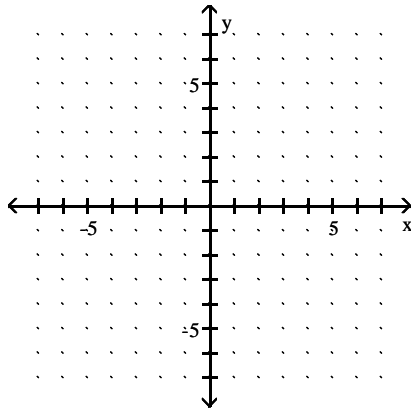


Name _____

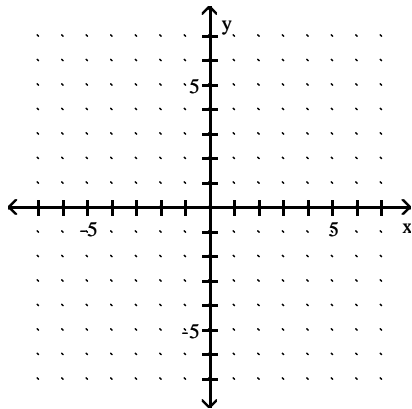
Sketch the graph of the equation.

1) $x = -3$



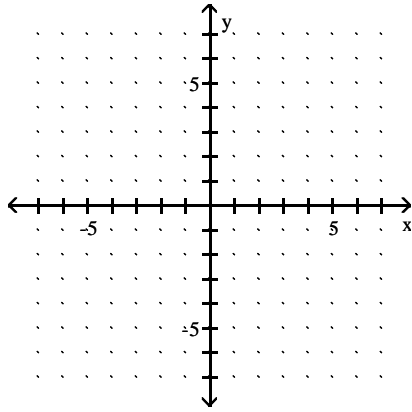
1) _____

2) $y = 3x$



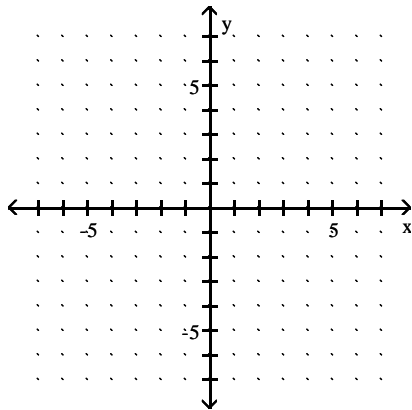
2) _____

3) $y = -5x$



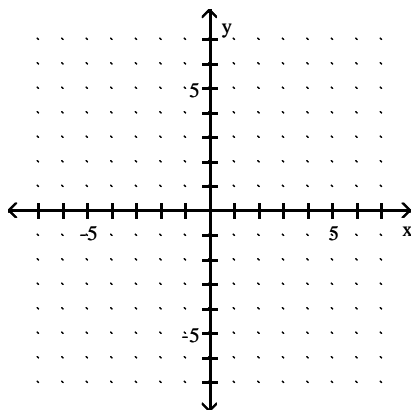
3) _____

4) $y = \frac{1}{4}x$



4) _____

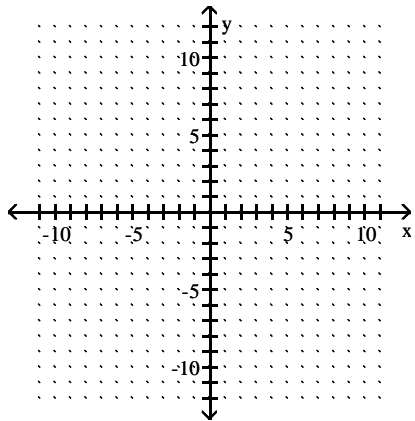
5) $y = -\frac{1}{4}x$



5) _____

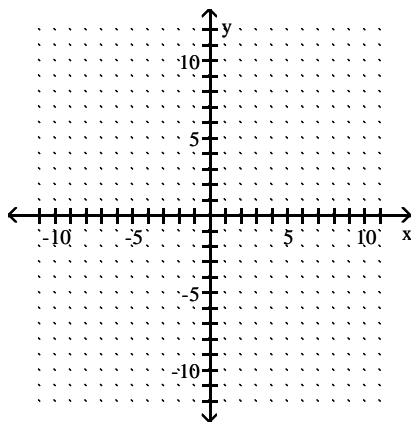
6) $y = -\frac{8}{5}x - 5$

6) _____

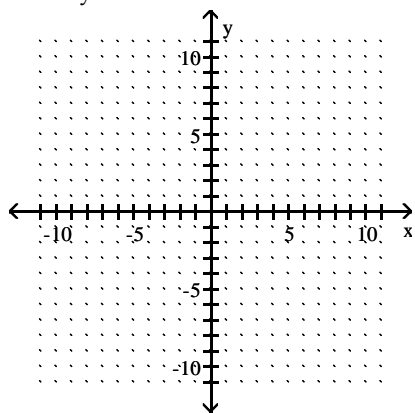


7) $y = \frac{7}{6}x + 6$

7) _____

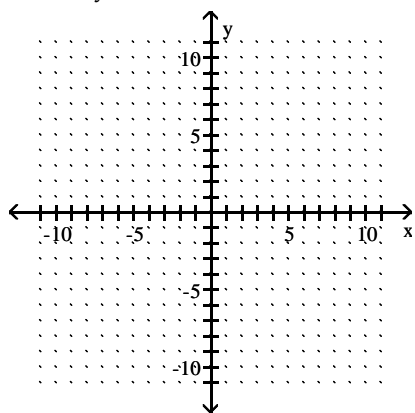


8) $-x = 4y - 5$



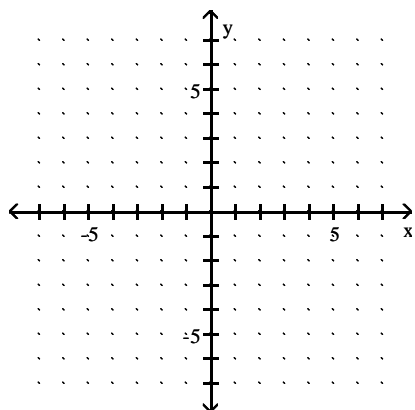
8) _____

9) $-x = -6y - 5$



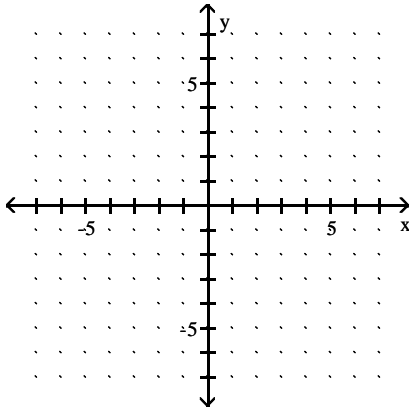
9) _____

10) $x = 4$



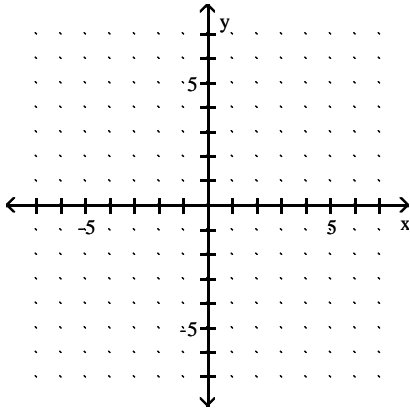
10) _____

11) $y = 3$



