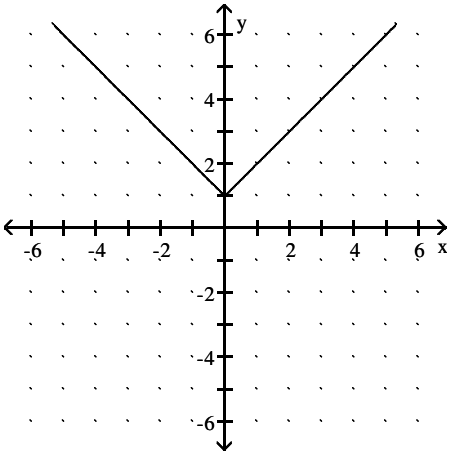
329) $f(x) = |x - 1|$ 329) _____



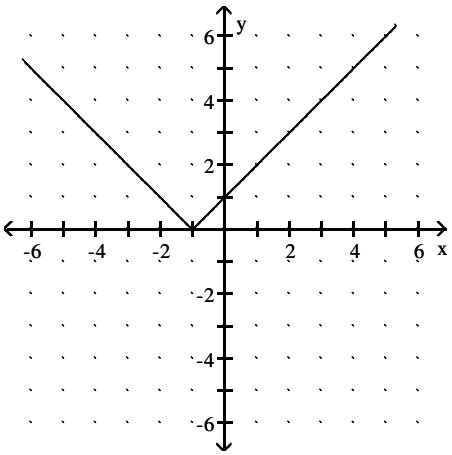
A) Domain: $(-\infty, \infty)$; Range: $[0, \infty)$



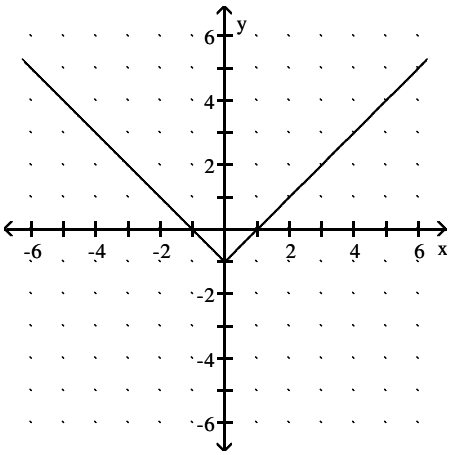
B) Domain: $(-\infty, \infty)$; Range: $[1, \infty)$



C) Domain: $(-\infty, \infty)$; Range: $[0, \infty)$



D) Domain: $(-\infty, \infty)$; Range: $[-1, \infty)$



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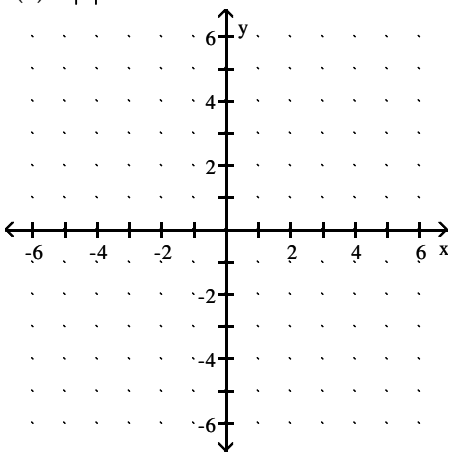
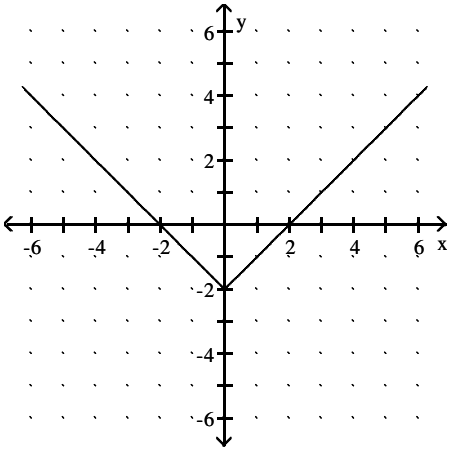
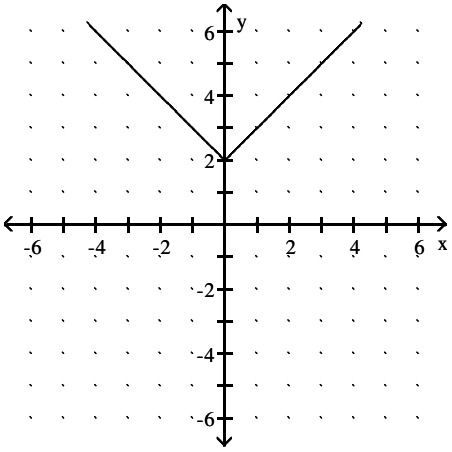
330) $f(x) = |x| + 2$ 330) _____



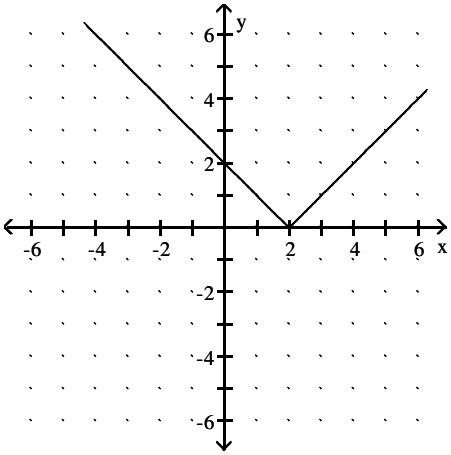
A) Domain: (−∞, ∞); Range: [− 2, ∞)



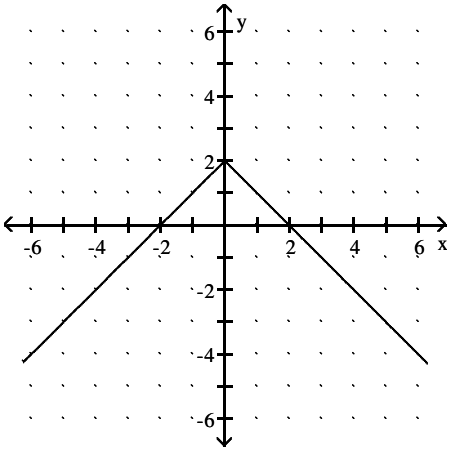
B) Domain: (−∞, ∞); Range: [2, ∞)



C) Domain: (−∞, ∞); Range: [0, ∞)



D) Domain: (−∞, ∞); Range: (−∞, 2]



