TEST NAME:**F.1 Schoolnet NEW**
TEST ID:**1183075**
GRADE:**08 - Eighth Grade**
SUBJECT:**Mathematics**
TEST CATEGORY:**School Assessment**

1. **Which of the following relations is a function?**

   A. $x = 8$
   B. $y = 8$
   C. $x = |8y|$
   D. $y^2 = 8x$

2. **Which equation is not a function?**

   A. $y = x^2 - 4$
   B. $x + 2y = 8$
   C. $x + y^2 = 16$
   D. $y = 3x - 20$

3. Which relation is a function?

   A. $\{(8, 2), (6, 5), (^-6, 0), (8, ^-4)\}$

   B. $\{(2, 2), (4, 5), (^-4, 5), (6, 7)\}$

   C. $\{(0, 2), (2, 5), (4, 6), (4, 7)\}$

   D. $\{(^-4, ^-6), (^-3, ^-5), (^-2, ^-4), (^-2, ^-3)\}$

4. **An input-output table is shown.**

Input	Output
1	1
2	4
3	9
4	16
5	25

   What is the relationship between each input number and each output number in the table?

   A. Each input number is multiplied by 2 to get the output number.
   B. Each input number is multiplied by itself to get the output number.
   C. Each input number is added to 3 to get the output number.
   D. Each input number is added to 9 to get the output number.

5. **Which chart represents a function?**

A.

x	y
0	0
1	-1
1	1
4	2

B.

x	y
2	6
4	10
6	14
8	18

C.

x	y
-2	2
2	-3
2	2
3	-3

D.

x	y
3	2
3	-2
5	24
-5	24

6. **Which ordered pair (*x, y*) makes the relation below a function?**

$\{(1, 2), (-2, 4), (3, 3), (-4, 4), (x, y)\}$

A. $(-4, -2)$
B. $(-2, 3)$
C. $(3, 2)$
D. $(5, 1)$

7. Which of the equations shown below represents a function?

Equation 1 : $y = x^2 + 2x + 9$

Equation 2 : $x = 9 - y^2$

A. Only 1

B. Only 2

C. Both 1 and 2

D. Neither 1 nor 2

8. **The ordered pairs (x, y) define the relation Q.**

$\{(4, 5), (-3, 2), (5, 5), (2, -3)\}$
Is *Q* a function?

A Yes, because there is exactly one *x*-value for every *y*-value.
B. Yes, because there is exactly one *y*-value for every *x*-value.
C. No, because there is more than one *x*-value for some *y*-values.
D. No, because there is more than one *y*-value for every *x*-value.

9. In which table is *y* a function of *x*?

A.

x	y
2	40
3	50
3	60
4	80

B.

x	y
2	40
3	50
4	60
5	70

C.

x	y
1	10
2	10
3	10
2	20

D.

x	y
5	10
5	15
5	20
5	25

10. **Which relation is a function?**

A. $y = 3$

B. $x = |3y|$

C. $x = 3$

D. $y^2 = 3x$

11. In which table is *y* a function of *x*?

A.

x	y
⁻3	6
2	5
3	2
2	3

B.

x	y
⁻1	0
5	2
7	3
5	4

C.

x	y
2	⁻1
3	0
4	⁻5
5	7

D.

x	y
0	6
⁻1	3
2	4
⁻1	5

12. The set of ordered pairs {(5, 3), (⁻2, 1), (0, 3), (*x*, 6)} is a function. Which is a possible value for *x*?

A. 0

B. 3

C. 5

13. In which set of ordered pairs is *y* a function of *x*?

A. {(⁻1, 2), (0, 1), (0, 2), (1, 1)}

B. {(⁻4, 1), (⁻3, 1), (⁻2, 1), (⁻1, 1)}

C. {(1, ⁻4), (1, ⁻3), (1, ⁻2), (1, ⁻1)}

D. {(2, 5), (3, 6), (6, 5), (2, 7)}

14. **Which of the following equations represents a function?**

   A. $x = 1$
   B. $y^2 = x + 1$
   C. $y^2 = x^4 + 1$
   D. $y = x^2 - 4$

15. Which of these relations is NOT a function?

   A. $R = \{(0, 0), (2, 6), (-4, -12), (-5, -15)\}$

   B. $R = \{(-2, 2), (2, -2), (-4, 4), (4, -4)\}$

   C. $R = \{(4, 5), (4, 8), (5, 10), (6, 12)\}$

   D. $R = \{(2, 3), (4, 3), (6, 3), (5, 3)\}$

16. **The table shows a linear relationship between x and y.**

x	y
-3	-4.5
-1	-3.5
6	n
8	1
11	2.5

   What is the value of n?
   A. -2.5
   B. -1
   C. 0
   D. 0.5

17. Which of the following relations is a function?

   A. $\{(-1, -4), (-1, 0), (-1, 5), (-1, 7), (-1, 9)\}$

   B. $\{(-2, -4), (-1, 7), (1, -1), (1, 1), (3, 9)\}$

   C. $\{(-4, 9), (-3, 1), (-2, 3), (-2, 12), (0, 6)\}$

   D. $\{(0, -4), (1, -4), (2, 4), (3, 4), (4, -4)\}$

18. **Which relation below is a function?**

A.
x	y
0	−1
1	−2
0	−3
2	−4

B.
x	y
0	1
1	2
0	3
2	4

C.
x	y
0	0
1	1
0	4
2	9

D.
x	y
0	0
1	−2
4	5
2	2

19. **The following relations are written as equations. Which one is not a function?**

A. $x = 4$

B. $y = 4$

C. $x = y + 4$

D. $y = x + 4$

20. In which graph is y a function of x?

A.
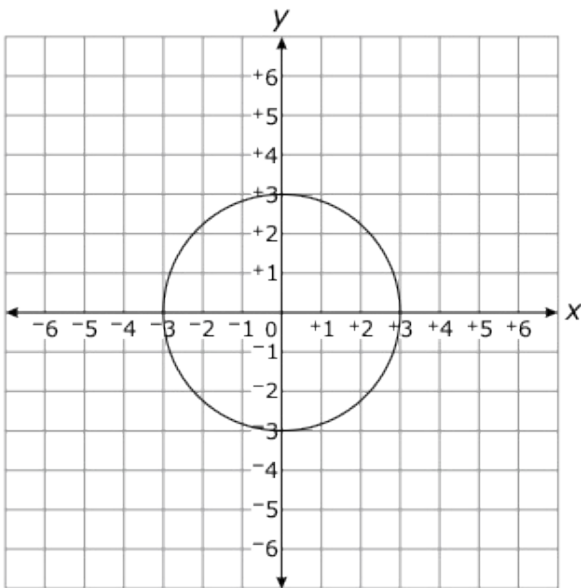
B.
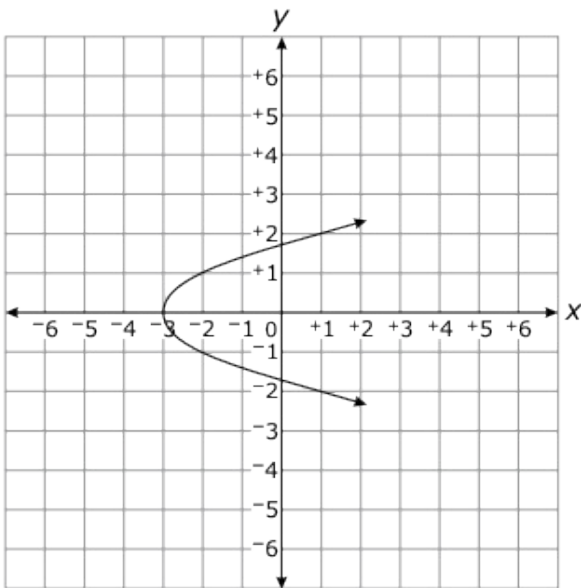
C.
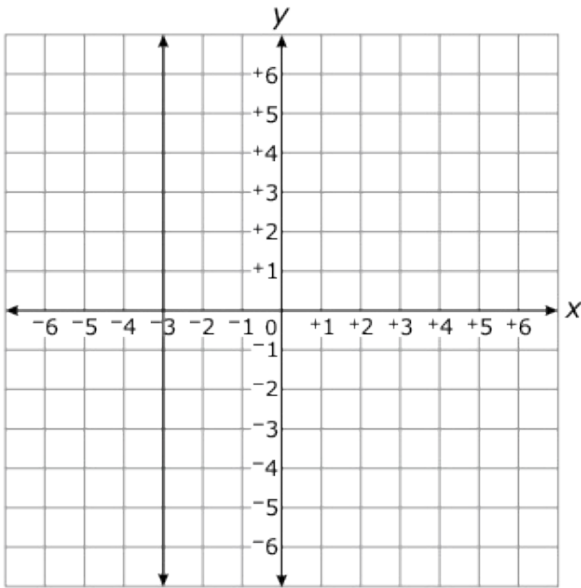
D.
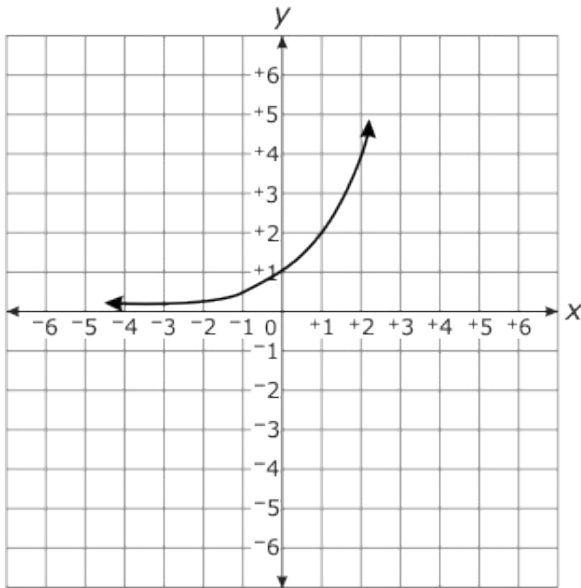
21. **Which line contains the ordered pairs shown in the table below?**

x	y
0	−2
2	4
−1	−5
1	1

A.
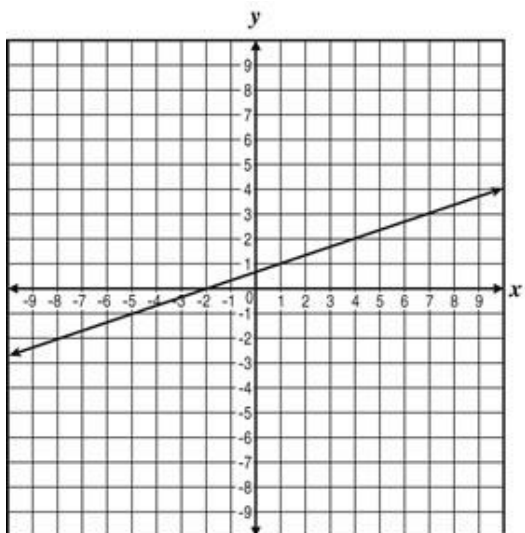
B.
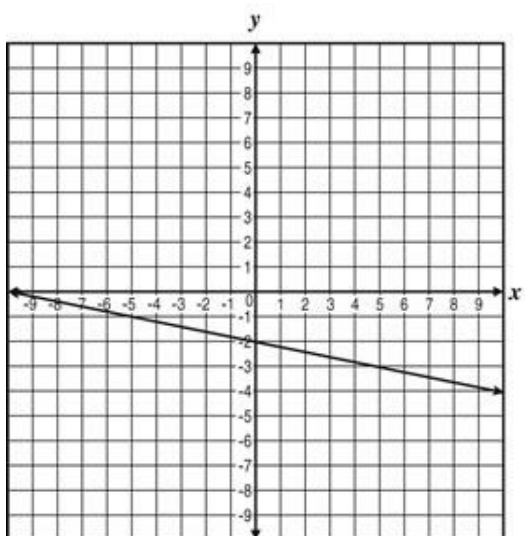
C.
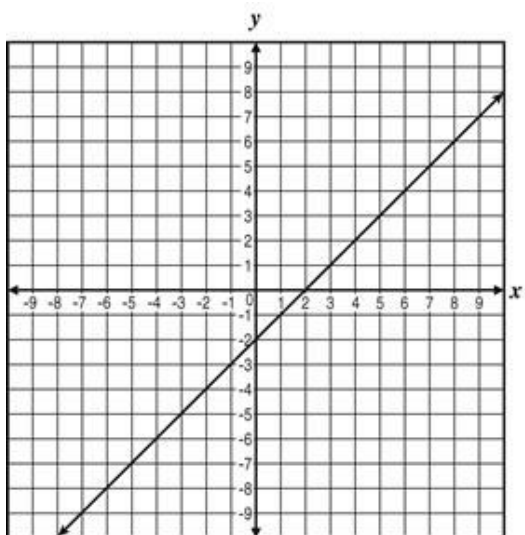
D.
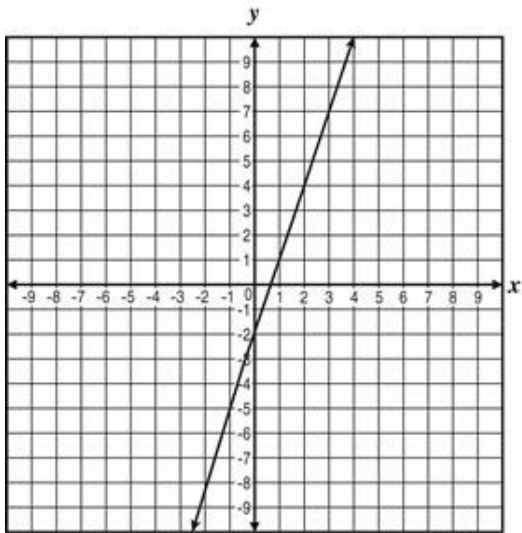
22. Which equation is **not** a function?

A. $y = x^2 + 9$

B. $y = {}^-2 - 2x$

C. $x = y$

D. $x = 3$

23. **Which ordered pair (x, y) could be substituted in the relation so that the relation is a function?**

$\{(4, 5), (-2, 7), (6, 6), (-4, 7), (x, y)\}$

A. $(-4, 3)$

B. $(-3, 0)$

C. $(4, -1)$

D. $(6, -2)$

24. The set of ordered pairs $\{(5, 3), (4, 6), (3, 2)$ and $(x, 2)\}$ is a function. Which is a possible value for x?

A. 3

B. 5

C. 7

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25. **Which of the following relations is a function?**

    A. $x = 5$
    B. $x = |5y|$
    C. $y = 5$
    D. $y^2 = 5x$

26. **The table below shows the relationship between input values of *x* and output values of *y*.**

x	y
4	9
8	17
12	25
16	33

    What is the value of *y* when *x* equals 10?