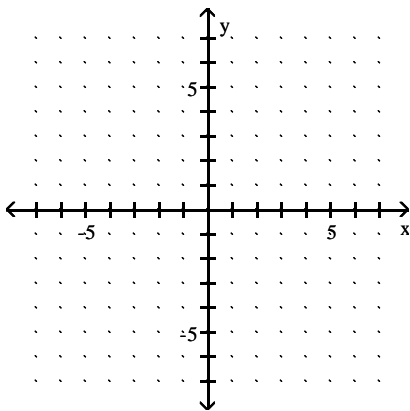
11) _____

12) $y = -2$



12) _____

13) $y = -5$

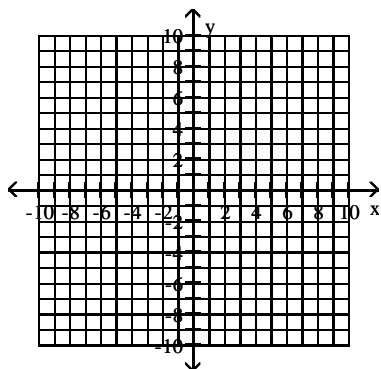


13) _____

Begin by graphing the standard quadratic function $f(x) = x^2$. Then use transformations of this graph to graph the given function.

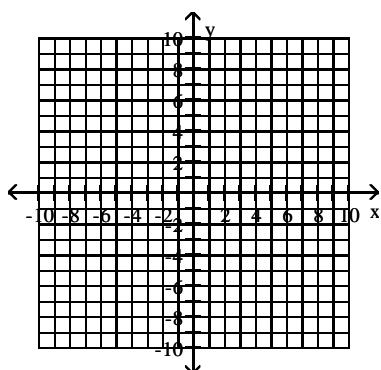
14) $g(x) = x^2 + 2$

14) _____



15) $g(x) = x^2 - 2$

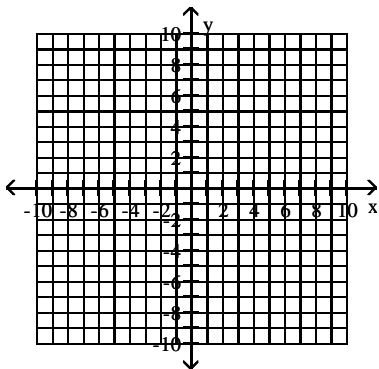
15) _____



Begin by graphing the standard square root function $f(x) = \sqrt{x}$. Then use transformations of this graph to graph the given function.

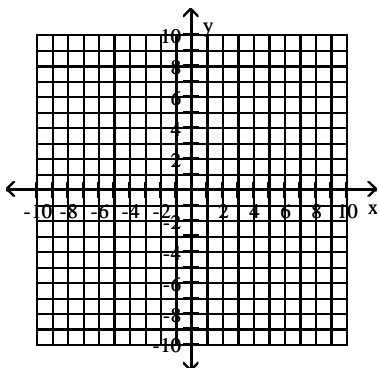
16) $g(x) = \sqrt{x} - 2$

16) _____



17) $g(x) = \sqrt{x} - 1$

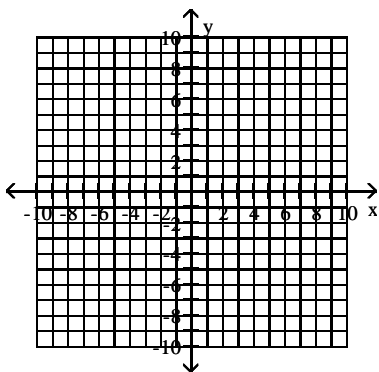
17) _____



Begin by graphing the standard absolute value function $f(x) = |x|$. Then use transformations of this graph to graph the given function.