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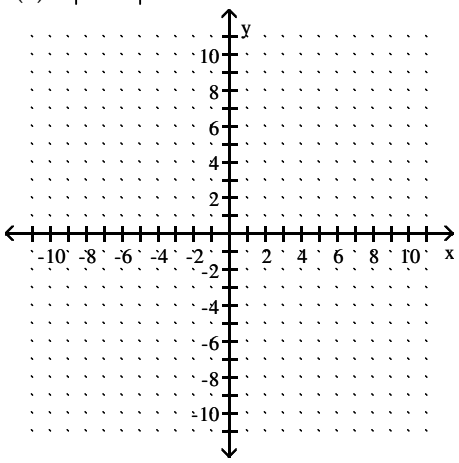
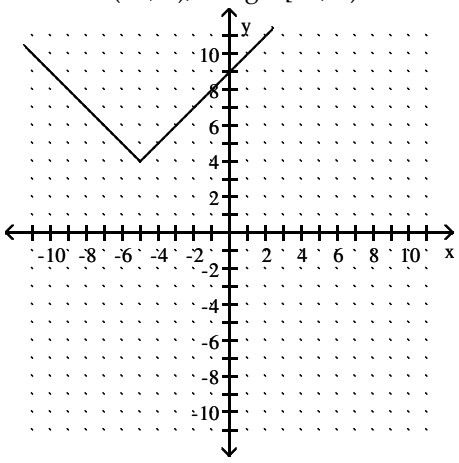
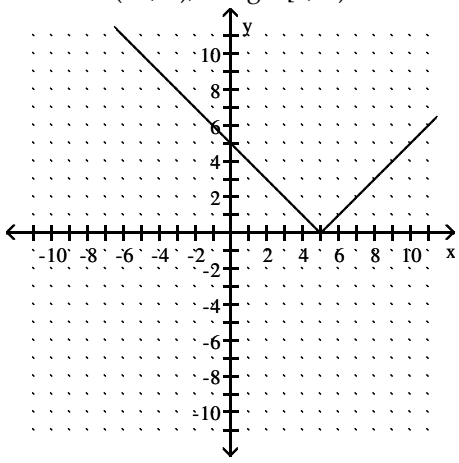
331) $f(x) = |x - 5| + 4$ 331) _____



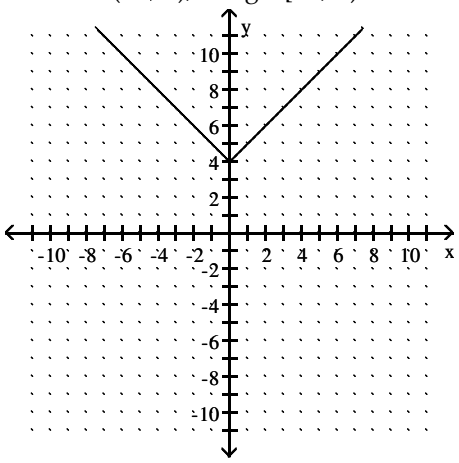
A) Domain: (−∞, ∞); Range: [+4, ∞)



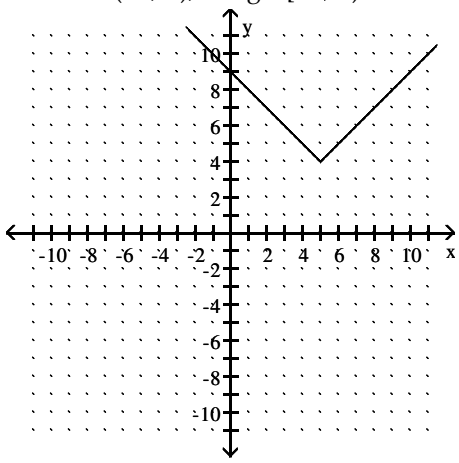
B) Domain: (−∞, ∞); Range: [0, ∞)



C) Domain: (−∞, ∞); Range: [+4, ∞)



D) Domain: (−∞, ∞); Range: [+4, ∞)



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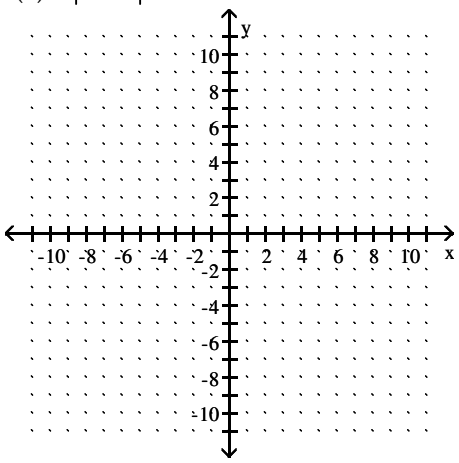
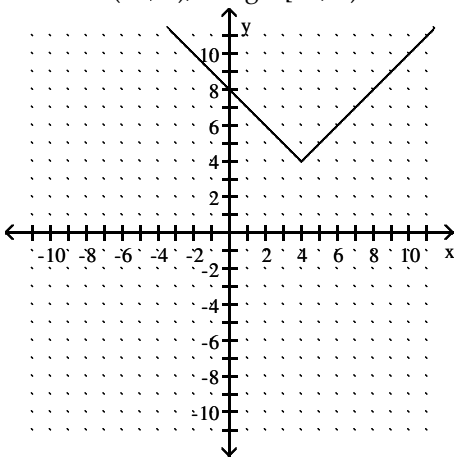
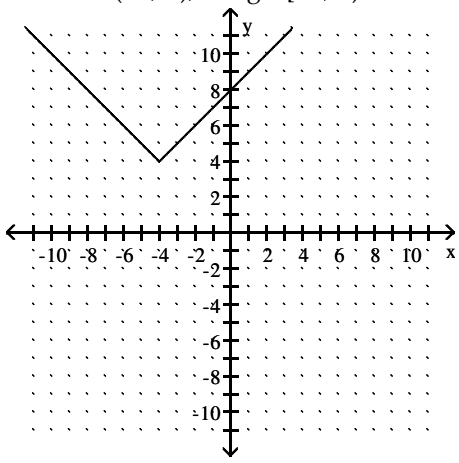
332) $f(x) = |x + 4| + 4$ 332) _____



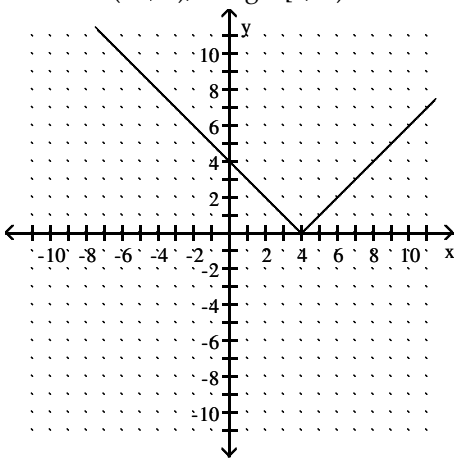
A) Domain: (−∞, ∞); Range: [+4, ∞)



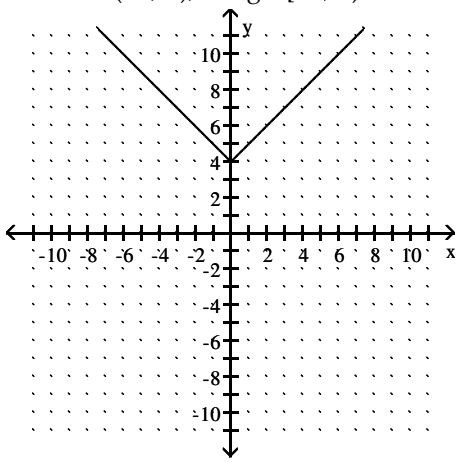
B) Domain: (−∞, ∞); Range: [+4, ∞)



C) Domain: (−∞, ∞); Range: [0, ∞)