    A. 13
    B. 21
    C. 22
    D. 29

27. Which table of ordered pairs is a function?

A.

x	y
0	⁻4
1	⁻2
1	⁻3
2	⁻2

B.

x	y
⁻5	⁻5
⁻8	8
⁻8	⁻8
⁻12	⁻12

C.

x	y
3	3
2	2
⁻2	⁻2
⁻3	⁻3

D.

x	y
8	16
7	14
6	12
6	10

28. **In the relation defined by the equation** $y = 9x^2 - 1$, **for all *x* > 0, *y* is a function of *x* because**

   A. *x* cannot be negative.
   B. the graph of the equation is a line.
   C. each value of *y* has a unique value of *x*.
   D. each value of *x* has a unique value of *y*.

29. **Which of the following relations is a function?**

   A. $x = 2$
   B. $y = 2$
   C. $x = |2y|$
   D. $y^2 = 2x$

30. Which equation is **not** a function?

   A. $y = x$

   B. $y = |x|$

   C. $x = y + 4$

   D. $x = |y + 4|$

31. In which graph is y a function of x?

   A.
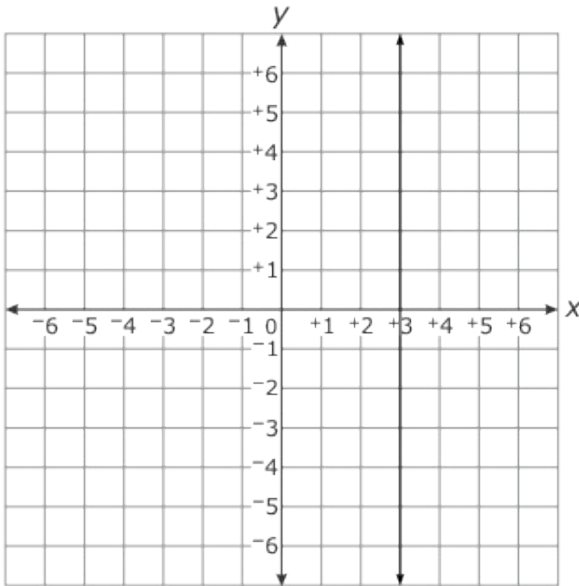
   B.
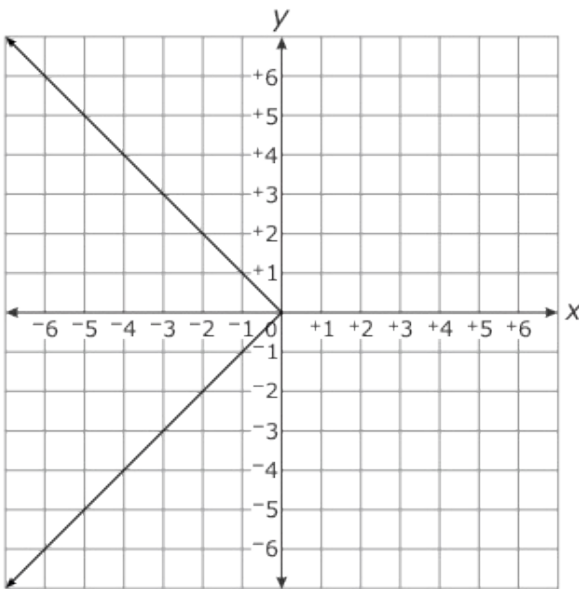
C.
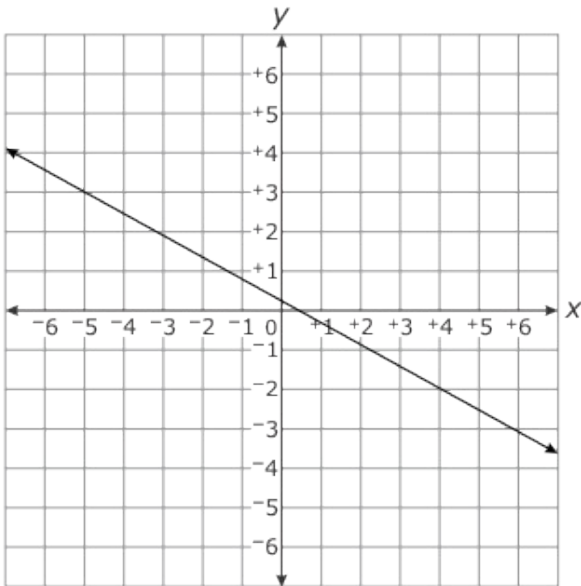
D.
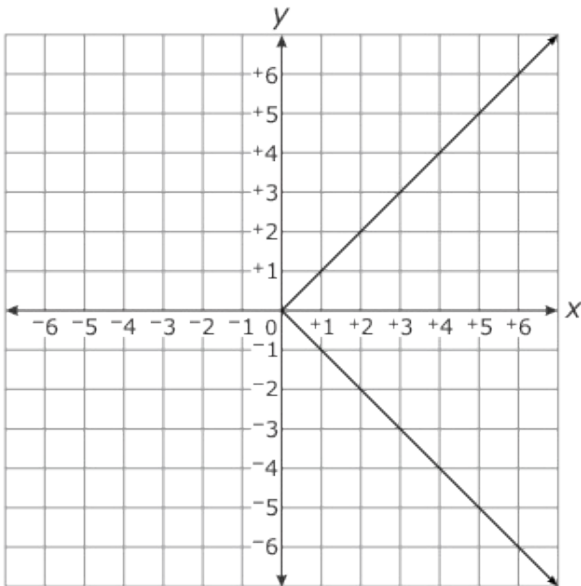
32. **Which ordered pair** (x, y) **makes the relation a function?**

$\{(3, 4), (-2, 6), (5, 5), (-4, 6), (x, y)\}$

A. $(-4, 4)$
B. $(-2, 5)$
C. $(0, 6)$
D. $(3, 6)$

33. Which table represents a function?

A.

x	y
⁻1	4
3	⁻3
4	⁻3
7	5

B.

x	y
⁻4	5
0	2
0	6
4	5

C.

x	y
⁻3	⁻3
2	⁻1
5	⁻1
2	1
6	7

D.

x	y
0	0
0	1
0	3
0	6

34. **Which of the following relations is a function?**

A. $x = 1$
B. $x = |y|$
C. $y = 1$
D. $y^2 = x$

35. In which graph is y *not* a function of x?

A.
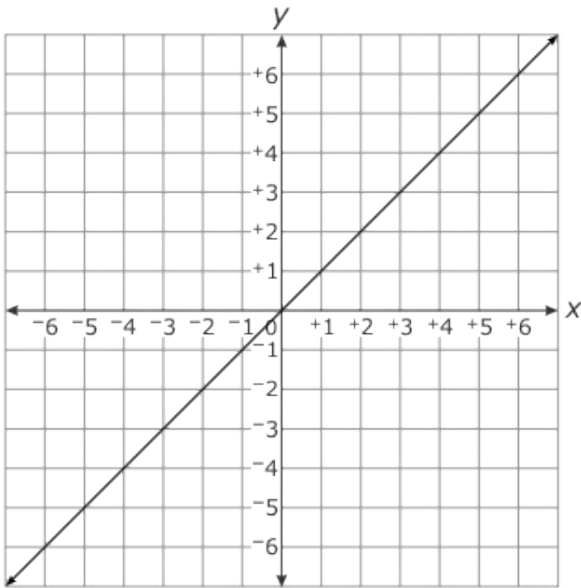
B.
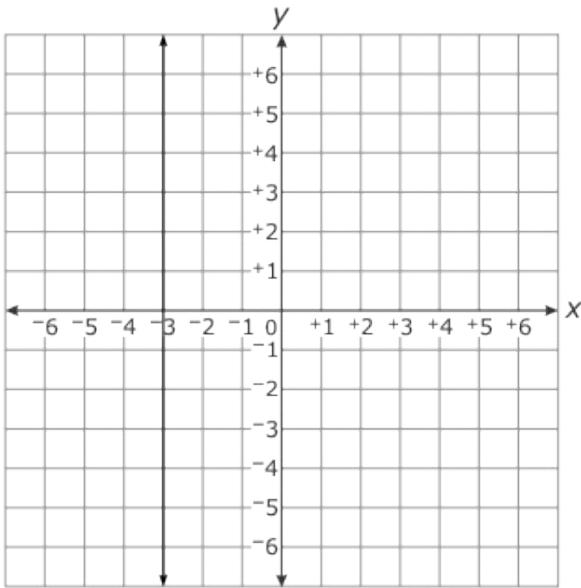
C.
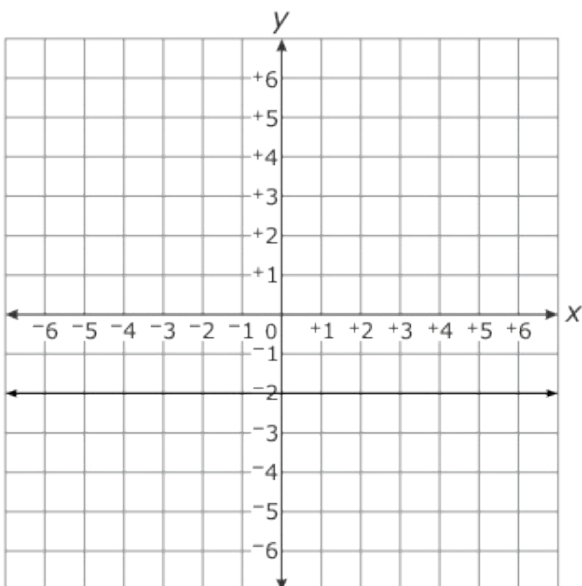
D.
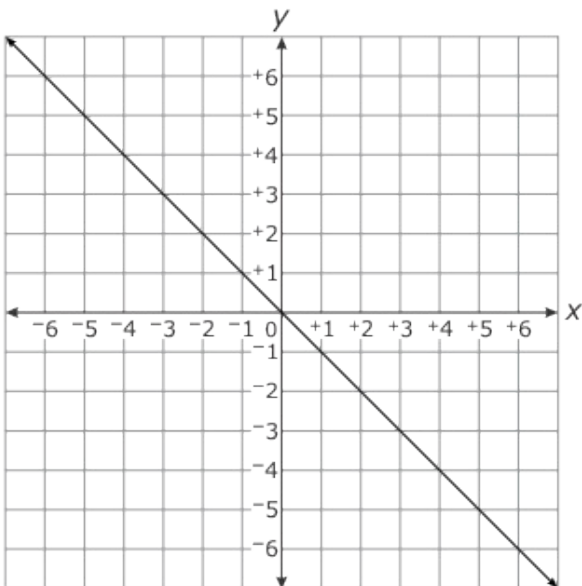
36. **In which set of ordered pairs, (x, y), is y not a function of x?**

A. $\{(7, 10), (10, 7)\}$

B. $\{(7, 10), (5, 10)\}$

C. $\{(5, 7), (7, 5), (7, 10)\}$

D. $\{(5, 5), (7, 7), (10, 10)\}$

37. Which table represents a function?

A.

x	y
4	2
4	5
4	6
4	7

B.

x	y
2	7
3	9
2	⁻7
4	10

C.

x	y
3	4
4	4
7	4
8	4

D.

x	y
0	2
4	9
8	6
0	9

38. **This table represents a function.**

x	y
0	− 2
2	4
4	10
5	13

Based on the pattern, what is the value of y when x is equal to 10?

A. 4
B. 18
C. 28
D. 43

39. In which graph is y **not** a function of x?

A.
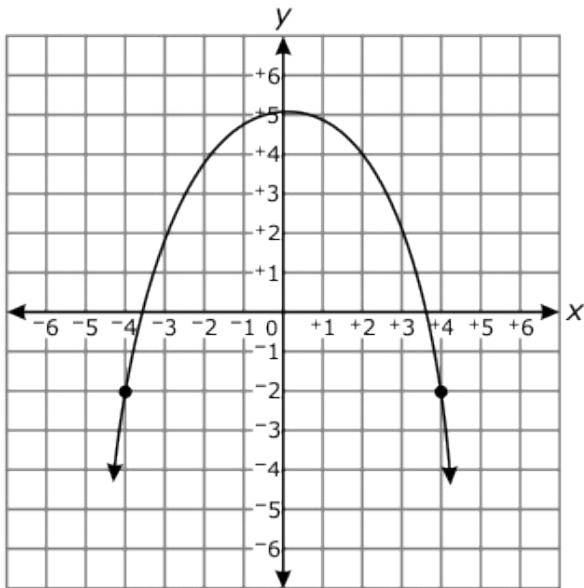
B.
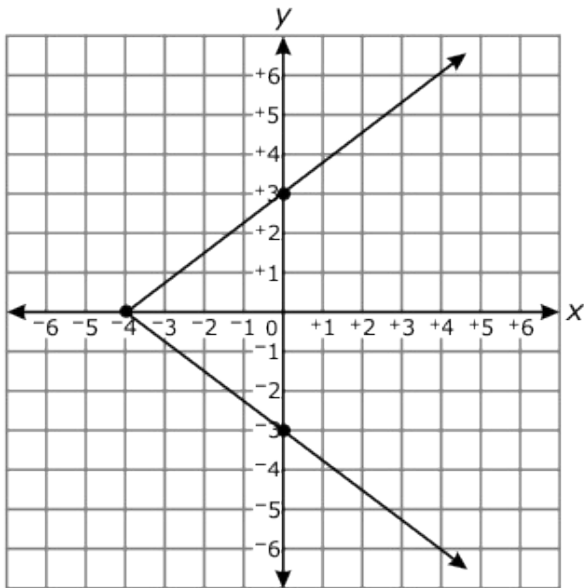
C.
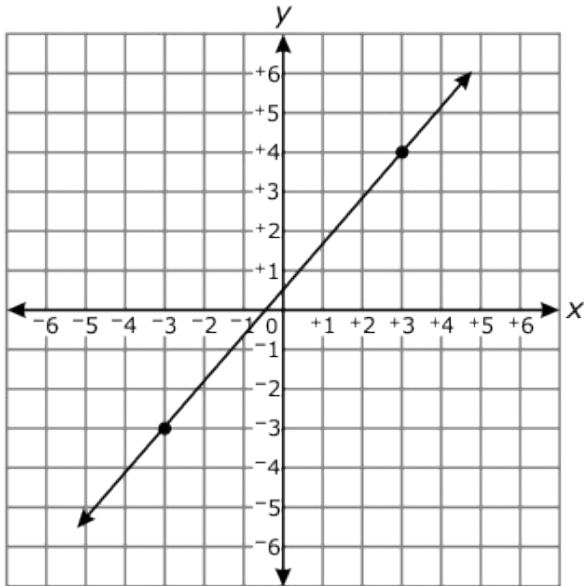
40. **In the relation defined by the equation** $y = 2x + 1$ **for all** $x > 0$**,** y **is a function of** x **because**

    A. x cannot be negative.

    B.   the graph of the equation is a line.

    C.   each value of y has a unique value of x.

    D.   each value of x has a unique value of y.

41. In which table is y **not** a function of x?

A.

x	y
0	1
2	3
4	3
6	1

B.

x	y
‾3	3
‾2	6
‾1	5
0	3

C.

x	y
‾2	3
0	4
2	5
0	6

42. Which statement is **true** of table A and table B shown below?

TABLE A

x	y
2	2
4	6
6	8
2	4

TABLE B

x	y
9	3
12	3
15	3
18	3

A. Table A represents a function because there is only one output for each input value.

B. Table B represents a function because there is only one output for each input value.

C. Table A represents a function because there is only one input for each output value.

D. Table B represents a function because there is only one input for each output value.

43. **The following ordered pairs** (x, y) **define the relation Q. Is Q a function?**

$\{(-2, 2), (-3, 0), (2, 2), (0, -3)\}$

A. Yes, because there is exactly one *x*-value for every *y*-value.
B. Yes, because there is exactly one *y*-value for every *x*-value.
C. No, because there is more than one *x*-value for some *y*-values.
D. No, because there is more than one *y*-value for every *x*-value.