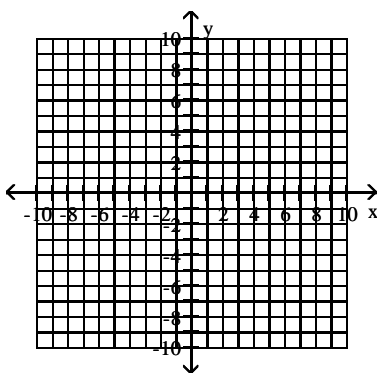
18) $g(x) = |x| + 2$

18) _____



19) $g(x) = |x| - 2$

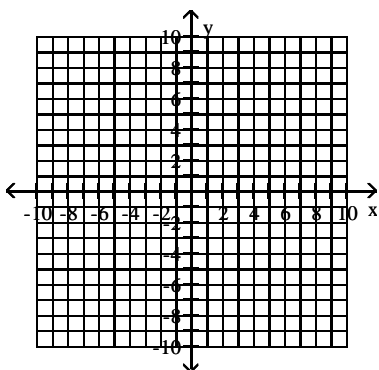
19) _____



Begin by graphing the standard function $f(x) = x^3$. Then use transformations of this graph to graph the given function.

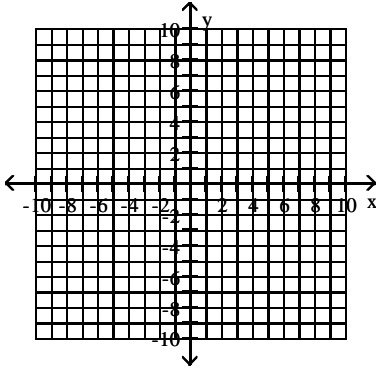
20) $g(x) = x^3 - 2$

20) _____



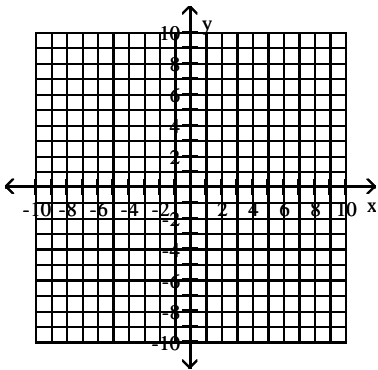
21) $g(x) = x^3 - 3$

21) _____



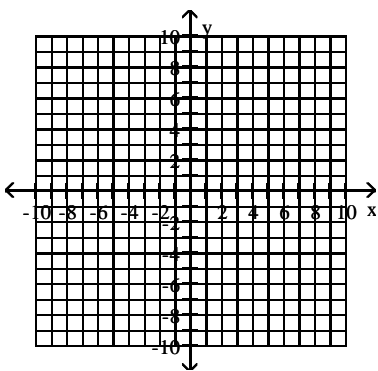
22) $g(x) = x^3 + 2$

22) _____



23) $g(x) = x^3 + 3$

23) _____



Decide whether the relation is a function.

24) $\{(-1, -9), (1, -7), (5, -5), (7, -8), (10, -3)\}$

24) _____

25) $\{(-2, -8), (2, -3), (6, 4), (7, -5), (10, 6)\}$

25) _____

26) $\{(-3, 2), (-1, 5), (2, -1), (2, 9)\}$

26) _____

27) $\{(-5, 7), (-3, -5), (1, 3), (1, 9)\}$

27) _____

28) $\{(-6, 3), (-2, 3), (2, 4), (2, -8)\}$

28) _____

29) $\{(-4, -4), (-2, 3), (1, 6), (1, 7)\}$

29) _____

30) $\{(-4, 5), (-3, 1), (-1, 8), (8, -3)\}$

30) _____

31) $\{(-6, 7), (-2, 1), (1, -9), (6, 8)\}$

31) _____

32) $\{(-5, -9), (-2, 9), (-1, 5), (8, 7)\}$

32) _____

33) $\{(-3, 3), (-2, 2), (1, -7), (5, 5)\}$

33) _____

Give the domain and range for the relation.

34) $\{(15, 9), (-9, -5), (11, 8), (-4, -11), (9, 7)\}$

34) _____

35) $\{(-7, -1), (10, 9), (2, 7), (2, 6)\}$

35) _____

36) $\{(-8, -4), (-8, -8), (-3, 5), (11, -9), (-2, -7)\}$

36) _____

37) $\{(9, -8), (-6, -3), (-1, -1), (-1, 1)\}$

37) _____

38) $\{(-4, 9), (8, -1), (-9, -2), (-1, 6)\}$

38) _____

39) $\{(-4, -4), (11, 9), (7, 3), (-7, -8)\}$

39) _____

40) $\{(1, 0), (5, 0), (-5, 0), (3, 0)\}$

40) _____

41) $\{(5, 0), (12, 0), (-2, 0), (7, 0)\}$

41) _____

Solve the problem.

42) Some values for a relation are given in the table. Is the relation a function?

42) _____

x	y
1	2
2	5
3	8
3	11
4	14

43) Some values for a relation are given in the table. Is the relation a function?

43) _____

x	y
1	2
2	7
3	7
4	1
5	9

44) Some values for a relation are given in the table. Is the relation a function?