D) Domain: (−∞, ∞); Range: [+4, ∞)



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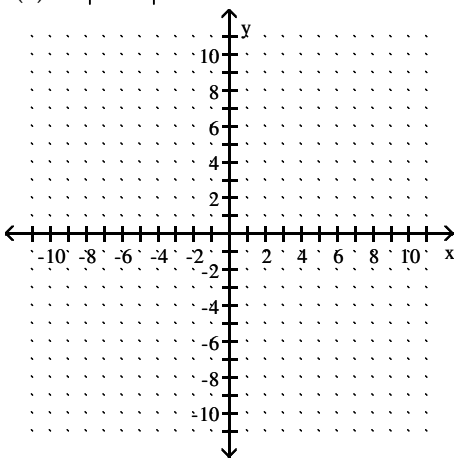
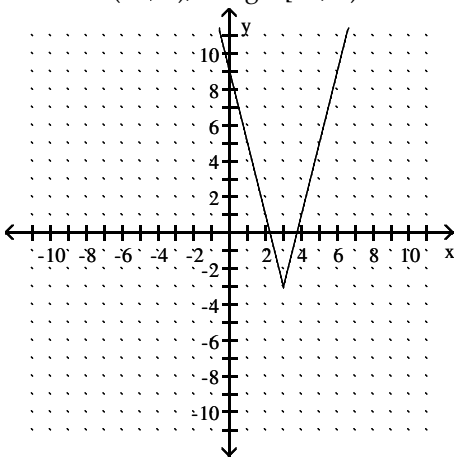
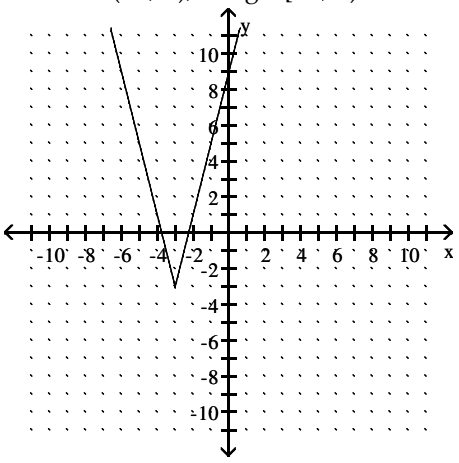
333) $f(x) = 4|x - 3| - 3$ 333) _____



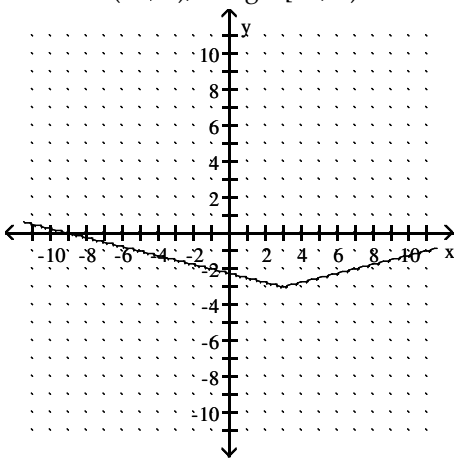
A) Domain: (−∞, ∞); Range: [−3, ∞)



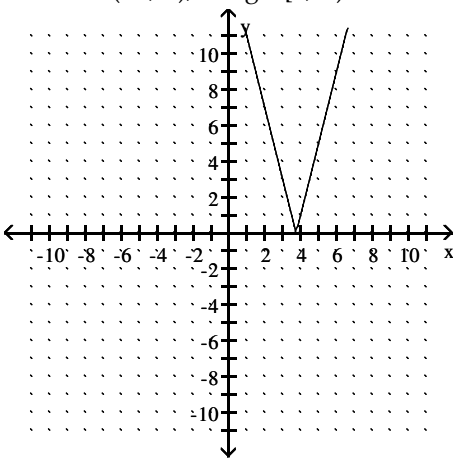
B) Domain: (−∞, ∞); Range: [−3, ∞)



C) Domain: (−∞, ∞); Range: [−3, ∞)



D) Domain: (−∞, ∞); Range: [0, ∞)



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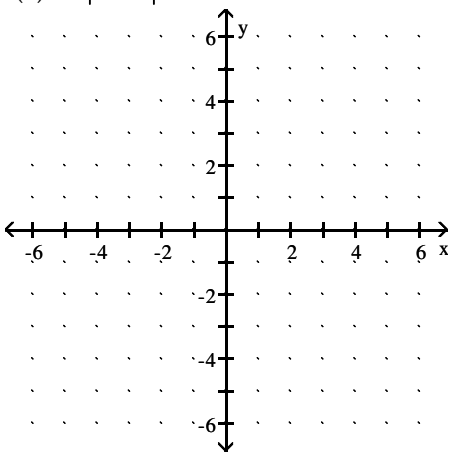
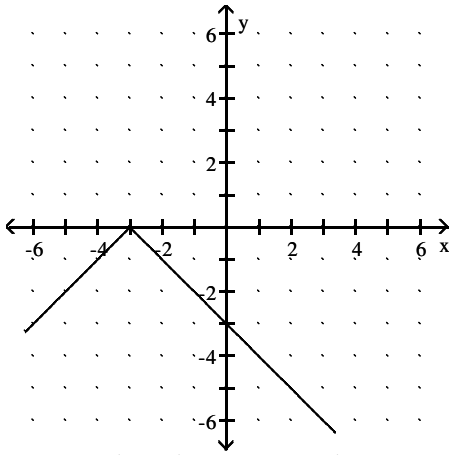
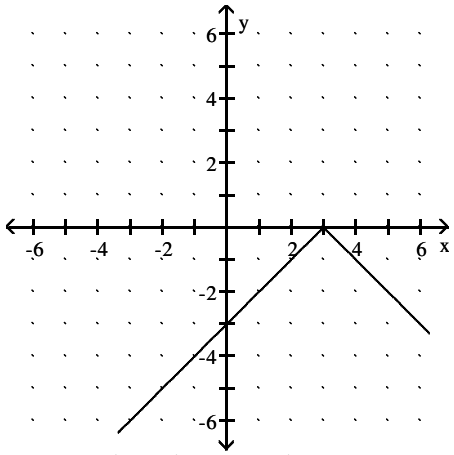
334) $f(x) = -|x - 3|$ 334) _____



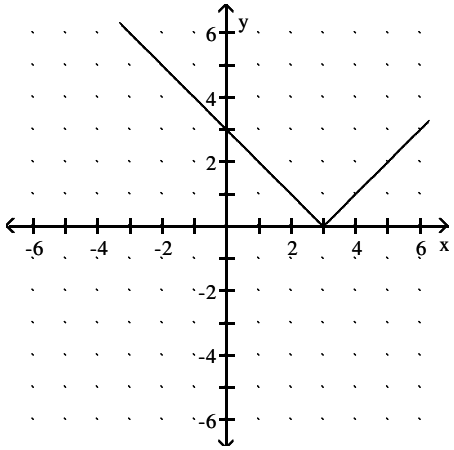
A) Domain: $(-\infty, \infty)$; Range: $(-\infty, 0]$