44. Which equation is **not** a function?

A. $x = 3$

B. $y = x$

C. $y = 4^x$

D. $y = x^2 + 1$

45. Which table represents a function?

A.

x	y
1	⁻4
2	3
3	6
3	⁻2
4	5

B.

x	y
1	⁻4
2	3
3	3
4	⁻2
4	5

C.

x	y
⁻4	⁻4
⁻2	⁻2
3	3
4	⁻4
4	4

D.

x	y
1	⁻4
2	3
3	3
4	⁻2
5	3

46. In which table is *y* a function of *x*?

A.

x	y
5	6
5	7
5	8
5	9

B.

x	y
3	6
4	6
5	6
6	6

C.

x	y
2	2
3	4
3	8
2	16

47. **Which value of *k* will allow the following set of ordered pairs to represent a function?**

$\{(3, 7), (2, 6), (k, 8), (1, 5)\}$

A. 1
B. 2
C. 3
D. 5

48. Which graph is a function?

A.
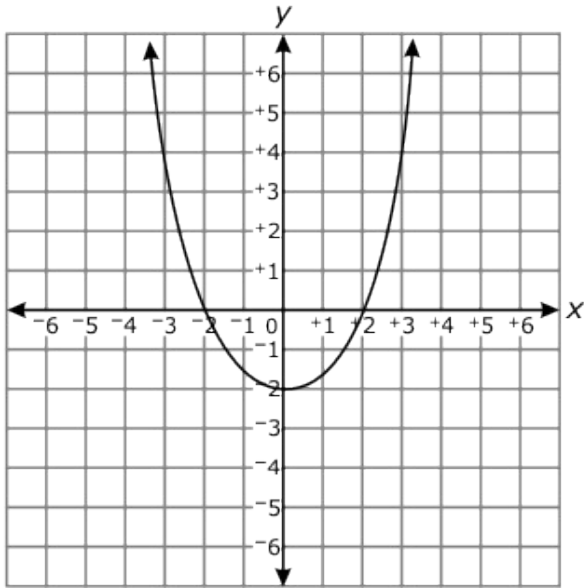
B.
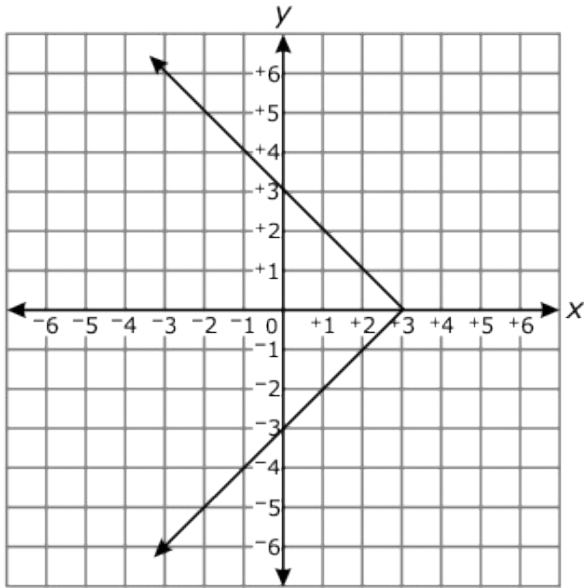
C.
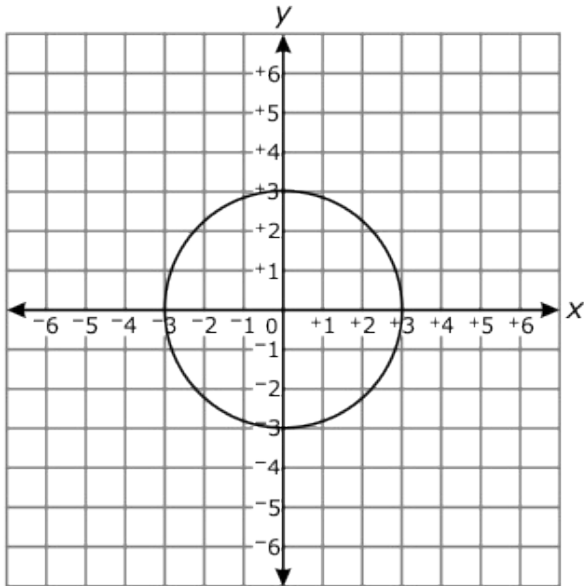
49. **What value should replace the question mark in the table below?**

x	y
0	−1
1	5
2	11
3	?

A. 4
B. 16
C. 17
D. 23

50. **In which set of ordered pairs, (x, y), is y not a function of x?**

A. $\{(6, 2), (2, 6)\}$
B. $\{(6, 2), (1, 2)\}$
C. $\{(1, 6), (6, 1), (6, 2)\}$
D. $\{(1, 1), (6, 6), (2, 2)\}$

51. **Which relation is a function?**

A.

x	y
0	−3
1	−4
0	−5
2	−6

B.

x	y
0	3
1	4
0	5
2	6

C.

x	y
0	0
1	1
0	8
2	27

D.

x	y
0	0
1	5
4	5
2	−5

52. Which set of coordinates represents a function?

A. {(0, 1), (1, 3), (2, 5), (3, 7)}

B. {(¯1, 2), (¯1, 3), (0, 4), (0, 5)}

C. {(¯1, 2), (0, 4), (1, 6), (1, 8)}

D. {(1, 1), (1, ¯1), (2, 2), (2, ¯2)}

53. In which table is y *not* a function of x?

A.

x	y
⁻1	4
⁻2	7
⁻3	12
⁻4	19

B.

x	y
⁻5	11
⁻2	2
1	⁻7
5	19

C.

x	y
⁻1	1
⁻1	⁻1
0	0
4	2

D.

x	y
⁻4	13
⁻2	1
2	1
4	13

54. **Which relation of *x* and *y* is a function?**

A.

x	y
0	−2
1	−3
0	−4
2	−5

B.

x	y
0	2
1	3
0	4
2	5

C.

x	y
0	0
1	1
0	8
2	27

D.

x	y
0	0
1	−4
3	2
2	4

55. Viola graphed the function $f(x) = 3x - 12$ on a coordinate plane. Which statement about this graph is true of all functions?

A. It is a linear graph.

B. It has a positive correlation.

C. It assigns a specific input to each output.

D. It assigns a unique output to each input.

56. In which choice is *y* a function of *x*?

A.

x	3	4	5	3	6
y	5	7	9	⁻1	11

B. {(⁻3, 6), (4, 5), (4, ⁻2), (3, 8)}

C.
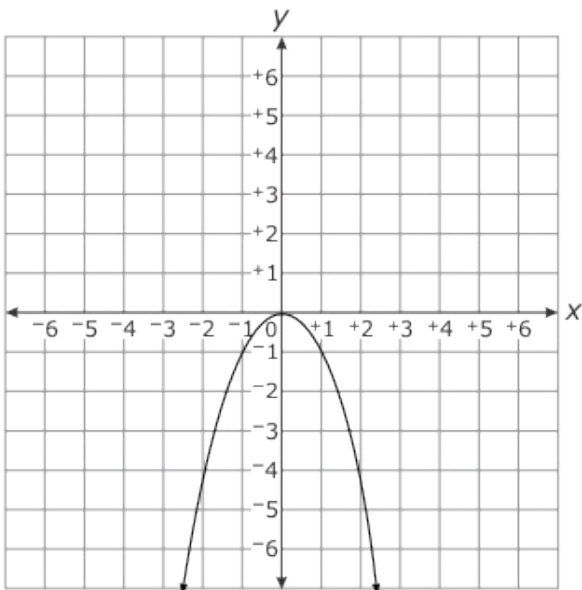
D.
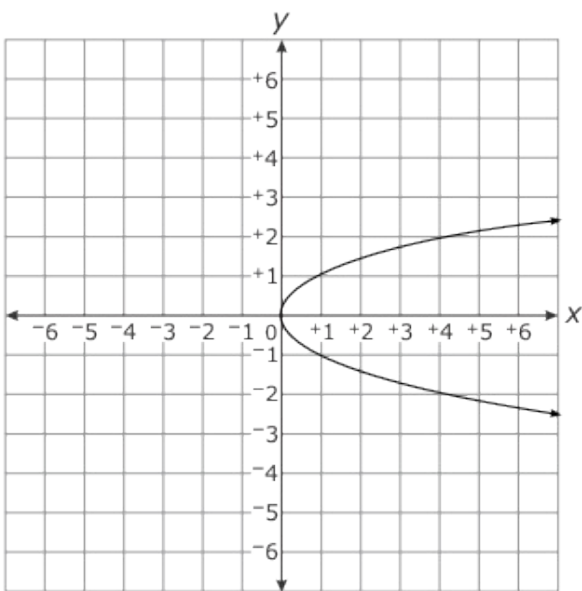
57. The relation shown is not a function.
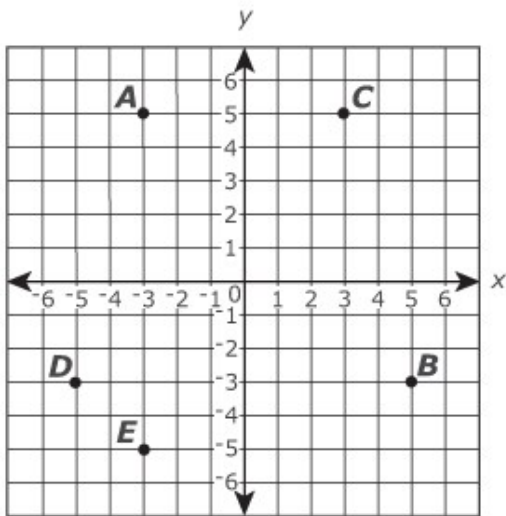
Which point should be removed to make the relation a function?

A.   Point *A*

B.   Point *B*

C.   Point *C*

D.   Point *D*

58. **The table below gives some *x*-values and their corresponding *y*-values.**

x	−2	−1	0	1	2	3
y	5	3	1	−1	−3	−5

Which graph shows the relationship between *x* and *y*?

A.
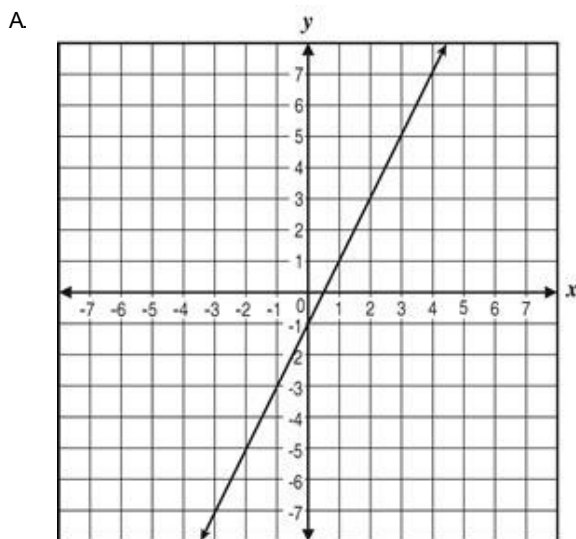
B.
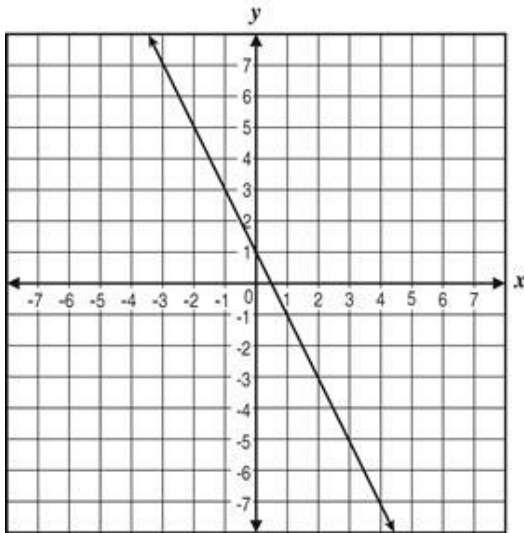
C.
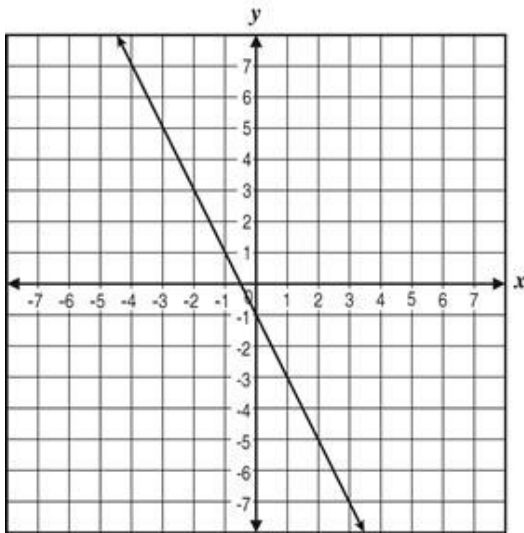
D.
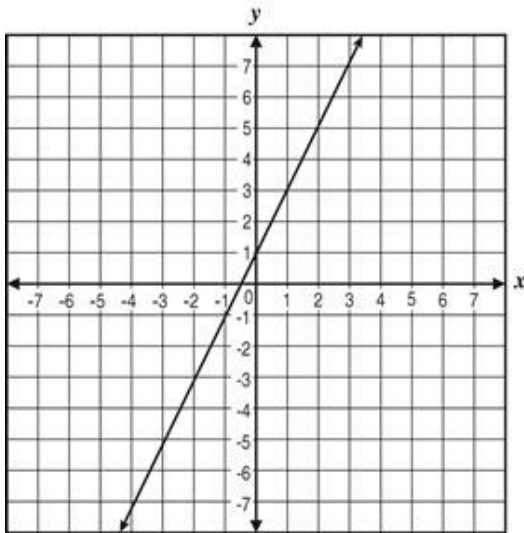
59. **Which graph accurately displays the linear function modeled in the table?**