44) _____

x	y
1	5
2	9
3	2
3	4
4	7

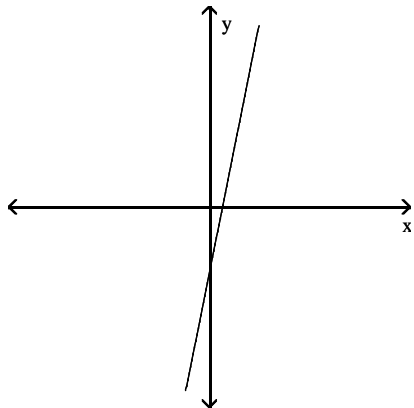
45) Some values for a relation are given in the table. Is the relation a function?

45) _____

x	y
5	3
6	4
7	6
8	6
9	15

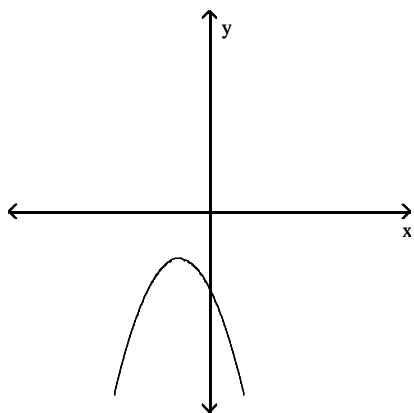
Use the vertical line test on the graph to determine if y is a function of x .

46)



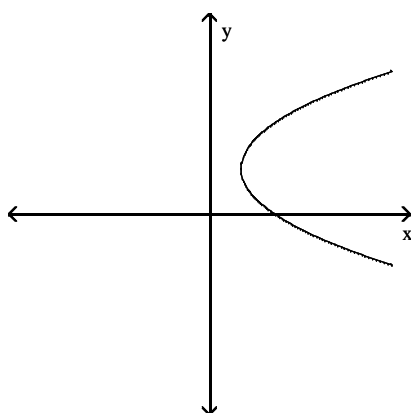
46) _____

47)



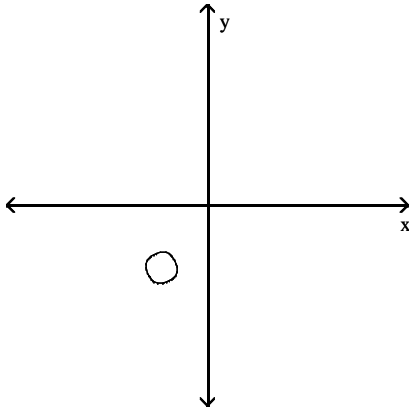
47) _____

48)



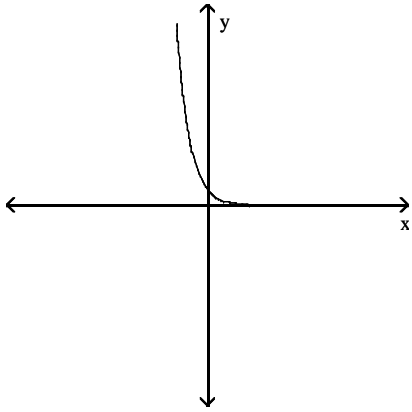
48) _____

49)



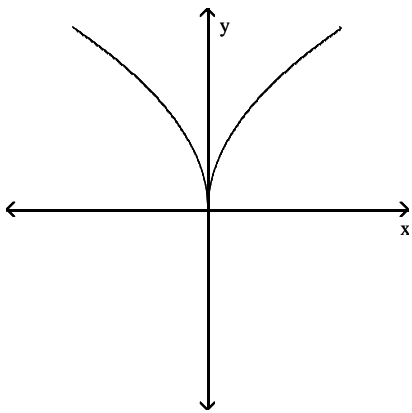
49) _____

50)



50) _____

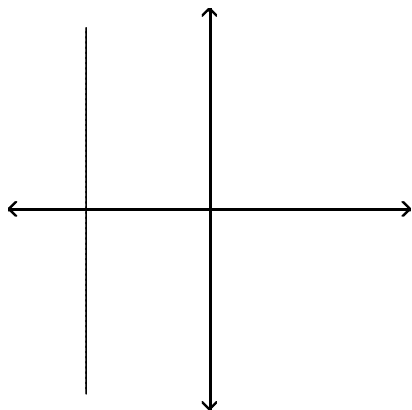
51)



51) _____

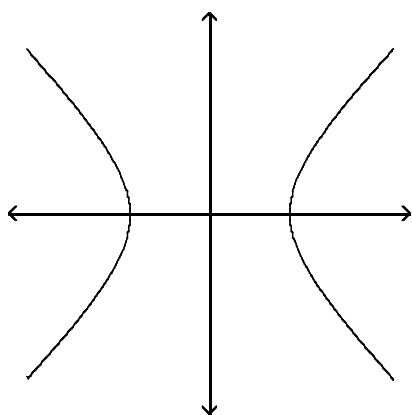
Determine whether the graph is the graph of a function.