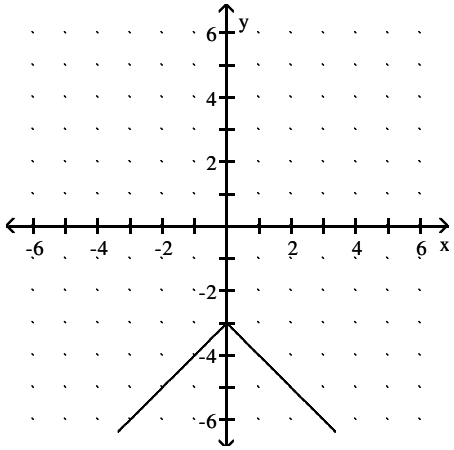
B) Domain: $(-\infty, \infty)$; Range: $(-\infty, 0]$



C) Domain: $(-\infty, \infty)$; Range: $[0, \infty)$



D) Domain: $(-\infty, \infty)$; Range: $(-\infty, -3]$



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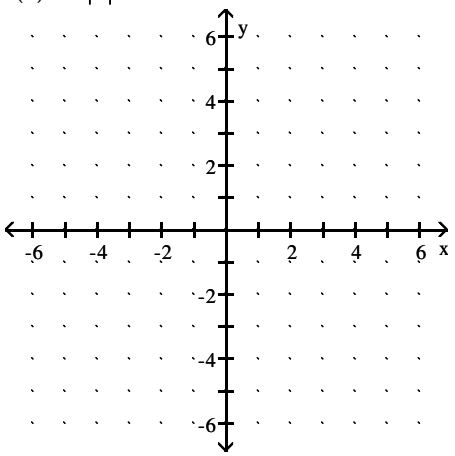
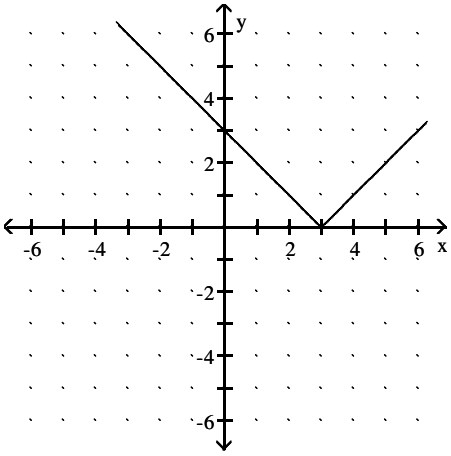
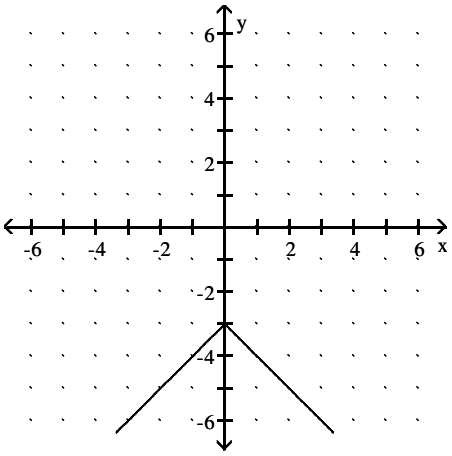
335) $f(x) = -|x| + 3$ 335) _____



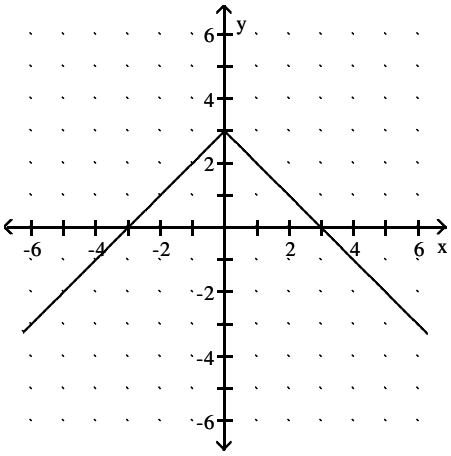
A) Domain: (−∞, ∞); Range: [0, ∞)



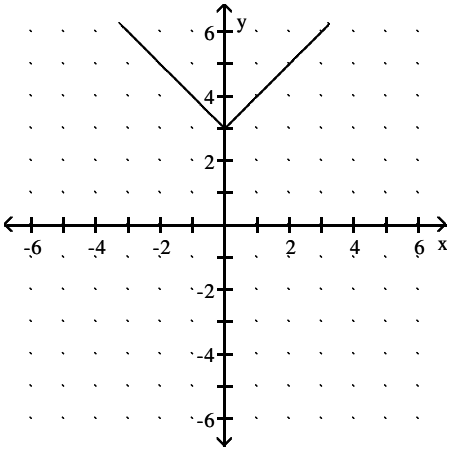
B) Domain: (−∞, ∞); Range: (−∞, − 3]



C) Domain: (−∞, ∞); Range: (−∞, 3]



D) Domain: (−∞, ∞); Range: [3, ∞)



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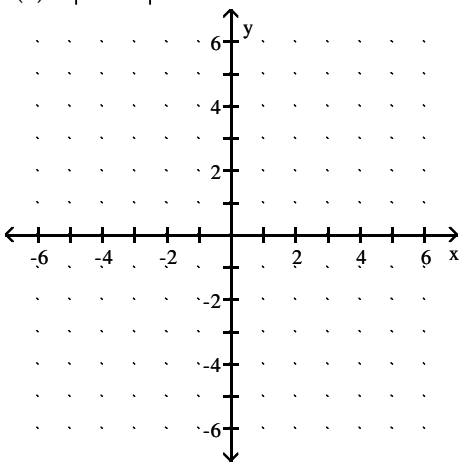
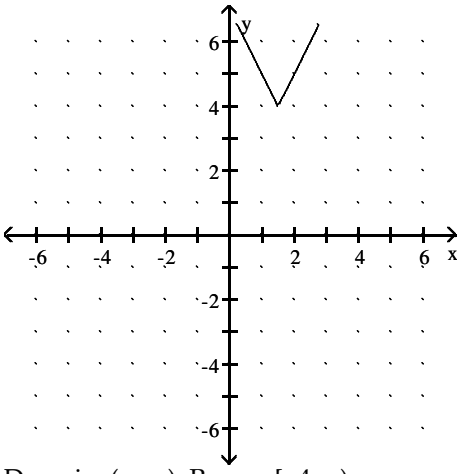
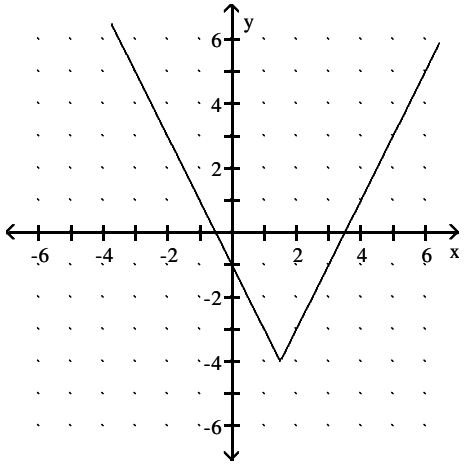
336) $f(x) = |2x - 3| - 4$ 336) _____