x	y
−1	−3

1	1
2	3
4	7

A.
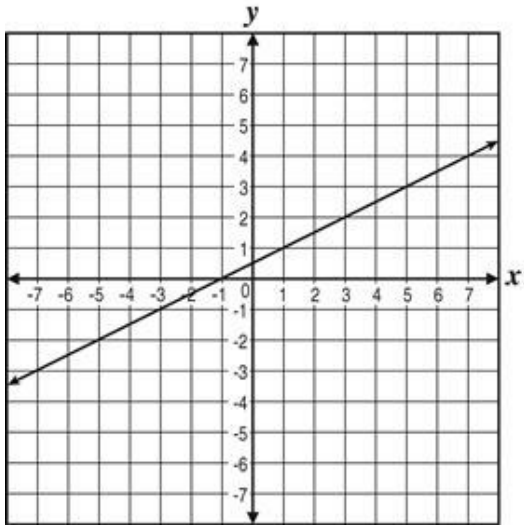
B.
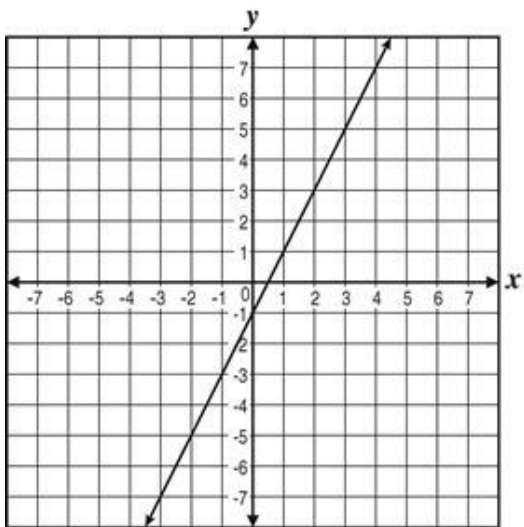
C.
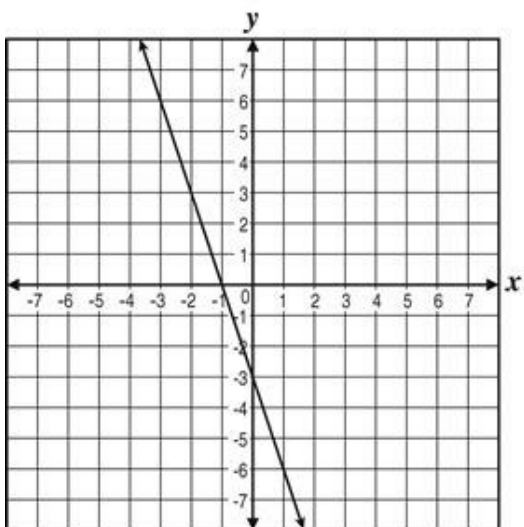
D.
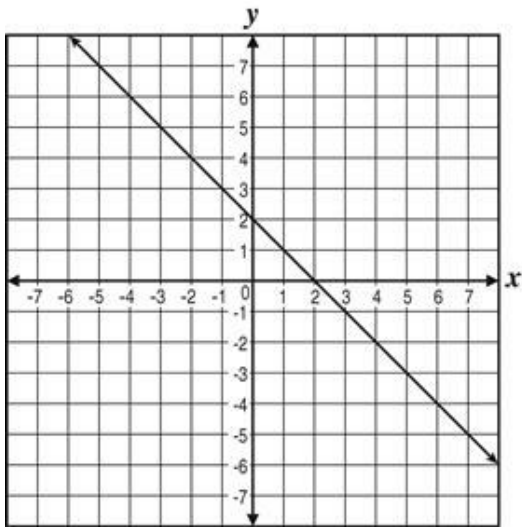
60. **Which of the following relations is a function?**

   A. $x = 6$
   B. $x = |6y|$
   C. $y = 6$
   D. $y^2 = 6x$

61. The set of ordered pairs $\{(^-2, 4), (x, 1), (1, 3), (2, 4)\}$ is a function. Which is a possible value for x?

   A. $^-2$

   B. 1

   C. 2

   D. 3

62. Mary earns $7.25 an hour. She can determine her salary, s, for the number of hours she works, h, by using the equation $s = 7.25h$. Which statement explains why s is a function of h?

   A. For every value of h there is only one value of s.

   B. For some values of h there is more than one value of s.

   C. For some values of s there is more than one value of h.

   D. For every value of s there are two values of h.

63. **Which of the following relations is not a function?**

A. $\{(0, 1), (1, 1), (2, 1), (3, 1)\}$
B. $\{(0, 1), (0, 2), (0, 3), (0, 4)\}$
C. $\{(0, 0), (3, 4), (5, 6), (8, 9)\}$
D. $\{(0, 0), (2, 2), (4, 4), (6, 6)\}$

64. Which set of ordered pairs does NOT represent a function?

A. $\{(1, 2), (1, 3), (1, 4)\}$

B. $\{(2, 3), (3, 3), (4, 3)\}$

C. $\{(2, 2), (3, 3), (4, 4)\}$

D. $\{(0, 0), (1, 3), (2, 6)\}$

65. In which table is y a function of x?

A.

x	y
⁻3	⁻14
⁻5	⁻16
⁻3	⁻19
⁻4	⁻15

B.

x	y
2	⁻14
3	⁻19
⁻2	⁻14
⁻3	⁻19

C.

x	y
⁻2	⁻10
⁻2	⁻11
⁻2	⁻12
⁻2	⁻13

D.

x	y
4	12
⁻4	⁻12
5	15
5	12

66. **Which of the following is the graph of a function of *x*?**

A.
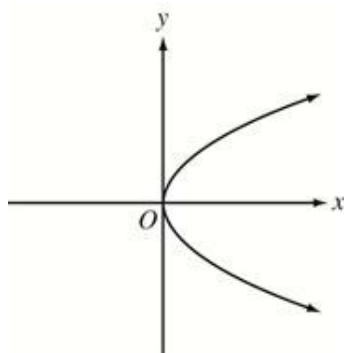
B.
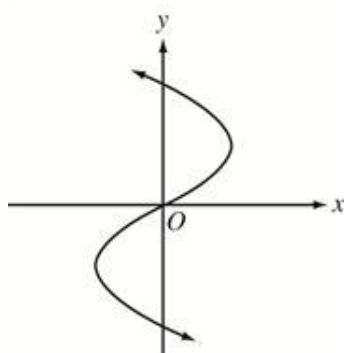
C.
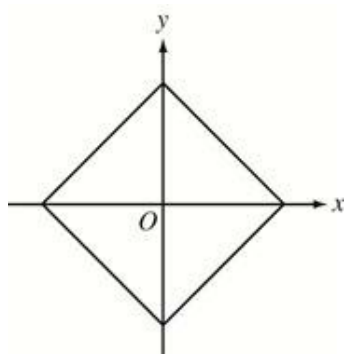
D.
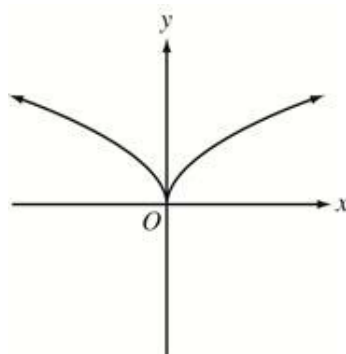
67. Which set of ordered pairs does *not* represent a function?

A. $\{(3, 7), (^-1, 9), (^-5, 11)\}$

B. $\{(9, ^-5), (4, ^-5), (^-1, 7)\}$

C. $\{(^-2, 1), (3, ^-4), (^-2, ^-6)\}$

68. Which is a function?

A. {(3, 8), (4, 1), (5, 3), (6, 1)}

B. {(2, 4), (⁻3, 5), (2, 7), (5, 9)}

C. {(⁻1, 6), (0, 3), (1, 5), (0, ⁻2)}

D. {(4, 1), (3, ⁻2), (1, ⁻2), (4, 5)}

69. Which relation is a function?

A.

x	y
7	7
8	8
8	9

B.

x	y
⁻2	2
1	⁻4
⁻2	3

C.

x	y
⁻6	3
⁻3	⁻6
2	3

70. Which equation does ***not*** represent a function?

A. $y = x + 5$

B. $y = x^2 + 3$

C. $y^2 = x + 4$

71. **Which graph is an example of a function?**

A.
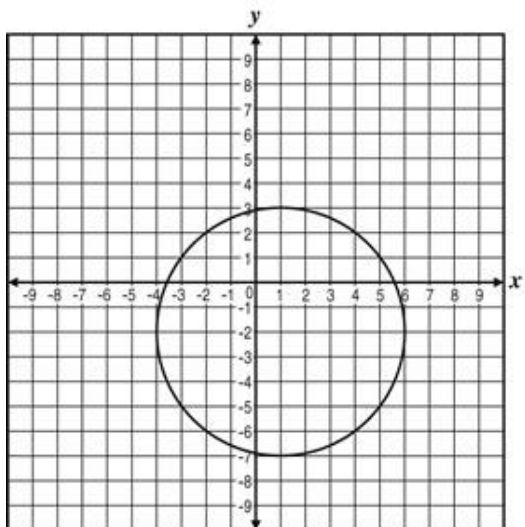
B.
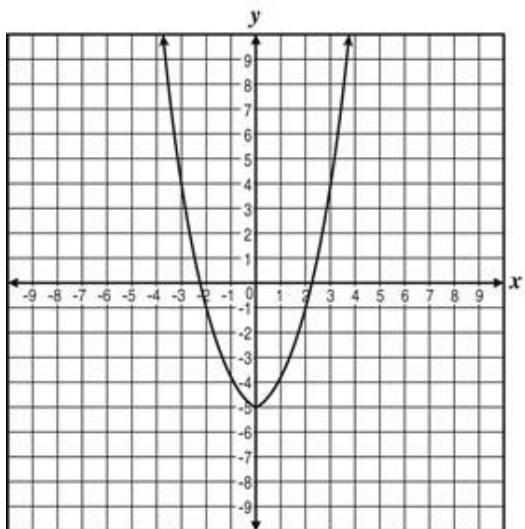
C.
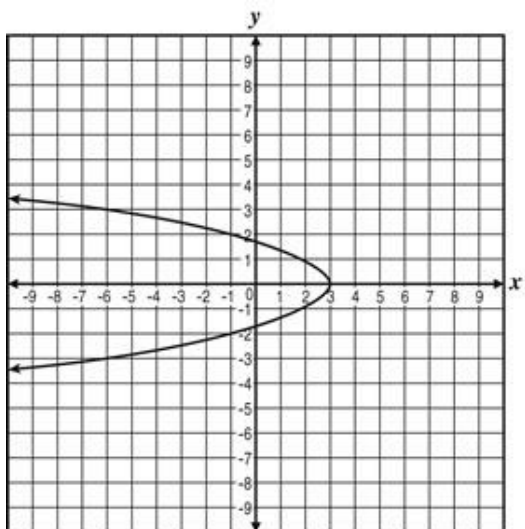
D.
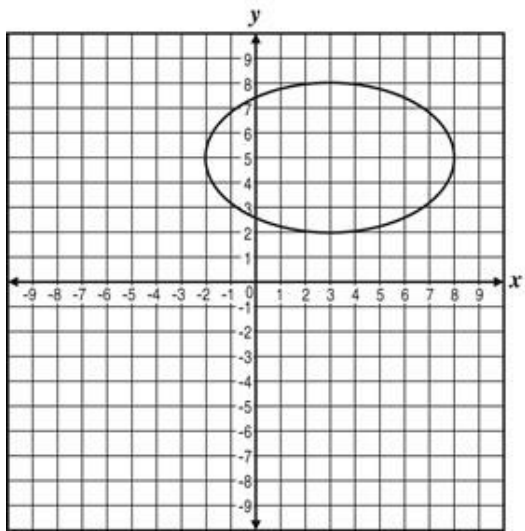
72. **Which of the following equations represents a function?**

A. $x = 3$

B. $y^2 = x + 3$

C. $y^2 = x^4 + 3$

D. $y = 4x^2 - 9$

73. A linear function is graphed on the coordinate plane below.
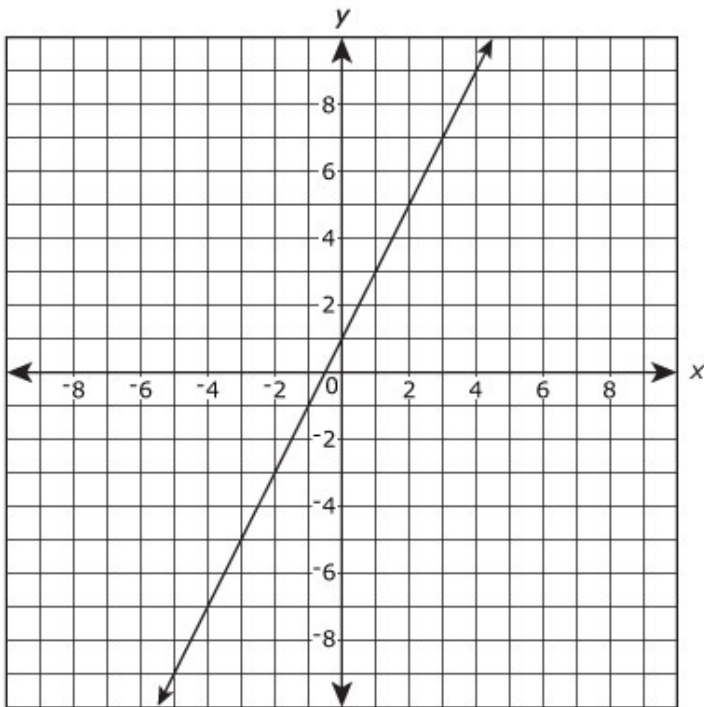
Which output value is associated with the input value of 4?