52)



52) _____

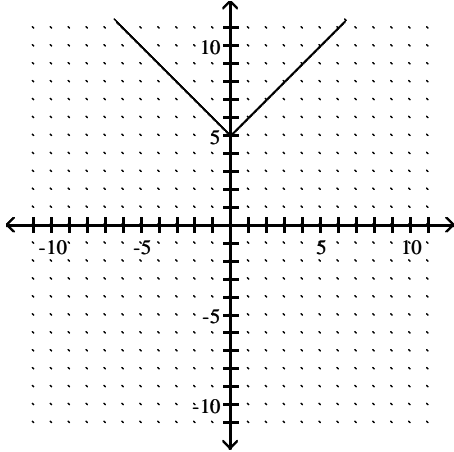
53)



53) _____

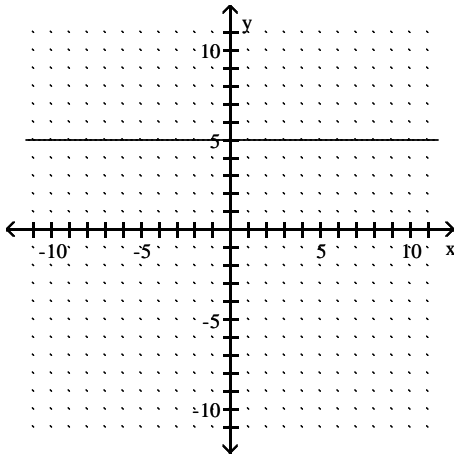
Find the domain and the range of the relation.

54)



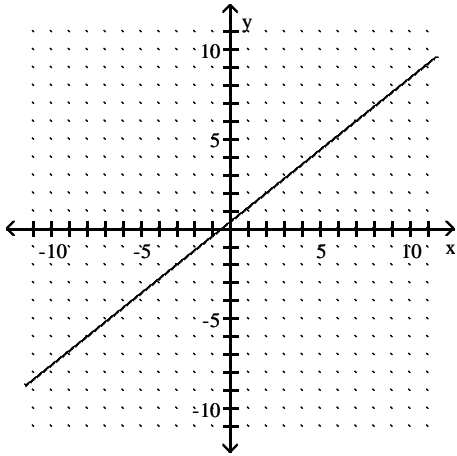
54) _____

55)



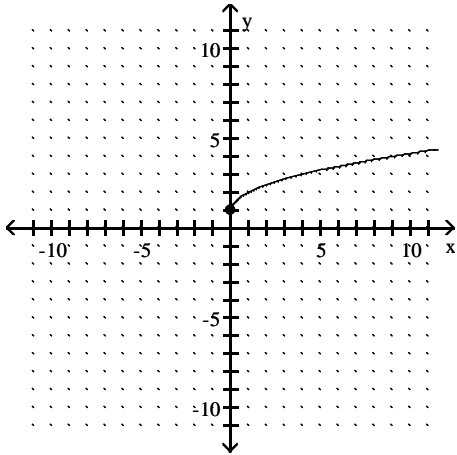
55) _____

56)



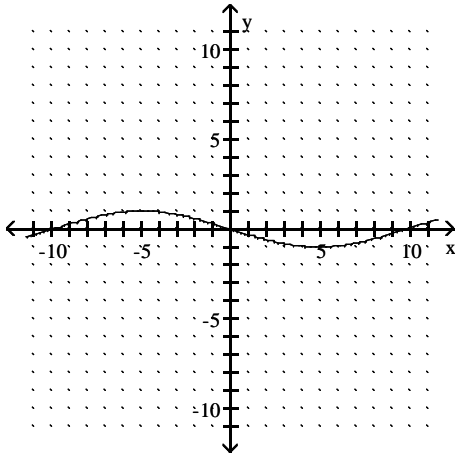
56) _____

57)



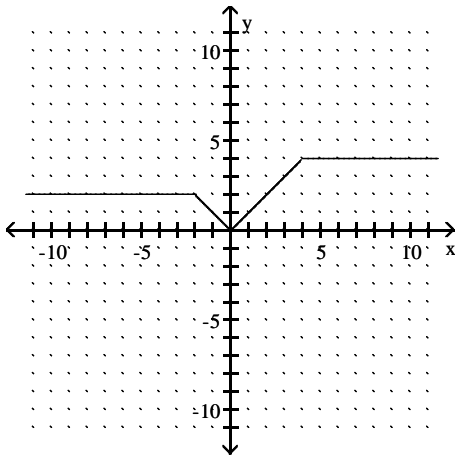
57) _____

58)



58) _____

59)



59) _____

Evaluate the function at the given value.

60) $f(x) = 17x + 11$; $f(0)$

60) _____

61) $f(x) = x^2 - 4x - 3$; $f(2)$

61) _____

62) $h(x) = |x - 9|$; $h(18)$

62) _____

63) $h(x) = 4$; $h(8)$

63) _____

64) $h(x) = -6$; $h(11)$

64) _____

65) $g(x) = 11x$; $g(8)$

65) _____

66) $f(x) = x^2 - 2x$; $f(5)$

66) _____

67) $f(x) = x^2 + 3x$; $f(11)$

67) _____

68) $f(t) = \sqrt{t + 133} + 2$; $f(11)$

68) _____

69) $f(r) = \frac{5r}{|5r|}$; $f(-3)$

69) _____

70) $f(r) = \frac{4r}{|4r|}$; $f(-2)$

70) _____

The table lists some input-output pairs for an exponential function f . Use the table to find the requested value.

71) Find $f(1)$.

71) _____

x	$f(x)$
0	2
1	6
2	18
3	54
4	162

72) Find $f(0)$.

72) _____

x	$f(x)$
0	3
1	9
2	27
3	81
4	243

73) Find $f(0)$.

73) _____

x	$f(x)$
0	1
1	2
2	5
3	14
4	41

74) Find x when $f(x) = 2$.