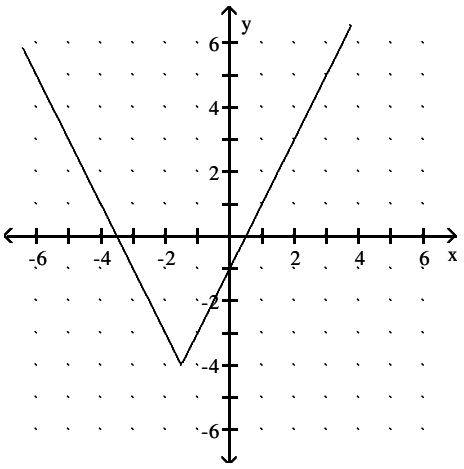
A) Domain: (-∞, ∞); Range: [4, ∞)



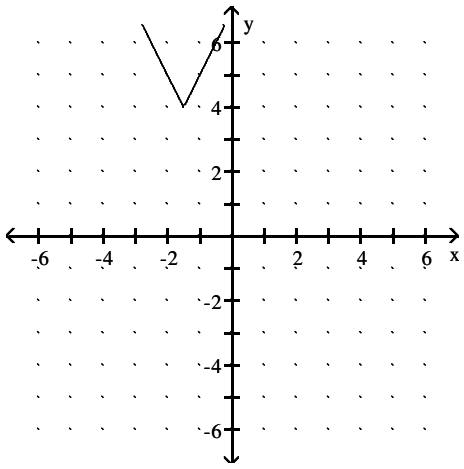
B) Domain: (-∞, ∞); Range: [−4, ∞)



C) Domain: (-∞, ∞); Range: [−4, ∞)



D) Domain: (-∞, ∞); Range: [4, ∞)



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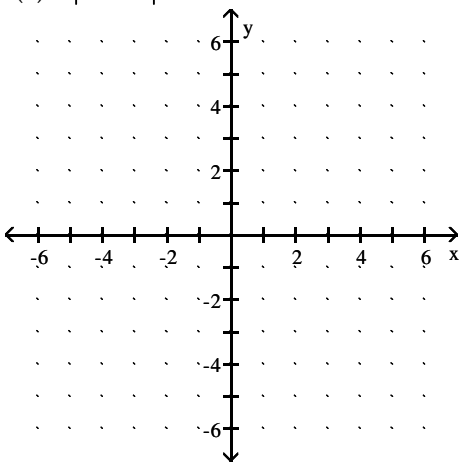
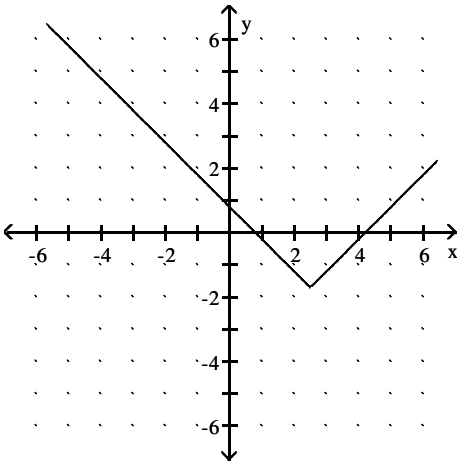
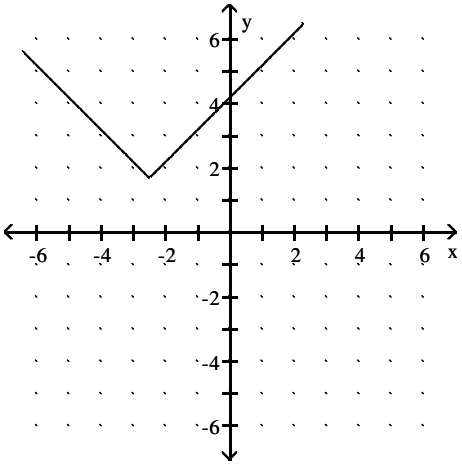
337) $f(x) = |x - 2.5| - 1.7$ 337) _____



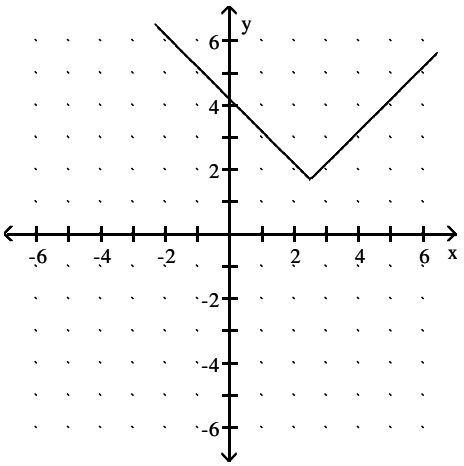
A) Domain: (-∞, ∞); Range: [–1.7, ∞)



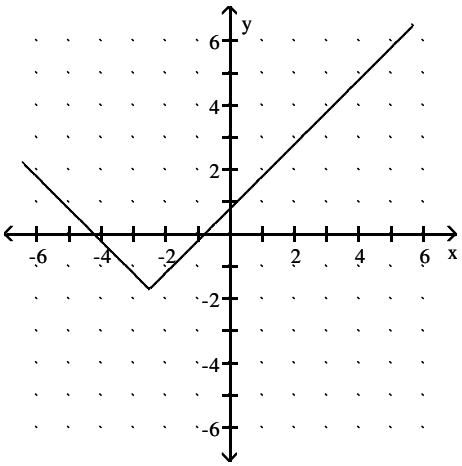
B) Domain: (-∞, ∞); Range: [1.7, ∞)



C) Domain: (-∞, ∞); Range: [1.7, ∞)



D) Domain: (-∞, ∞); Range: [–1.7, ∞)



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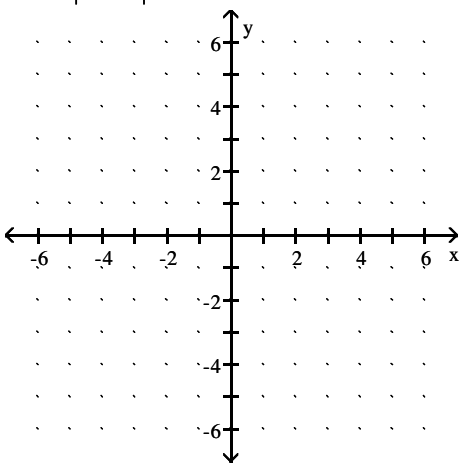
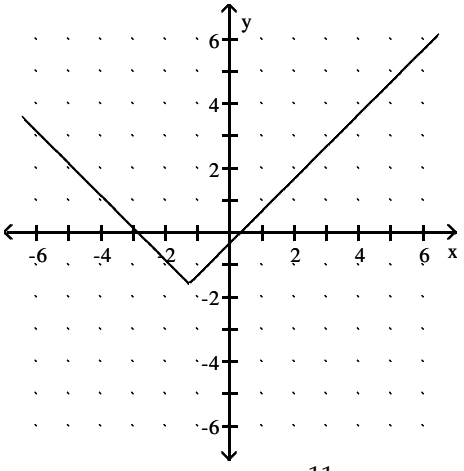
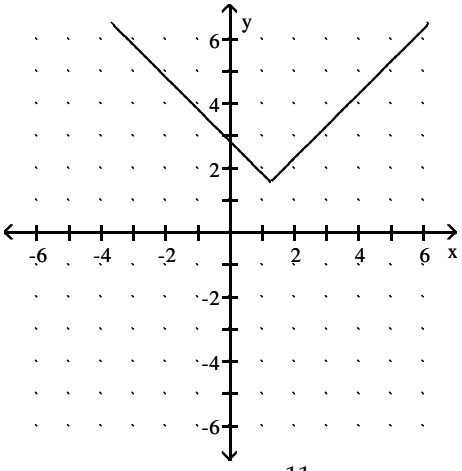
338) $f(x) = \left|x + \frac{5}{4}\right| + \frac{11}{7}$ 338) _____