A. 1

B. 1.5

C. 2

D. 9

74. Which is a possible value for *x*, if *y* is a function of *x*?

x	y
3	⁻2
⁻2	7
0	⁻2
2	4
x	6

A. 3

B. 0

C. ⁻2

D. ⁻9

75. **Which relation below is a function?**

A.

x	y
0	−5
1	−6
0	−7
2	−8

B.

x	y
0	5
1	6
0	7
2	8

C.

x	y
0	0
1	1
0	4
2	9

D.

x	y
0	0
1	3
2	4
3	6

76. **Which of the following graphs does not describe _y_ as a function of _x_?**

A.
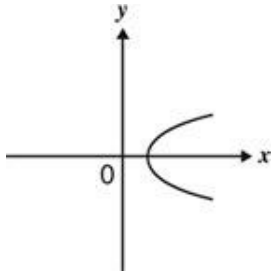
B.
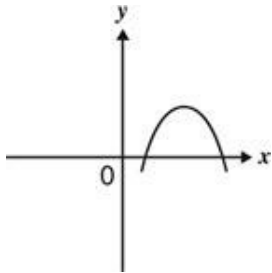
C.
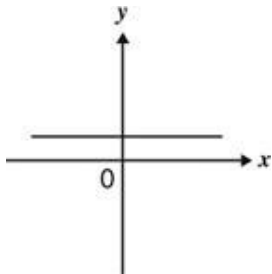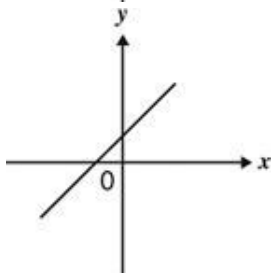
D.

77. **Which relation below is not a function?**

A.

Domain	Range
−2	5
−1	6
0	7
1	8
2	

B.

Domain	Range
−2	−2
−1	0
0	2
1	5
2	

C.

Domain	Range
−2	
−1	
0	5
1	
2	

D.
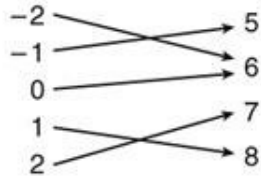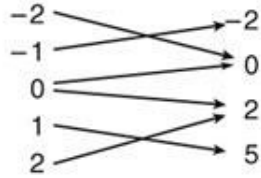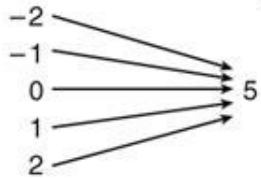
Domain	Range
−2	−2
−1	
0	0
1	3
2	
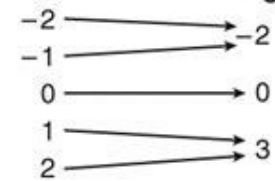
78. **The line graphed below represents a relationship.**
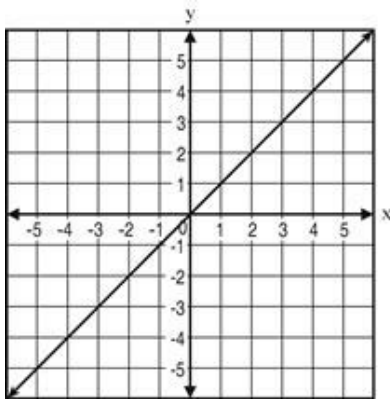
Which table of values best represents the values used to make the graph?

A.

x	y
0	5
1	7
2	10
3	14

B.

x	y
0	1
2	2
−2	3
4	4

C.

x	y
0	3
3	0
−2	6
4	−3

D.

x	y
1	1
2	2
3	3
4	4

79. **Which ordered pair (x, y) could not be substituted in the relation below so that the relation is a function?**

$\{(6, 7), (-2, 9), (8, 8), (-4, 9), (x, y)\}$

A. $(2, 9)$

B. $(7, 8)$

C. $(8, 3)$

D. $(9, 9)$

80. The relation (8, 5), (x, 4), (3, 3), and (2, 2) is a function. Which could be the value of x?

A. 8

B. 4

C. 3

D. 2

81. **Which of the following relations is a function?**

A. $x = 7$

B. $x = |7y|$

C. $y = 7$

D. $y^2 = 7x$

82. **The following ordered pairs (x, y) define the relation Q. Is Q a function?**

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

A. Yes, because there is exactly one x-value for every y-value.

B. Yes, because there is exactly one y-value for every x-value.

C. No, because there is more than one x-value for some y-values.

D. No, because there is more than one y-value for every x-value.

83. **The table below shows a linear relationship between x and y.**

x	y
0	b
2	1
4	9
6	17
8	25

What is the value of b?

A. −15

B. −11

C. −7

D. −3

84. Which sets of ordered pairs below describe a function?

I. $\{(2, 3), (2, 4)\}$

II. $\{(0,2), (0, 3)\}$

III. $\{(3, 0.3), (-3, 0.3)\}$

IV. $\{(-2, 2), (2, -2)\}$

A. I and II

B. II and III

C. III and IV

D. IV and I

85. **William hiked down a valley in California. He recorded the amount of time spent hiking to reach different elevations.**

Time Spent Hiking (minutes) (x)	Elevation (feet) (y)
20	75
30	−27
45	−180

Which graph best represents the relationship between time, x, and elevation, y, in the table?

A.
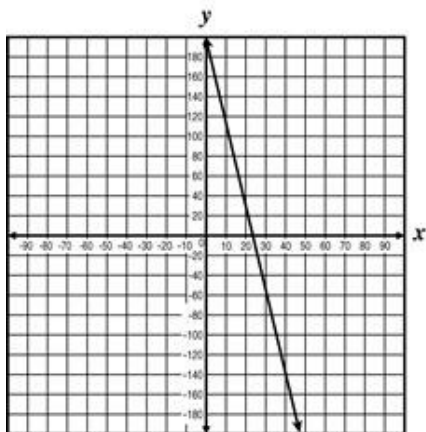
B.
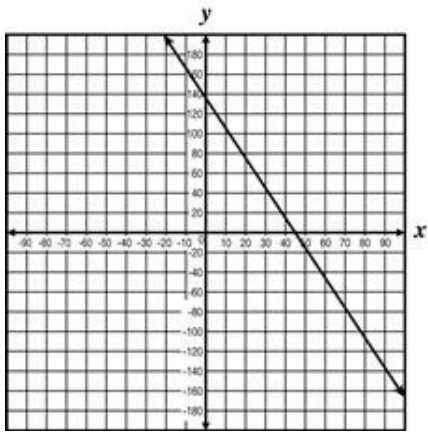
C.
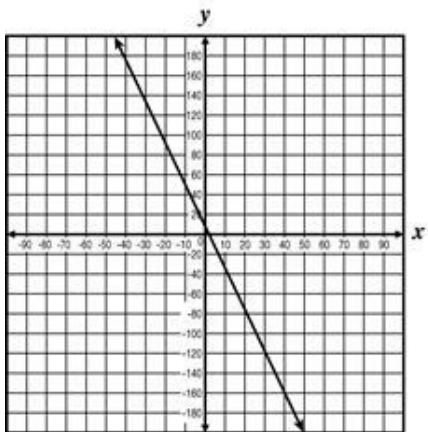
D.
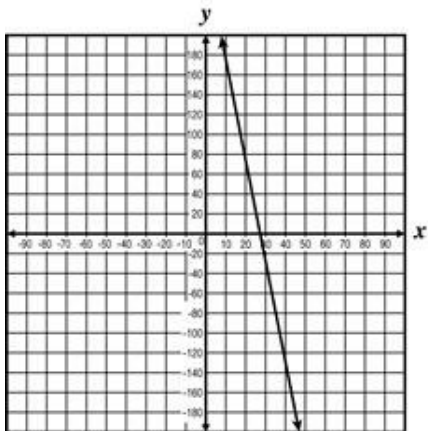
86. Which table represents a function?

A.

x	y
2	8
6	4
10	−14
2	−8

B.

x	y
12	20
10	14
12	18
4	8

C.

x	y
−14	−24
−8	−18
4	−18
10	10

D.

x	y
12	18
−15	9
18	10
−15	15

87. **Which of the following relations is a function?**

A.

x	y
1	3
1	4
3	5
5	6

B.

x	y
0	1
2	4
4	4
6	1

C.

x	y
2	3
2	5
2	6
2	8

D.

x	y
3	1
6	2
8	3
8	4

88. **Which graph best represents the function rule given?**

Four times an input number minus three equals the output number where *x* is the input number and *y* is the output number.

A.
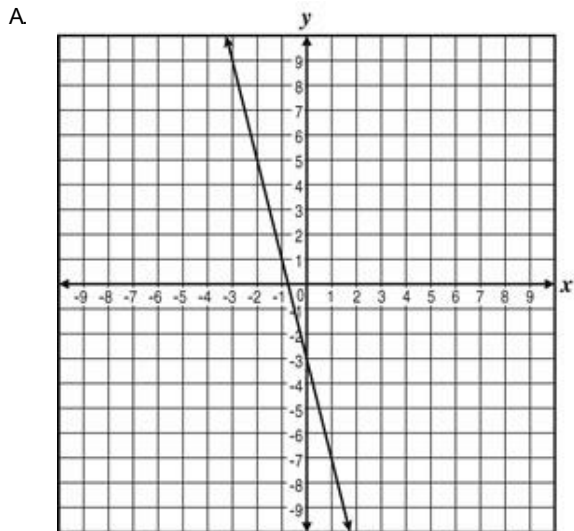
B.
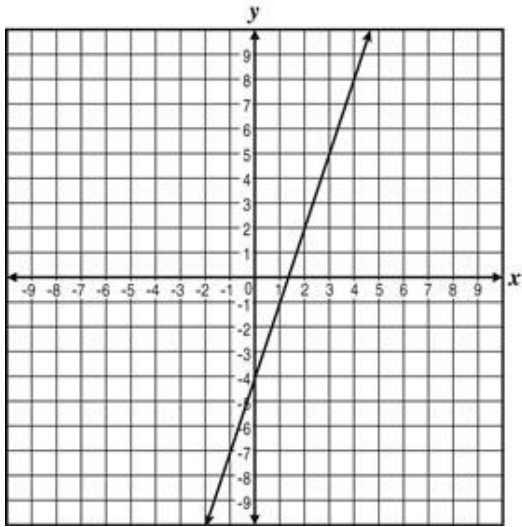
C.
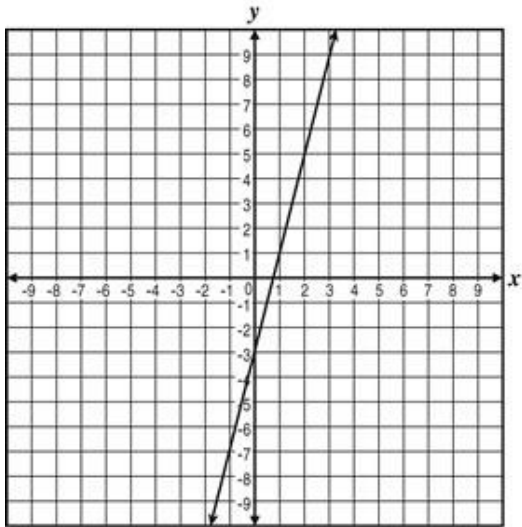
D.
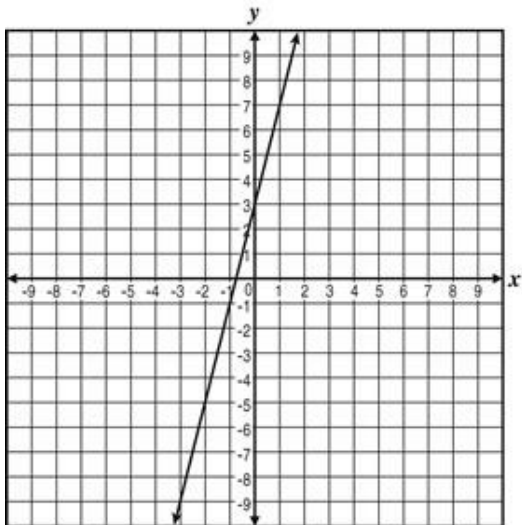
89. **The table below gives some *x*-values and their corresponding *y*-values.**

x	−2	−1	0	1	2	3
y	4	3	2	1	0	−1

Which graph shows the relationship between x and y?

A.
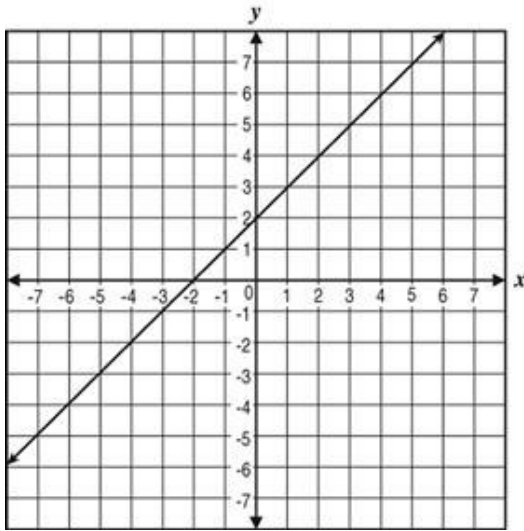
B.
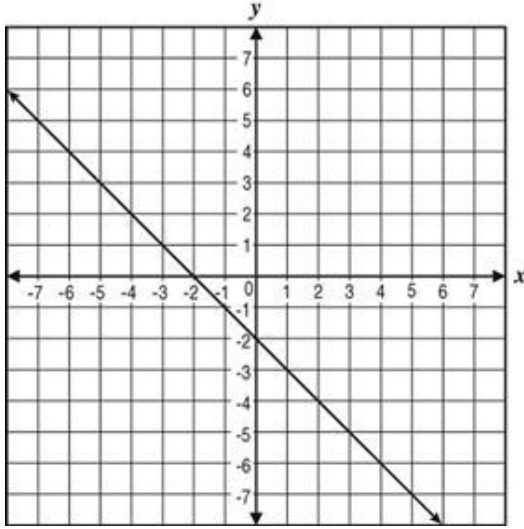
C.
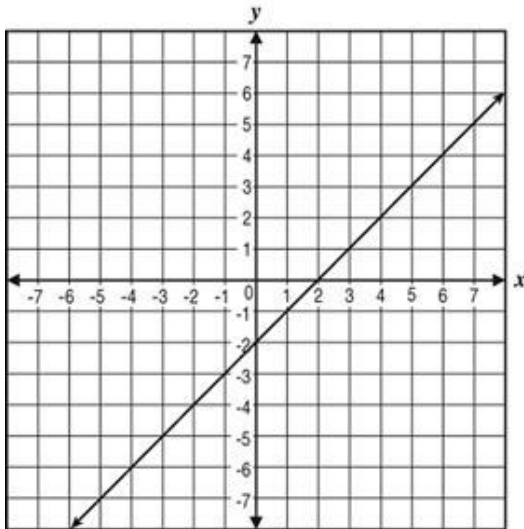
D.
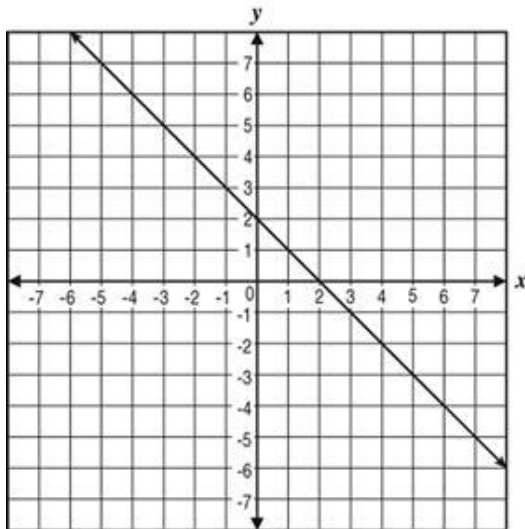
90. **Which relation below is a function?**

A.

x	y
0	−3
1	−4
0	−5
2	−6

B.

x	y
0	3
1	4
0	5
2	6

C.

x	y
0	0
1	1
0	8
2	27

D.

x	y
0	0
1	5
2	−5
4	7

91. **The table below shows the relationship between the input and output of a certain function.**

Input	Output
1	3
2	10
3	17
4	24

What is the output that should be paired with the input value 8?