74) _____

x	$f(x)$
0	1
1	2
2	5
3	14
4	41

75) Find x when $f(x) = 243$.

75) _____

x	$f(x)$
0	3
1	9
2	27
3	81
4	243

76) Find x when $f(x) = 54$.

76) _____

x	$f(x)$
0	2
1	6
2	18
3	54
4	162

77) Find $f(3)$.

77) _____

x	$f(x)$
0	625
1	125
2	25
3	
4	1

78) Find $f(3)$.

78) _____

x	$f(x)$
0	768
1	192
2	48
3	
4	3

Given functions f and g , perform the indicated operations.

79) $f(x) = 5x - 2$, $g(x) = 3x - 7$

Find $f - g$.

79) _____

80) $f(x) = 2x^2 - 7x$, $g(x) = x^2 - 2x - 35$

Find $\frac{f}{g}$.

80) _____

81) $f(x) = 4 - 7x$, $g(x) = -9x + 7$

Find $f + g$.

81) _____

82) $f(x) = \sqrt{5x + 4}$, $g(x) = \sqrt{9x - 16}$

Find fg .

82) _____

83) $f(x) = 6x + 5$, $g(x) = 5x - 9$

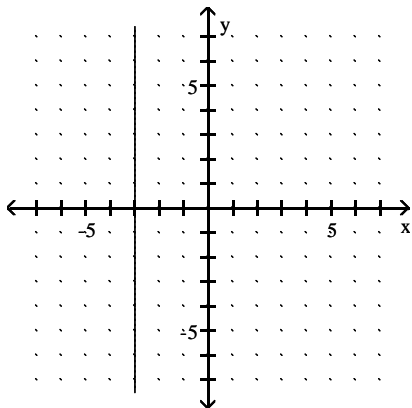
Find fg .

83) _____

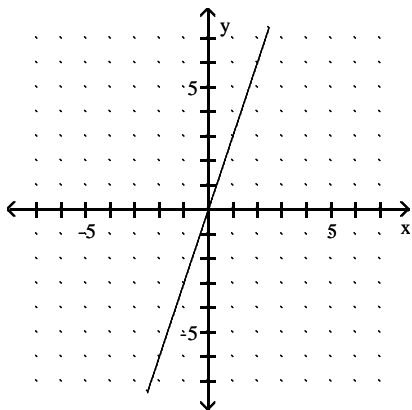
Answer Key

Testname: Q2PREP2.1TO2.4V02

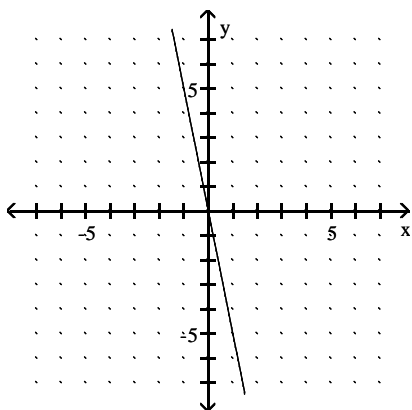
1)



2)



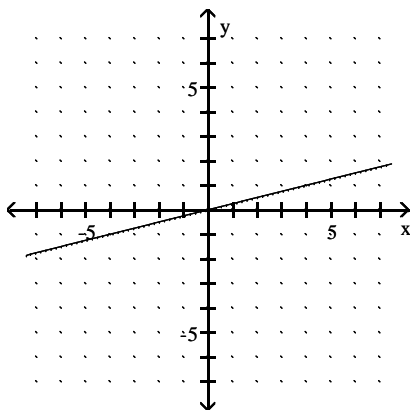
3)



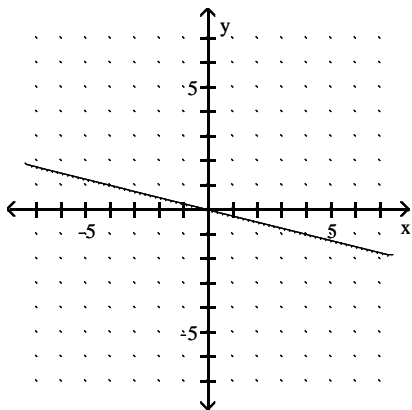
Answer Key

Testname: Q2PREP2.1TO2.4V02

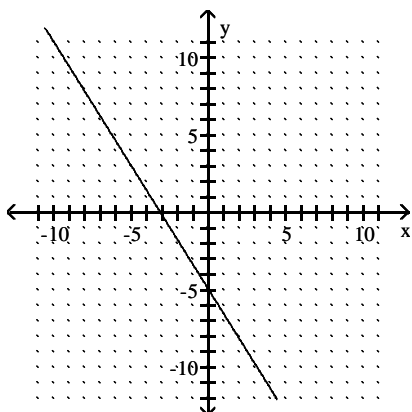
4)



5)



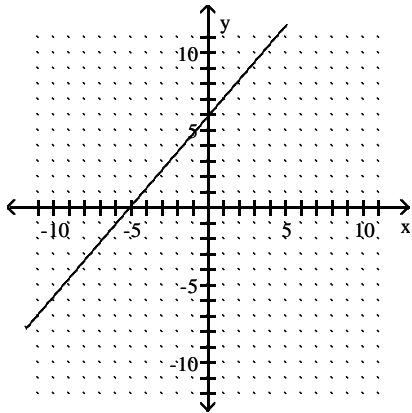
6)