A) Domain: $(-\infty, \infty)$; Range: $[-\frac{11}{7}, \infty)$

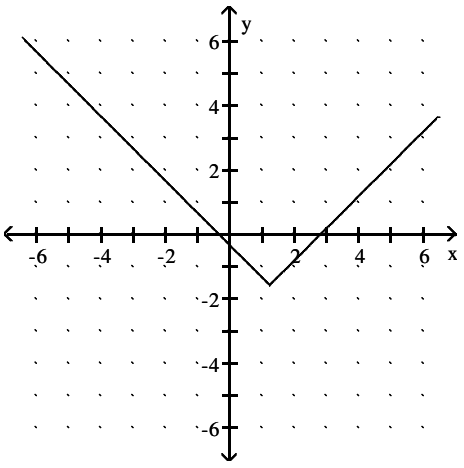
B) Domain: $(-\infty, \infty)$; Range: $[\frac{11}{7}, \infty)$

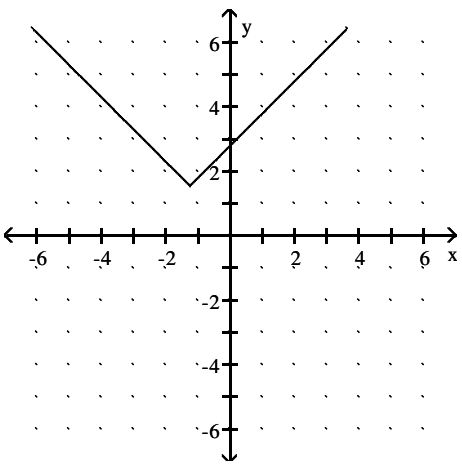




C) Domain: $(-\infty, \infty)$; Range: $[-\frac{11}{7}, \infty)$

D) Domain: $(-\infty, \infty)$; Range: $[\frac{11}{7}, \infty)$





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Rewrite the function as a piecewise function.

339) $f(x) = |x + 2| + 7$ 339) _____

A) $f(x) = \begin{cases} -x + 5 & \text{if } x < -2 \\ x + 9 & \text{if } x \geq -2 \end{cases}$

B) $f(x) = \begin{cases} x + 5 & \text{if } x < 2 \\ -x + 9 & \text{if } x \geq 2 \end{cases}$

C) $f(x) = \begin{cases} x - 5 & \text{if } x < -2 \\ -x + 9 & \text{if } x \geq -2 \end{cases}$

D) $f(x) = \begin{cases} -x + 5 & \text{if } x < 2 \\ x - 9 & \text{if } x \geq 2 \end{cases}$

340) $f(x) = -|x + 5| - 2$ 340) _____

A) $f(x) = \begin{cases} x + 3 & \text{if } x < -5 \\ -x + 7 & \text{if } x \geq -5 \end{cases}$

B) $f(x) = \begin{cases} x - 3 & \text{if } x < -5 \\ -x - 7 & \text{if } x \geq -5 \end{cases}$

C) $f(x) = \begin{cases} -x + 3 & \text{if } x < -5 \\ x - 7 & \text{if } x \geq -5 \end{cases}$

D) $f(x) = \begin{cases} x + 3 & \text{if } x < -5 \\ -x - 7 & \text{if } x \geq -5 \end{cases}$

Write an absolute value function that is equivalent to the given piecewise function.

341) $f(x) = \begin{cases} -x - 18 & \text{if } x < -4 \\ x - 10 & \text{if } x \geq -4 \end{cases}$ 341) _____

A) $f(x) = |x - 14| + 4$

B) $f(x) = |x - 4| - 14$

C) $f(x) = |x + 4| - 14$

D) $f(x) = |x + 14| - 4$

342) $f(x) = \begin{cases} x + 120 & \text{if } x < -50 \\ -x + 20 & \text{if } x \geq -50 \end{cases}$ 342) _____

A) $f(x) = -|x - 50| + 70$

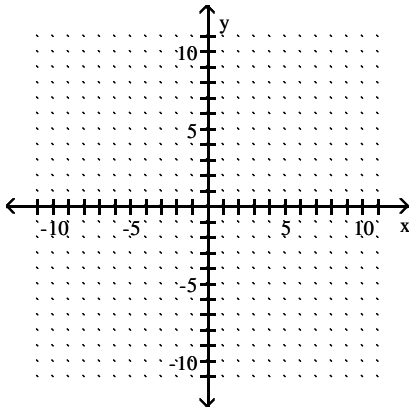
B) $f(x) = -|x + 50| - 70$

C) $f(x) = |x + 50| + 70$

D) $f(x) = -|x + 50| + 70$

Graph the piecewise function.

343) $f(x) = \begin{cases} 3x + 4 & \text{if } x < 0 \\ -x + 4 & \text{if } x \geq 0 \end{cases}$ 343) _____



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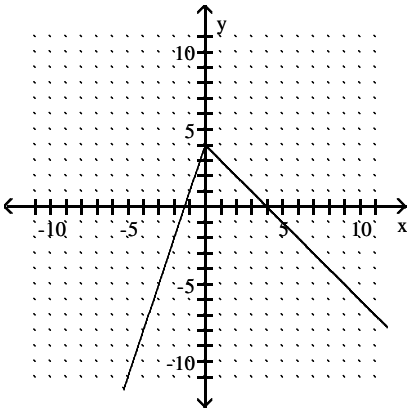
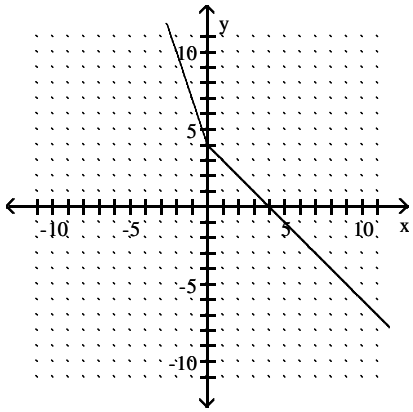
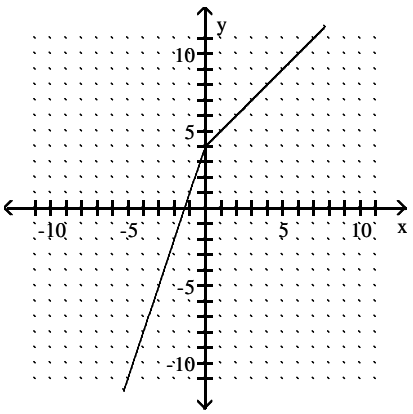
A)