A.   31
B.   48
C.   52
D.   59

92. In which graph is y a function of x?

A.

B.

C.

schoolnet
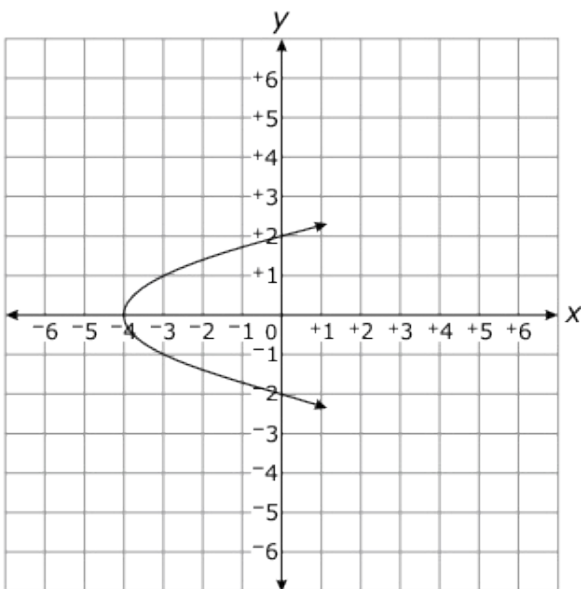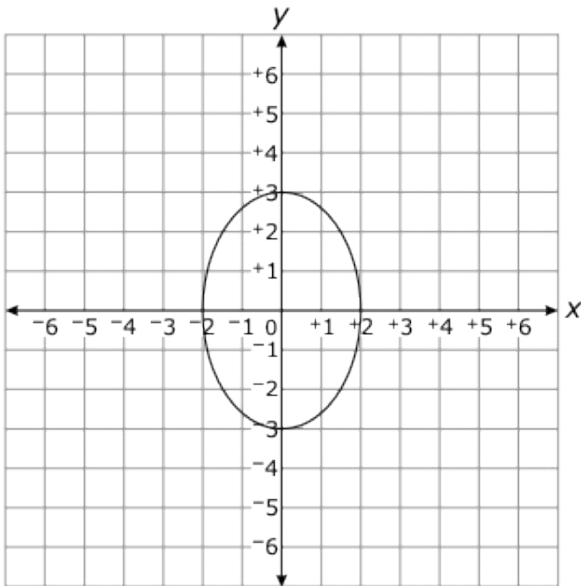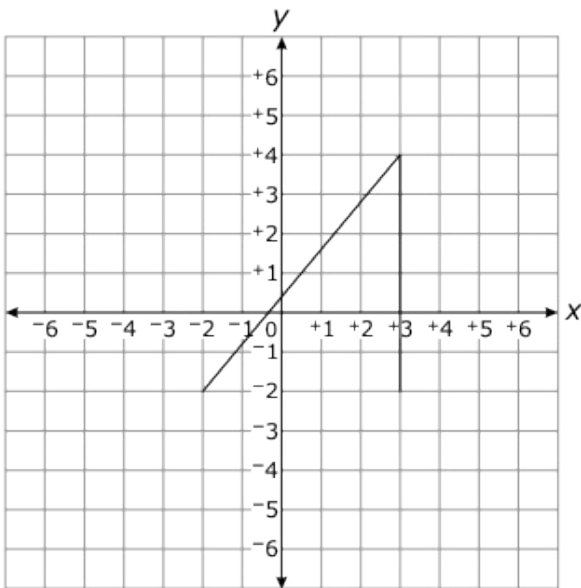
D.
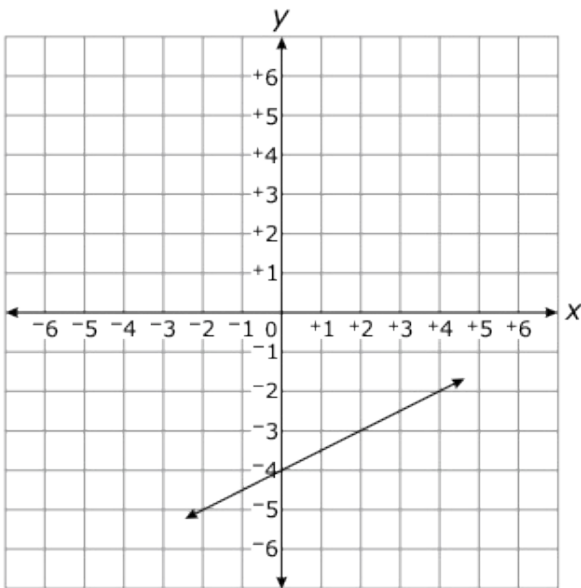
93. In which table is *y* **not** a function of *x*?

A.

x	y
1	4
2	8
4	16
8	32

B.

x	y
1	12
2	12
3	12
4	12

C.

x	y
2	4
3	9
4	16
5	25

D.

x	y
2	11
2	12
2	13
2	14

94. In which table is *y* a function of *x*?

A.

x	y
2	2
3	4
2	⁻1

B.

x	y
2	4
3	4
4	4

C.

x	y
2	3
2	4
2	5

D.

x	y
2	4
3	4
3	5

95. **Which of the following relations is a function?**

A. $y = 4$

B. $x = |4y|$

C. $x = 4$

D. $y^2 = 4x$

96. **In which set of ordered pairs, (x, y), is *y* not a function of *x*?**

A. $\{(1, 4), (4, 1)\}$

B. $\{(1, 4), (6, 4)\}$

C. $\{(6, 1), (1, 6), (1, 4)\}$

D. $\{(6, 6), (1, 1), (4, 4)\}$

97. In which set of ordered pairs is *y* a function of *x*?

A. $\{(1, 2), (2, 3), (1, 8)\}$

B. $\{(1, 2), (2, 4), (2, 6)\}$

C. $\{(1, 2), (1, 3), (1, 4)\}$

D. $\{(1, 1), (2, 2), (3, 3)\}$

98. **The table below lists pairs of *x*- and *y*-coordinates that represent points on the graph of a linear equation.**

x	y
3	10
5	5
7	0
?	?
11	−10

Which coordinates represent a point that is on the same line?

A. $(-5, 9)$

B. $(8, 1)$

C. $(9, -5)$

D. $(10, -9)$

99. **Which ordered pair (x, y) makes this relation a function?**

$\{(5, 6), (-2, 8), (7, 7), (-4, 8), (x, y)\}$

A. $(-3, 8)$

B. $(-2, 7)$

C. $(5, 7)$

D. $(7, 8)$

100. **Which function would also include the ordered pairs $(2, 11), (3, 14), (4, 17),$ and $(5, 20)$?**

A.
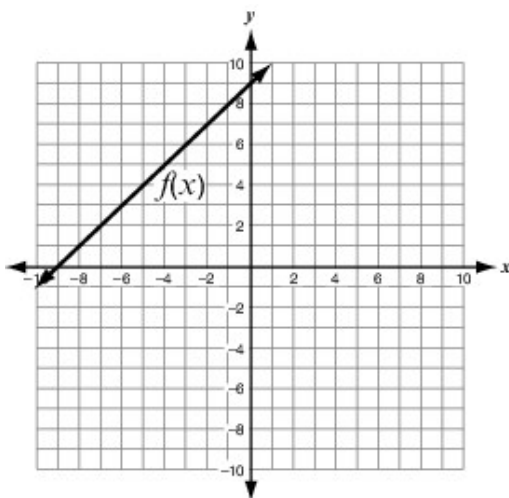
B.
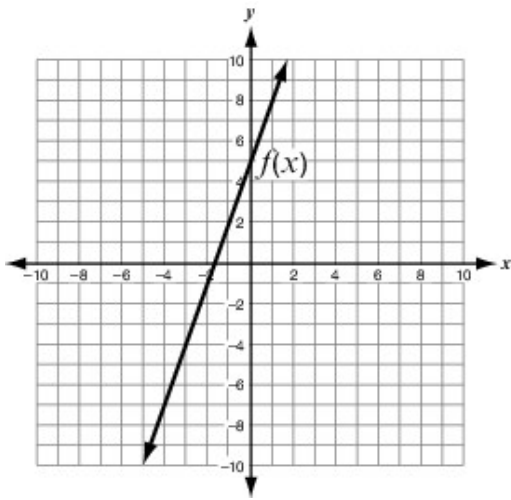
C.
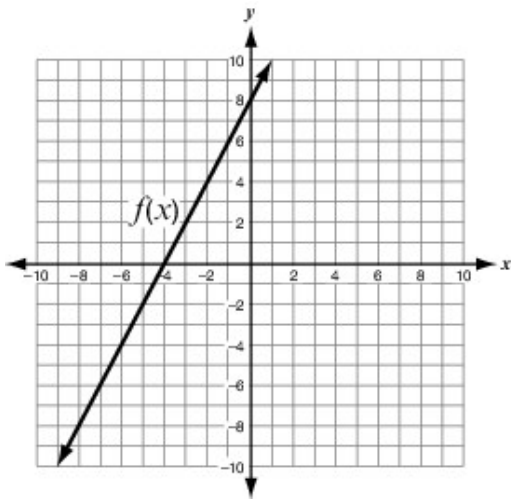
D.
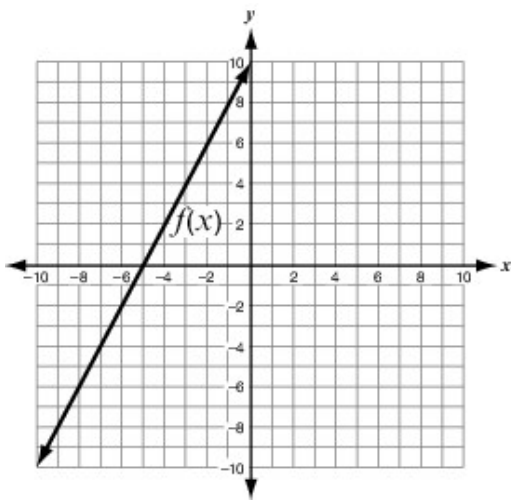
101. **Which of the following equations represents a function?**

A. $x = 3$

B. $y^2 = x$

C. $x^2 + y^2 = 1$

D. $y = x^2 + 1$

---

102. **A graph of a line is shown.**
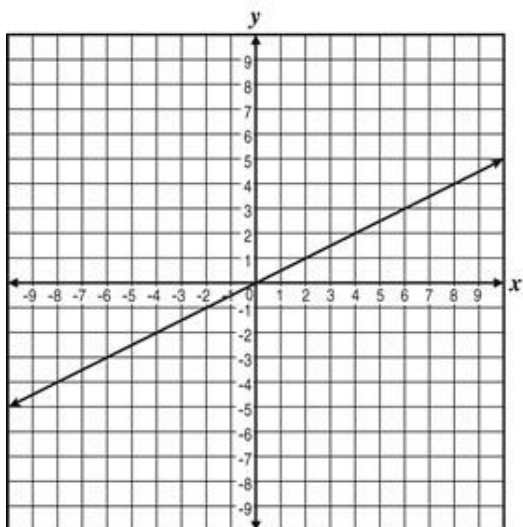
Which table contains ordered pairs that are located on the graph of the line?

A.

x	y
−8	−4
−5	−1
0	4
4	8

B.

x	y
−6	−3
−2	−1
4	2
10	5

C.

x	y
−7	−3
−4	−2
2	0
8	2

D.

x	y
−3	−6
−1	−2
2	4
5	10

103. **Which of the following charts represents a function?**

A.

x	y
2	3
3	4.5
5	7.5
10	15

B.

x	y
−2	5
−2	2
0	1
2	5

C.

x	y
1	3
−1	−3
1	−3
−1	3

D.

x	y
−2	−3
−2	1
0	−1
0	1

104. **A relation contains the ordered pairs (3, 8), (6, 10), (9, 12), and (*a*, *b*). For which values of *a* and *b* is the relation a function?**

A. *a* = 3 and *b* = 14
B. *a* = 6 and *b* = 12
C. *a* = 9 and *b* = 9
D. *a* = 11 and *b* = 8

105. **Which of the following sets of ordered pairs is a function?**

A. $\{(0, 3), (0, 2), (0, 3)\}$
B. $\{(1, 0), (2, 0), (3, 0)\}$
C. $\{(-3, 1), (-2, 0), (-3, -2)\}$
D. $\{(-5, -4), (-5, -2), (-5, 0)\}$

106. **Which ordered pair (*x, y*) makes the relation below a function?**

$\{(0, 1), (-2, 3), (2, 2), (-4, 3), (x, y)\}$

A. $(-4, 0)$
B. $(-2, 0)$
C. $(2, 0)$
D. $(4, 0)$

107. **Which of the following is not the graph of a function of _x_?**

A.

B.

C.