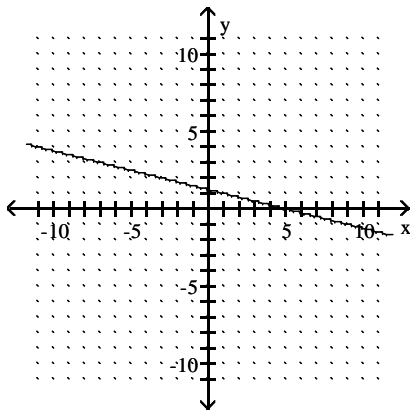
Answer Key

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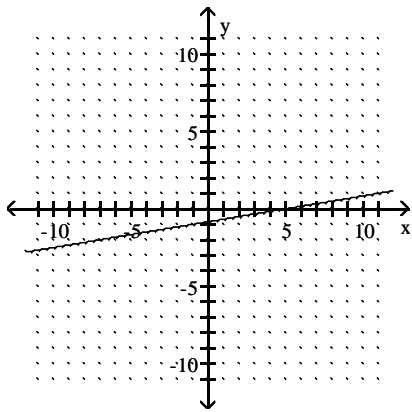
7)



8)



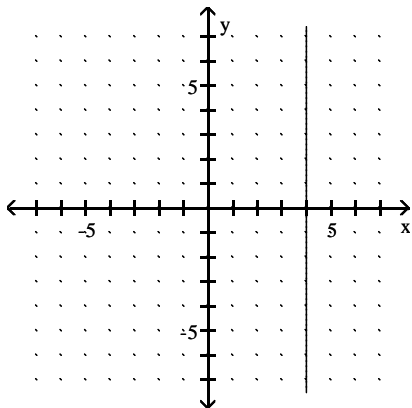
9)



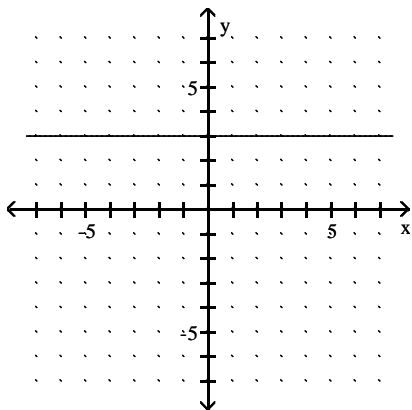
Answer Key

Testname: Q2PREP2.1TO2.4V02

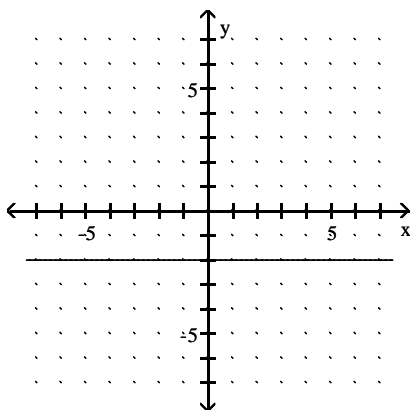
10)



11)



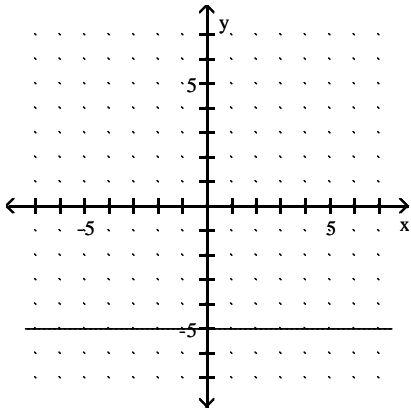
12)



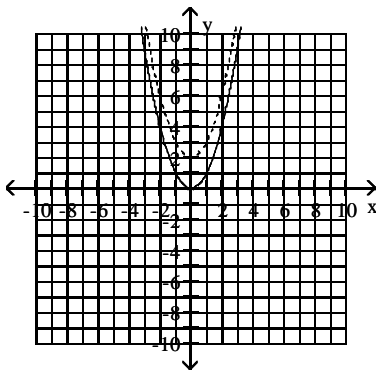
Answer Key

Testname: Q2PREP2.1TO2.4V02

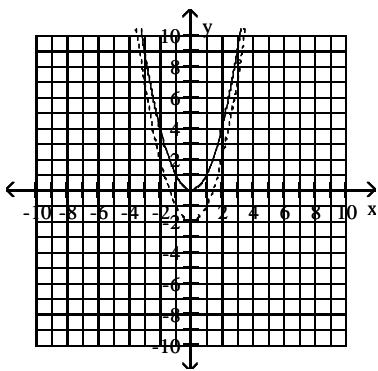
13)



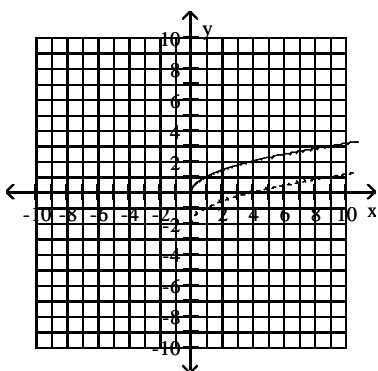
14)



15)



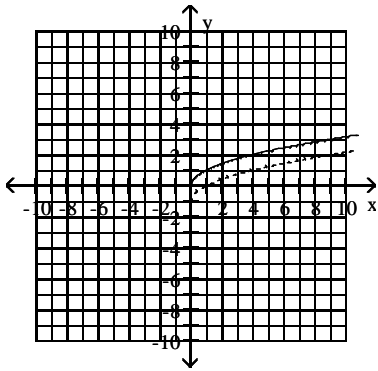
16)