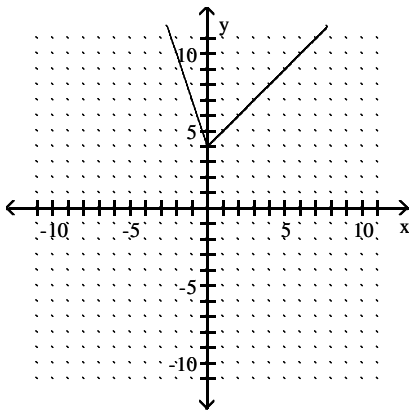
B)



C)

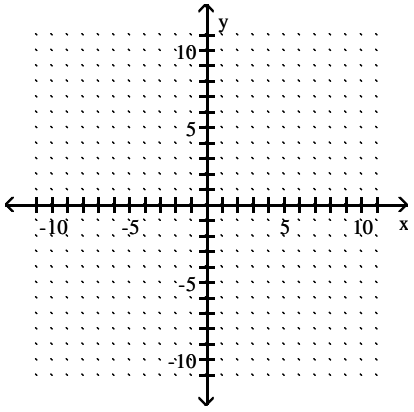


D)



344) $f(x) = \begin{cases} -x - 5 & \text{if } x < -1 \\ -4 & \text{if } -1 \le x < 2 \\ -5x + 6 & \text{if } x \ge 2 \end{cases}$

344) _____



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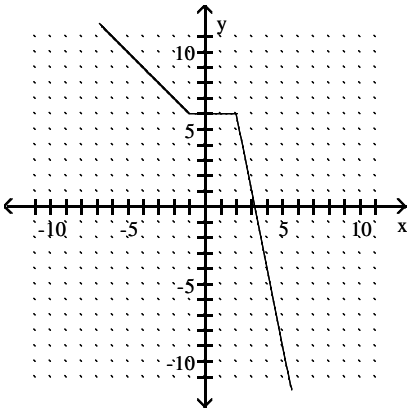
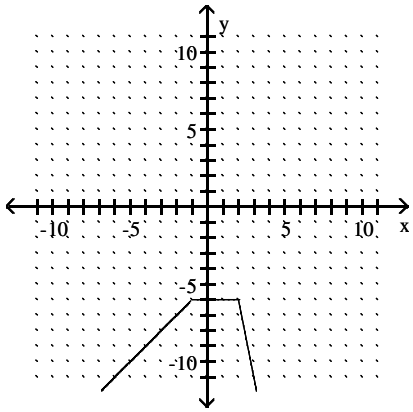
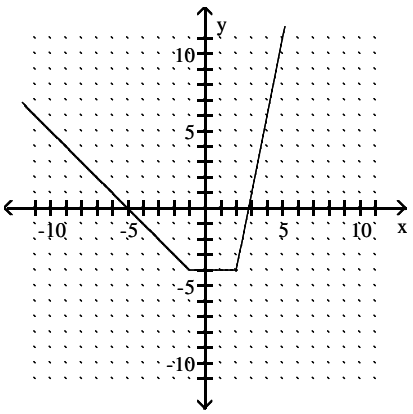
A)



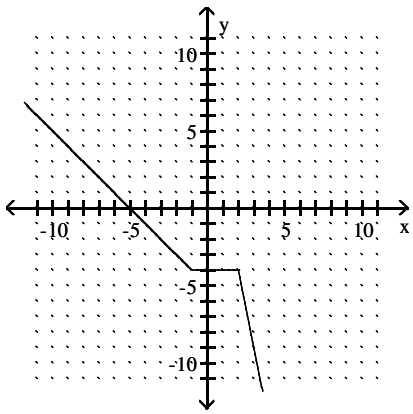
B)



C)



D)



Find the intercepts of the absolute value function.

345) $f(x) = |x + 4| - 3$ 345) _____

A) (7, 0), (7, 0), (0, 7)
B) (–1, 0), (7, 0), (0, –1)
C) (–1, 0), (–7, 0), (0, 1)
D) (1, 0), (7, 0), (0, 1)

346) $f(x) = |x - 7|$ 346) _____

A) (–7, 0), (0, 7)
B) (7, 0), (0, –7)
C) (7, 0), (0, 7)
D) (–7, 0), (0, –7)

347) $f(x) = |x| - 3$ 347) _____

A) (–3, 0), (0, 0), (0, –3)
B) (–3, 0), (0, –3)
C) (–3, 0), (3, 0), (0, 3)
D) (–3, 0), (3, 0), (0, –3)

348) $f(x) = |x - 1| + 4$ 348) _____

A) (0, 4)
B) (0, 5)
C) (0, 1)
D) (0, –3)

Determine whether the absolute value function f(x) has zero, one, or two x–intercepts.

349) $f(x) = |x - 8| - 3$ 349) _____

A) 0
B) 2
C) 1

350) $f(x) = -|x + 9| - 21$ 350) _____

A) 0
B) 1
C) 2

351) $f(x) = -|x + 15|$ 351) _____

A) 2
B) 0
C) 1

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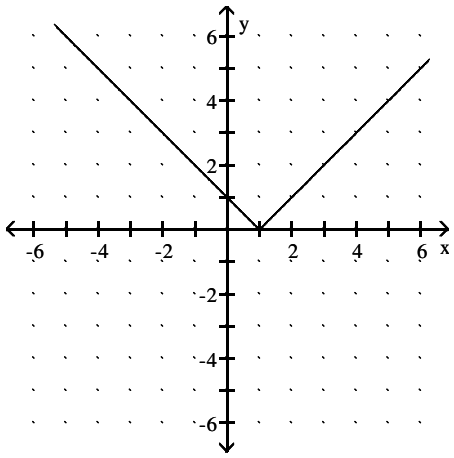
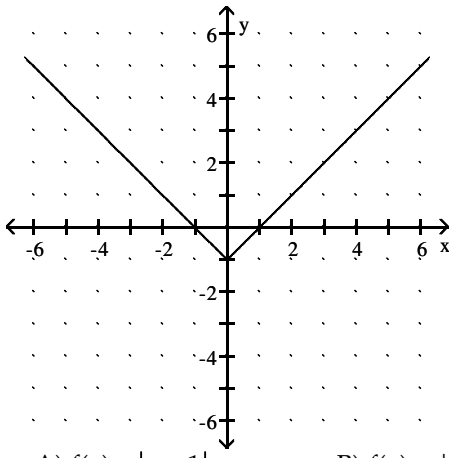
Determine the absolute value function f(x) that has been graphed.