D.
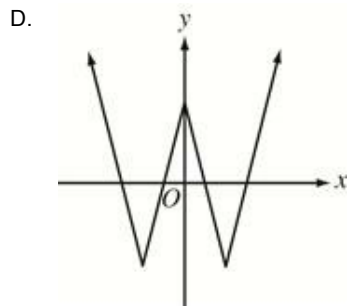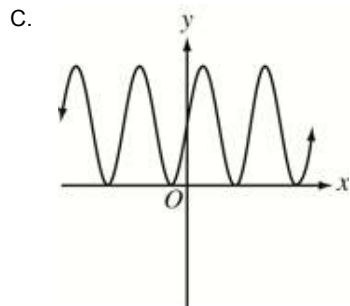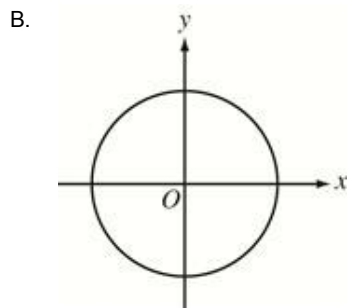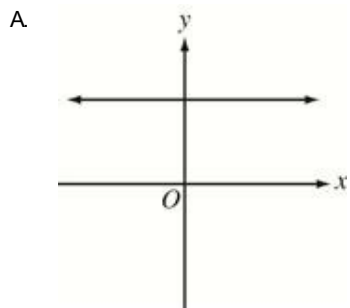
108. **Which of the following sets of ordered pairs represents a function?**

A. $\{(0, 0), (0, 1), (0, 2), (0, 3)\}$

B. $\{(0, 0), (1, 1), (1, -1), (4, 2)\}$

C. $\{(0, 2), (1, 2), (2, 2), (3, 2)\}$

D. $\{(1, 2), (3, 4), (1, 4), (3, 2)\}$

109. **The following ordered pairs** (x, y) **define the relation Q.**

$\{(0, 3), (-1, 4), (3, 3), (4, -1)\}$

Which sentence tells whether Q is a function and explains why or why not?

A. Yes, because there is exactly one y-value for every x-value.

B. Yes, because there is exactly one x-value for every y-value.

C. No, because there is more than one y-value for some x-values.

D. No, because there is more than one x-value for some y-values.

110. **Which represents ordered-pair solutions of** $y = 4 - x$?

A.
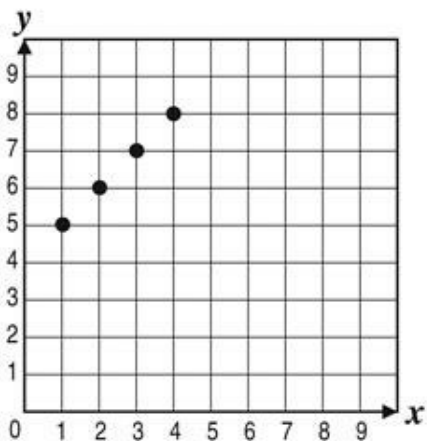
B.
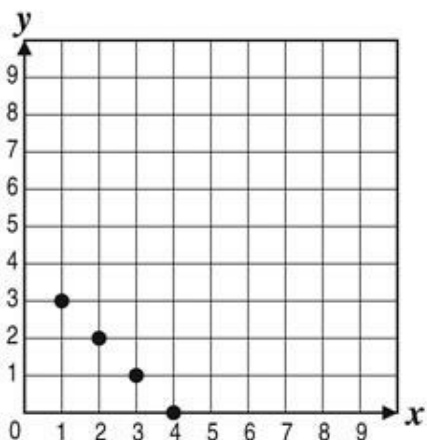
C.
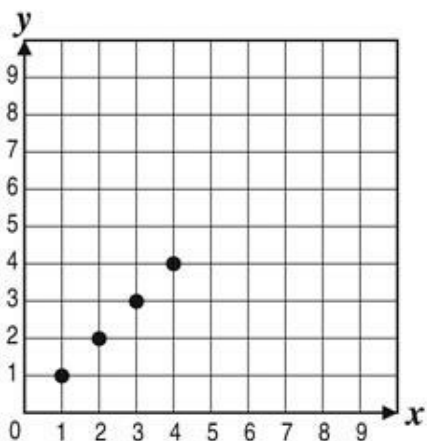
D.
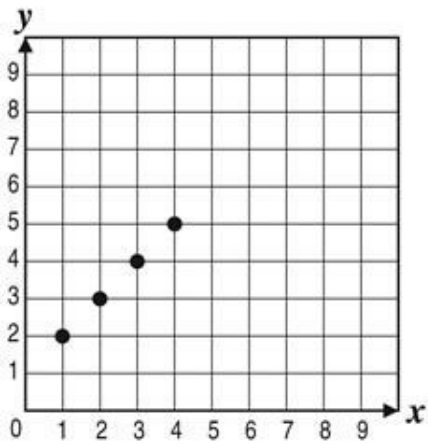
111. Which table shows *x*- and *y*-values for 3 points on the line graphed below?
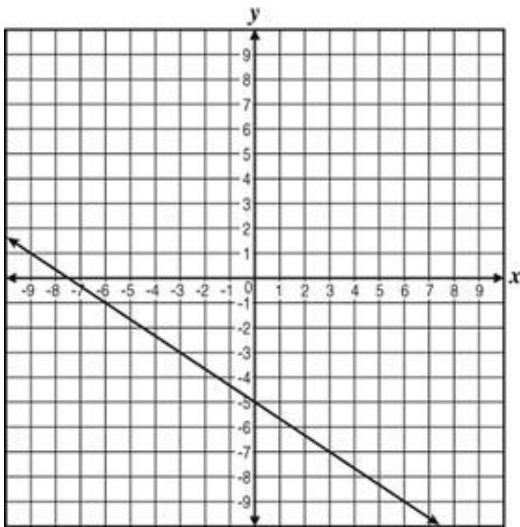
A.

x	y
−5	0
−7	3
−1	−6

B.

x	y
−5	0
−3	3
−1	6

C.

x	y
0	−5
3	−7
−6	−1

D.

x	y
0	−5
3	−3
6	−1

112. Which equation is **not** a function?

A. $y = 4$

B. $x = 4$

C. $y = x + 4$

113. **The ordered pairs** (x, y) **define the relation Q. Is Q a function?**

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

A. Yes, because there is exactly one y-value for every x-value.
B. Yes, because there is exactly one x-value for every y-value.
C. No, because there is more than one x-value for some y-values.
D. No, because there is more than one y-value for every x-value.

114. Which equation is not a function?

A. $y = |x|$

B. $y = x^2$

C. $x = 10$

D. $y = 0.5$

115. Which choice represents a function?

A. $x = 4$

B. $y = x - 9$

C.

x	y
⁻2	3
4	3
⁻1	4
⁻2	4
5	5

D. $\{(2, 3), (4, 5), (6, 7), (2, 9), (3, 10)\}$

116. **In the relation defined by the equation $y = 3x - 4$, for all $x > 0$, y is a function of x because**

A. x cannot be negative.
B. the graph of the equation is a line.
C. each value of y has a unique value of x.
D. each value of x has a unique value of y.

117. In which table is *y* a function of *x*?

A.

x	y
1	4
2	5
2	6
3	7

B.

x	y
1	8
2	6
2	6
3	5

C.

x	y
1	2
2	2
2	5
3	8

D.

x	y
1	3
2	4
2	3
3	6

118. Which graph represents a function?

A.
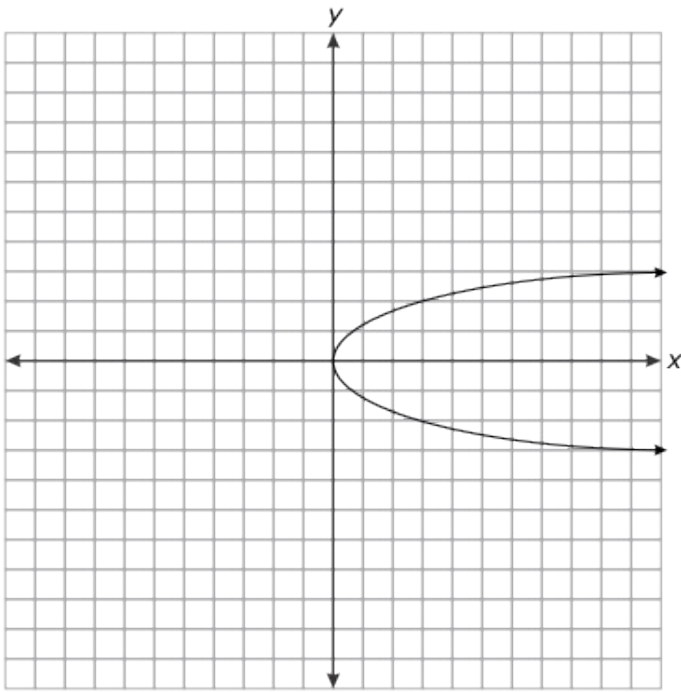
B.
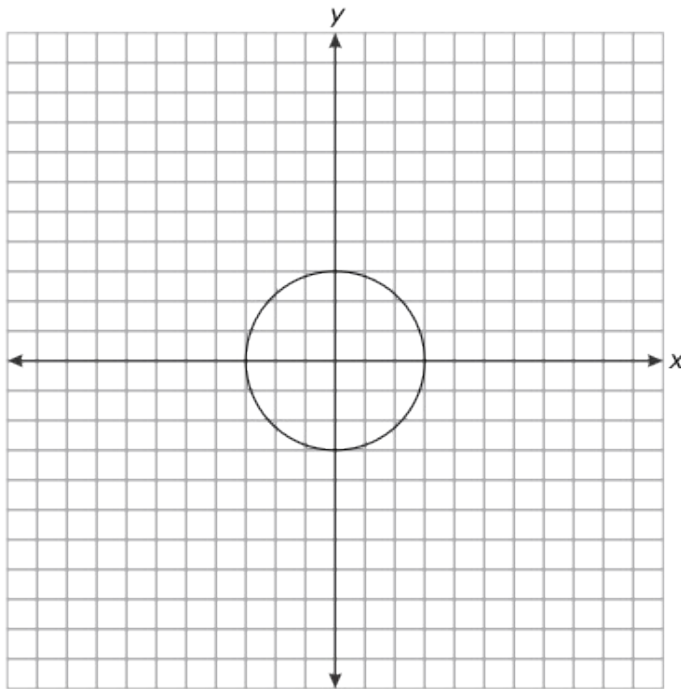
C.
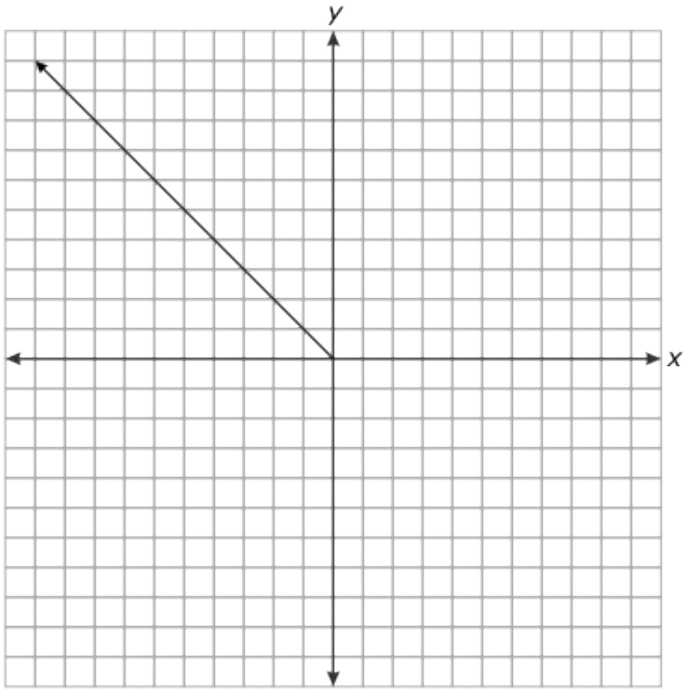
D.
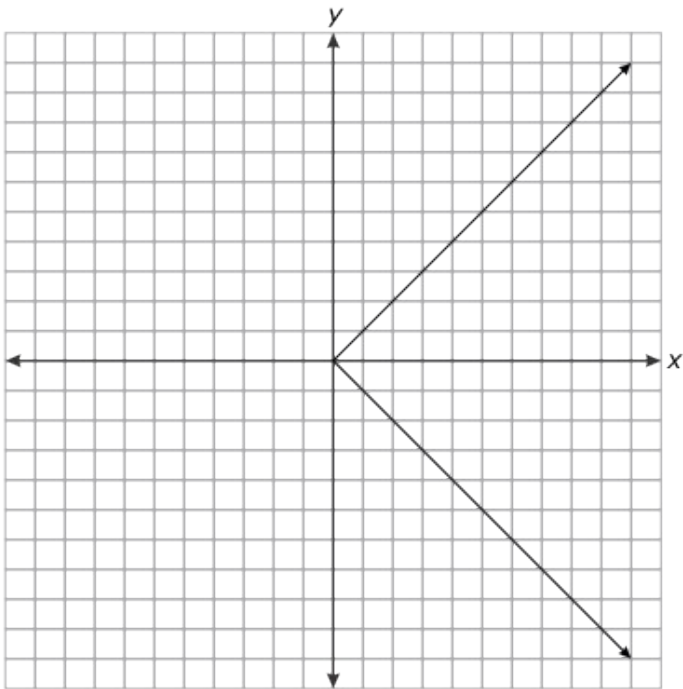
119. **Which of the following relations does not represent a function of *x*?**

A.

x	y
0	1
1	2
2	1
3	2

B.

x	y
1	5
2	5
3	5
4	5

C.

x	y
1	3
5	3
5	4
7	4

D.

x	y
2	8
4	6
6	4
8	2

120. **Which ordered pair (x, y) makes this relation a function?**

$$\{(2, 3), (-2, 5), (4, 4), (-4, 5), (x, y)\}$$

A. $(-4, -1)$

B. $(-1, -1)$

C. $(-2, -1)$

D. $(2, -1)$

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121. In which table is *y* a linear function of *x*?

A.

x	y
⁻4	⁻3
⁻2	1
0	5
2	9

B.

x	y
⁻3	⁻9
⁻2	⁻4
⁻1	⁻1
0	0

C.

x	y
1	1
2	8
⁻1	⁻1
⁻2	⁻8

D.

x	y
⁻1	1
⁻2	⁻2
⁻3	3
⁻4	⁻4

122. In which table is *y **not*** a function of *x*?

A.

x	y
2	5
1	3
0	1
1	⁻1

B.

x	y
⁻2	2
0	0
2	⁻2
4	2

C.

x	y
3	⁻3
4	⁻4
5	⁻5
6	⁻6

123. Which of the following relations is **not** a function?

A. $y = \dfrac{4}{1+x}$

B. $y = -2.7$

C. $y = \begin{cases} x - 1, & x \leq 0 \\ x + 1, & x \geq 0 \end{cases}$

D. $y = \sqrt{x - 3}$

124. **Which of the following does not represent a function of x?**

A.

x	y
−4	2
0	−3
2	5
4	−3

B.

x	y
−1	−6
1	−6
3	4
6	7

C.

x	y
−1	3
−1	5
2	6
3	4

D.

x	y
−1	2
2	5
3	4
4	−3

125. **The pairs of x-values and y-values in the table below represent points on the graph of an equation.**

x	−2	−1	0	1	2
y	−5	−2	1	4	7

Which graph contains all the points represented in the table?