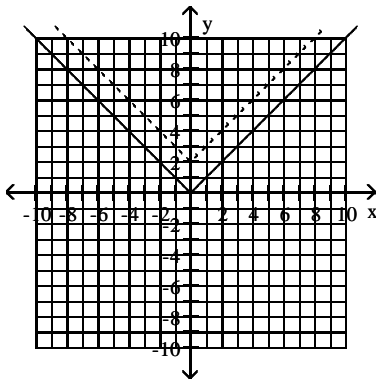
Answer Key

Testname: Q2PREP2.1TO2.4V02

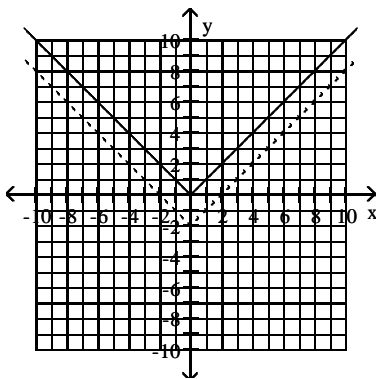
17)



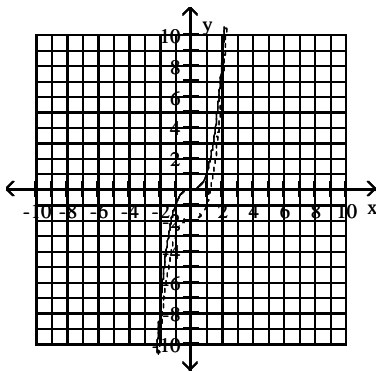
18)



19)



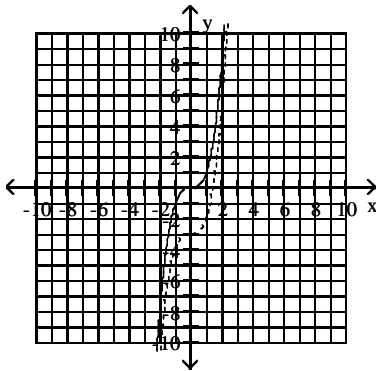
20)



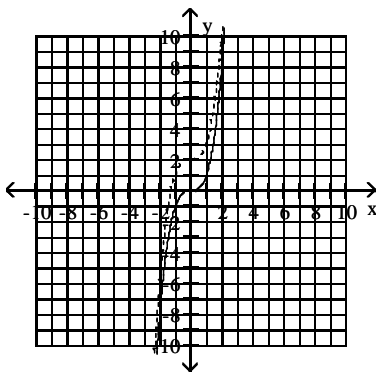
Answer Key

Testname: Q2PREP2.1TO2.4V02

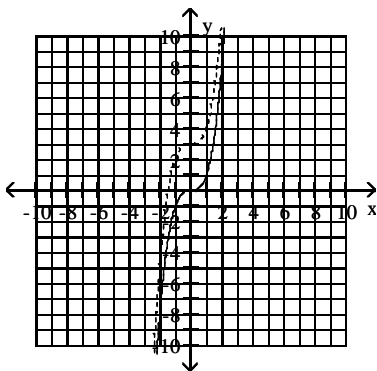
21)



22)



23)



24) Function

25) Function

26) Not a function

27) Not a function

28) Not a function

29) Not a function

30) Function

31) Function

32) Function

33) Function

34) Domain: $\{11, -9, 9, -4, 15\}$; range: $\{8, -5, 7, -11, 9\}$

35) Domain: $\{10, 2, -7\}$; range: $\{9, 7, -1, 6\}$

36) Domain: $\{-2, -3, 11, -8\}$; range: $\{-7, 5, -9, -8, -4\}$

37) Domain: $\{-1, -6, 9\}$; range: $\{-1, -3, -8, 1\}$

38) Domain: $\{-1, 8, -9, -4\}$; range: $\{6, -1, -2, 9\}$

Answer Key

Testname: Q2PREP2.1TO2.4V02

- 39) Domain: {11, 7, -7, -4}; range: {9, 3, -8, -4}
- 40) Domain: {1, -5, 5, 3}; range: {0}
- 41) Domain: {-2, 5, 7, 12}; range: {0}
- 42) No
- 43) Yes
- 44) No
- 45) Yes
- 46) Function
- 47) Function
- 48) Not a function
- 49) Not a function
- 50) Function
- 51) Function
- 52) not a function
- 53) not a function
- 54) domain: all real numbers; range: $y \geq 5$
- 55) domain: all real numbers; range: $y = 5$
- 56) domain: all real numbers; range: all real numbers
- 57) domain: $x \geq 0$; range: $y \geq 1$
- 58) domain: all real numbers; range: $-1 \leq y \leq 1$
- 59) domain: all real numbers; range: $0 \leq y \leq 4$
- 60) 11
- 61) -7
- 62) 9
- 63) 4
- 64) -6
- 65) 88
- 66) 15
- 67) 154
- 68) 14
- 69) -1
- 70) -1
- 71) 6
- 72) 3
- 73) 1
- 74) 1
- 75) 4
- 76) 3
- 77) 5
- 78) 12
- 79) $2x + 5$
- 80) $\frac{2x^2 - 7x}{x^2 - 2x - 35}$
- 81) $-16x + 11$
- 82) $(\sqrt{5x + 4})(\sqrt{9x - 16})$
- 83) $30x^2 - 29x - 45$