352) 352) _____



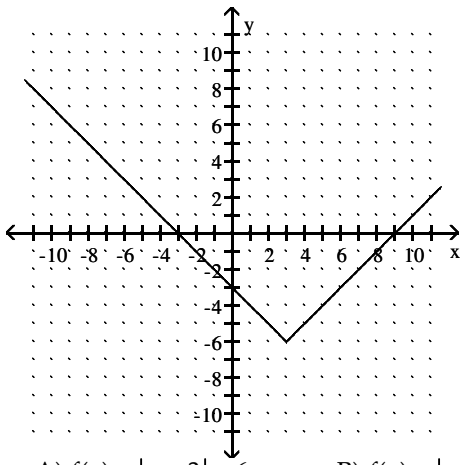
A) f(x) = |x| – 1 B) f(x) = |x| + 1 C) f(x) = |x + 1| D) f(x) = |x – 1|

353) 353) _____



A) f(x) = |x + 1| B) f(x) = |x| + 1 C) f(x) = |x – 1| D) f(x) = |x| – 1

354) 354) _____



A) f(x) = |x + 3| + 6 B) f(x) = |x – 3| + 6 C) f(x) = |x + 3| – 6 D) f(x) = |x – 3| – 6

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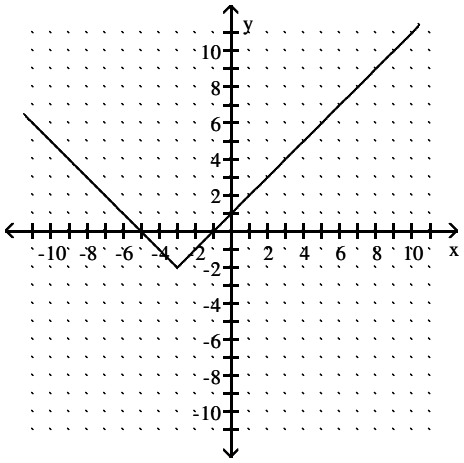
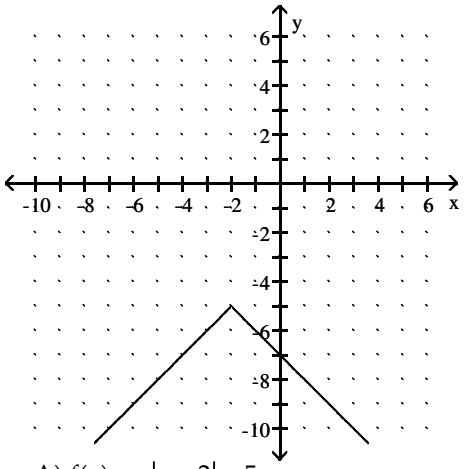
355) 355) _____



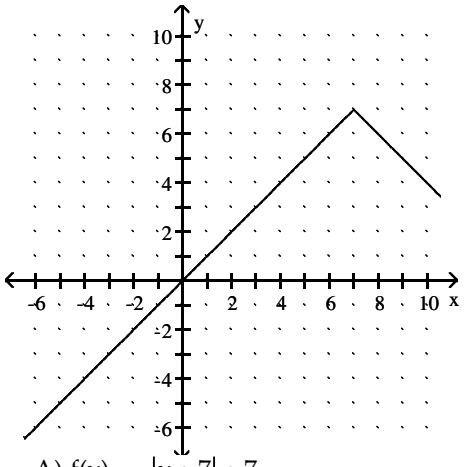
A) $f(x) = |x + 3| - 2$ B) $f(x) = |x + 3| + 2$ C) $f(x) = |x - 3| - 2$ D) $f(x) = |x - 3| + 2$

356) 356) _____



A) $f(x) = -|x + 2| - 5$ B) $f(x) = -|x - 2| - 5$
C) $f(x) = |x + 2| - 5$ D) $f(x) = -|x + 2| + 5$

357) 357) _____



A) $f(x) = -|x + 7| + 7$ B) $f(x) = -|x + 7| - 7$
C) $f(x) = -|x - 7| + 7$ D) $f(x) = |x - 7| - 7$

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1) A
2) A
3) B
4) A
5) A
6) B
7) B
8) D
9) A
10) A
11) C
12) D
13) C
14) D
15) A
16) B
17) B
18) B
19) A
20) B
21) B
22) B
23) A
24) A
25) B
26) C
27) D
28) B
29) D
30) D
31) A
32) A
33) B
34) A
35) B
36) A
37) D
38) A
39) D
40) B
41) B
42) A
43) B
44) C
45) C
46) C
47) B
48) B
49) B
50) B

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51) B
52) C
53) C
54) D
55) D
56) C
57) D
58) B
59) A
60) B
61) B
62) C
63) D
64) B
65) B
66) C
67) B
68) B
69) C
70) D
71) D
72) B
73) B
74) C
75) B
76) B
77) B
78) C
79) D
80) C
81) D
82) B
83) C
84) A
85) A
86) A
87) A
88) C
89) B
90) D
91) C
92) D
93) A
94) D
95) D
96) D
97) B
98) B
99) A
100) B

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101) A
102) A
103) A
104) D
105) C
106) A
107) A
108) B
109) D
110) C
111) B
112) A
113) A
114) D
115) A
116) D
117) B
118) B
119) A
120) D
121) B
122) A
123) D
124) D
125) B
126) D
127) B
128) D
129) A
130) C
131) D
132) B
133) B
134) A
135) A
136) B
137) B
138) B
139) B
140) A
141) B
142) B
143) A
144) B
145) B
146) B
147) B
148) C
149) C
150) A

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151) C
152) B
153) C
154) C
155) A
156) B
157) A
158) B
159) B
160) A
161) C
162) D
163) D
164) D
165) D
166) C
167) D
168) C
169) A
170) C
171) B
172) C
173) C
174) D
175) A
176) B
177) C
178) C
179) C
180) C
181) A
182) A
183) B
184) D
185) C
186) D
187) D
188) D
189) A
190) C
191) B
192) B
193) B
194) C
195) B
196) D
197) C
198) B
199) B
200) D

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201) C
202) A
203) A
204) D
205) A
206) C
207) B
208) D
209) C
210) D
211) A
212) A
213) A
214) B
215) A
216) A
217) B
218) A
219) A
220) A
221) B
222) A
223) B
224) A
225) C
226) B
227) A
228) C
229) D
230) A
231) D
232) C
233) A
234) D
235) D
236) B
237) D
238) D
239) B
240) B
241) B
242) D
243) A
244) D
245) D
246) B
247) C
248) C
249) A
250) C

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251) C
252) B
253) B
254) D
255) A
256) Let y = 0 and solve for x.
257) The graph is a vertical line.
258) Answers will vary.
259) It is not specific. The slope of a horizontal line is 0; the slope of a vertical line is not defined.
260) B
261) A
262) They are perpendicular.
263) The boundary line of $y < mx + b$ is a dashed line. The boundary line of $y \leq mx + b$ is a solid line.
264) A
265) A
266) B
267) A
268) B
269) A
270) B
271) B
272) B
273) A
274) B
275) A
276) B
277) A
278) A
279) C
280) A
281) C
282) C
283) D
284) C
285) C
286) A
287) D
288) A
289) C
290) B
291) B
292) C
293) C
294) A
295) C
296) B
297) B
298) A
299) B
300) C

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301) A
302) D
303) C
304) D
305) B
306) D
307) C
308) B
309) B
310) B
311) C
312) D
313) A
314) C
315) A
316) D
317) D
318) A
319) D
320) C
321) D
322) A
323) D
324) A
325) C
326) A
327) C
328) B
329) A
330) B
331) D
332) B
333) A
334) B
335) C
336) B
337) A
338) D
339) A
340) D
341) C
342) D
343) A
344) D
345) C
346) C
347) D
348) B
349) B
350) A

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351) C
352) D
353) D
354) D
355) A
356) A
357) C

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