A.
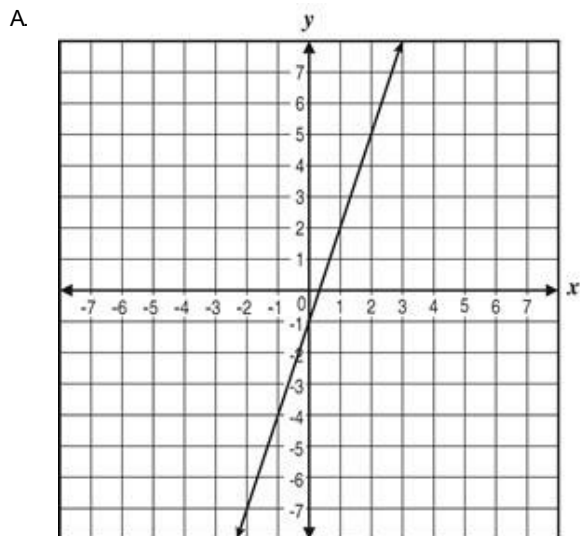
B.
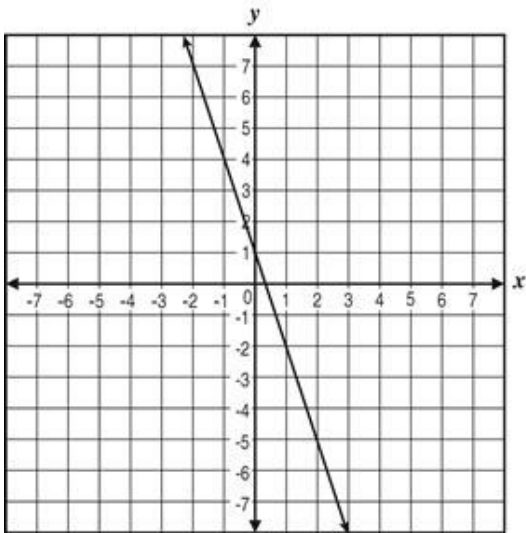
C.
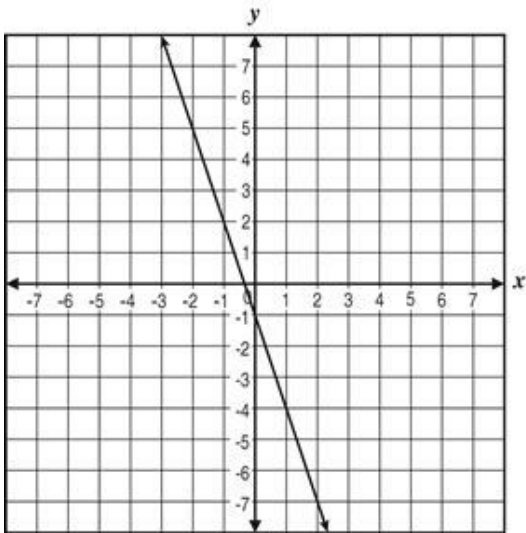
D.
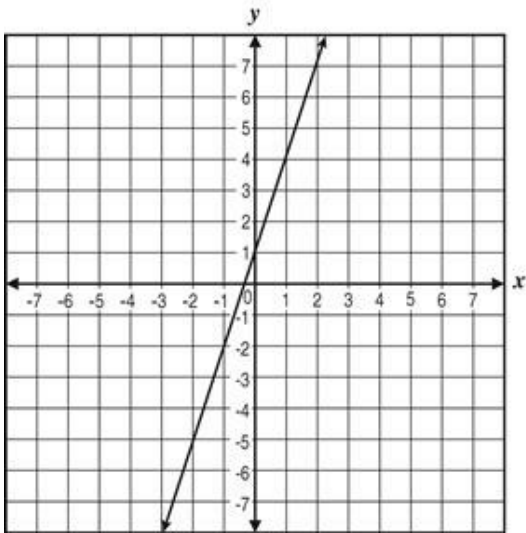
126. Which relation is a function?

    A. {(2, 6), (3, 9), (4, 12), (5, 15)}

    B. {($^-$4, $^-$8), ($^-$4, $^-$2), (4, 8), (4, 2)}

    C. {($^-$3, $^-$2), ($^-$1, 0), (0, 1), (0, 4)}

    D. {(2, 4), (2, 5), (3, 5), (3, 6)}

127. Which relation could also represent a function?

    A. {(3, 4), (0, 1), (−1, − 2), (−2, − 1), (0, − 1)}

    B. $y = x + 3$

    C.
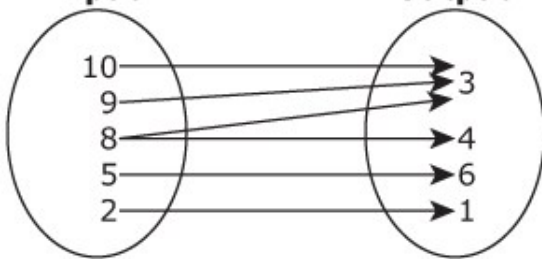
    D.
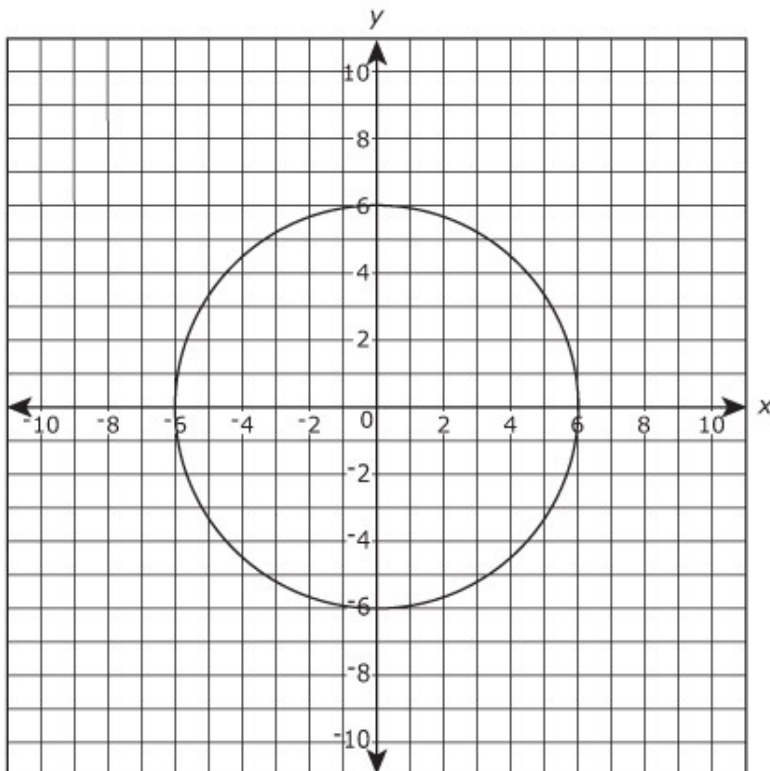
128. The Juice Cafe posted the sign below showing the prices of smoothies of various sizes.

SMOOTHIE PRICES

Size	Price
8 ounce	$2.29
12 ounce	$2.79
12 ounce	$3.09
16 ounce	$3.69
20 ounce	$4.09
22 ounce (bonus size)	$4.09

Which change would make the price of smoothies a function of the size?

A. change the smoothie prices so that each interval between prices is $0.50

B. change the first 12-ounce smoothie to a 10-ounce smoothie so that each smoothie size has only one price

C. change the price of the 22-ounce smoothie to $4.29 so that each price is assigned to only one smoothie size

D. change the 22-ounce smoothie to a 24-ounce smoothie so that each interval between smoothie sizes is 4 ounces

129. If the ordered pairs in the table below represent a function, which number could x represent?

x	y
0	1
2	5
⁻1	2
?	26
⁻4	17

A. ⁻4

B. ⁻1

C. 2

D. 5

130. **The following ordered pairs (x, y) define the relation Q. Is Q a function?**

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

A. Yes, because there is exactly one y-value for every x-value.
B. Yes, because there is exactly one x-value for every y-value.
C. No, because there is more than one x-value for some y-values.
D. No, because there is more than one y-value for every x-value.

131. In which set of ordered pairs is y a function of x?

A. {(1, 3), (2, 3), (3, 3), (4, 3)}

B. {(0, 2), (2, 5), (0, 4), (1, 5)}

C. {(⁻1, 5), (2, 6), (4, 8), (⁻1, 4)}

D. {(1, 3), (⁻2, 5), (⁻2, 7), (3, 5)}

132. Which relation is a function?

A. {(⁻1, 2), (⁻4, 5), (1, 3), (0, ⁻1)}

B. {(⁻1, 2), (⁻1, 5), (1, 3), (⁻4, 5)}

C. {(⁻1, 2), (1, 3), (1, 0), (⁻4, 5)}

D. {(⁻1, 2), (1, 5), (1, 3), (⁻1, 3)}

133. In which equation is *y* a function of *x*?

A. $y = 4$

B. $x = 5$

C. $y^2 = x$

134. **Which relation below is not a function?**

A.
Domain	Range

B.
Domain	Range

C.
Domain	Range

D.
Domain	Range
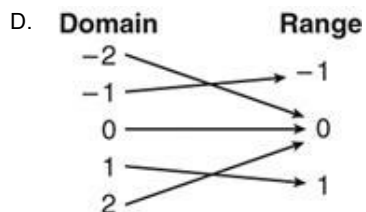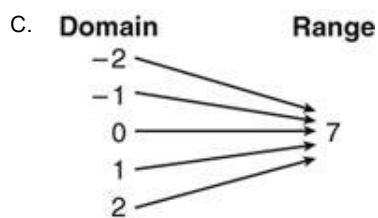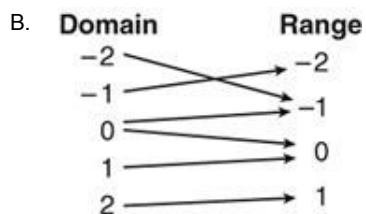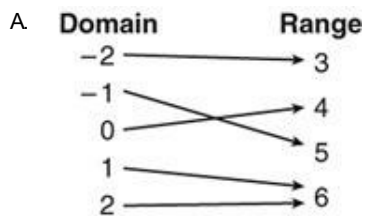
135. For the relation {(7, ⁻3), (8, 4), (⁻5, 3), (*x*, 8)} to be a function, *x* can be which value?

A. 8

B. 7

C. ⁻5

D. ⁻8

136. **Which linear graph represents the values in the table below?**

x	y
–2	0

0	–2
2	–4

A.
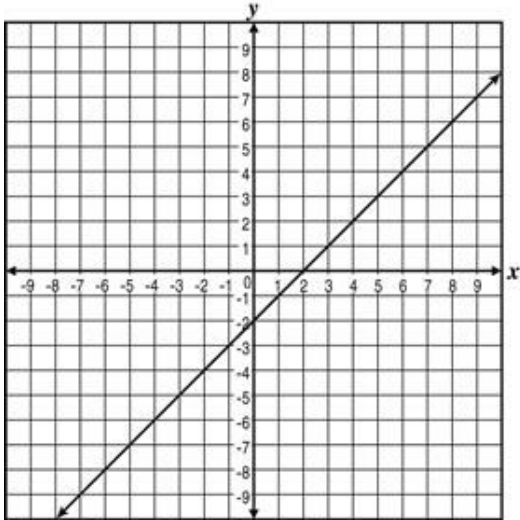
B.
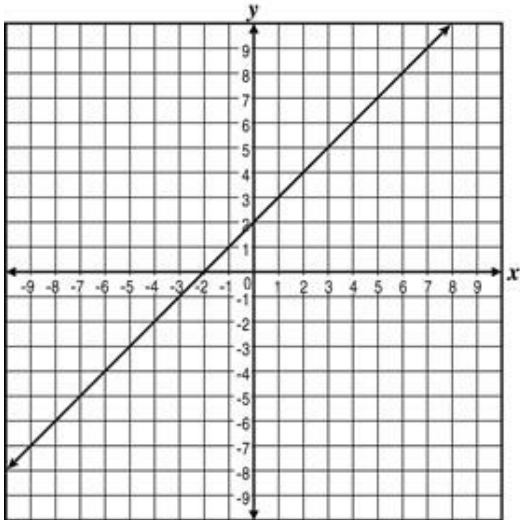
C.
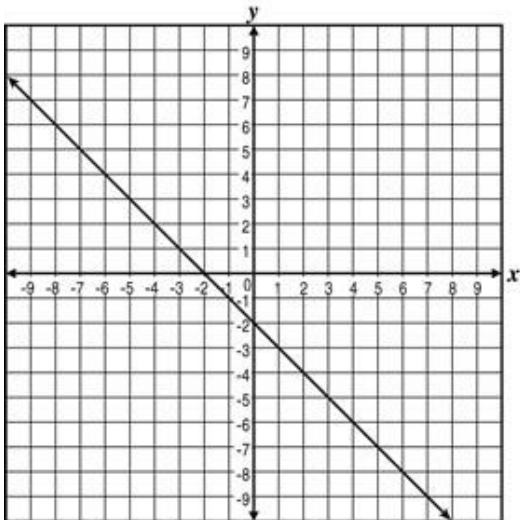
D.
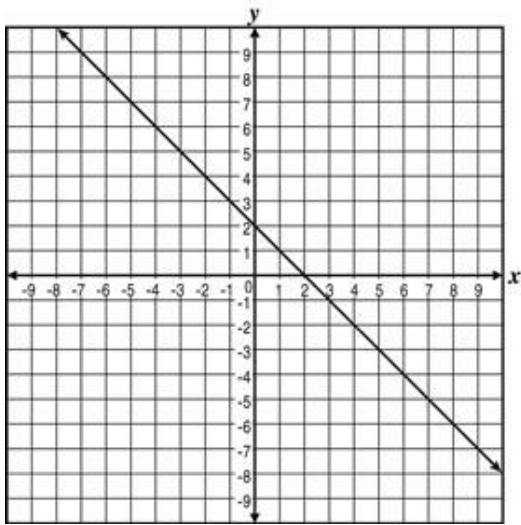
137. Which graph is a function?

A.

B.

C.

D.

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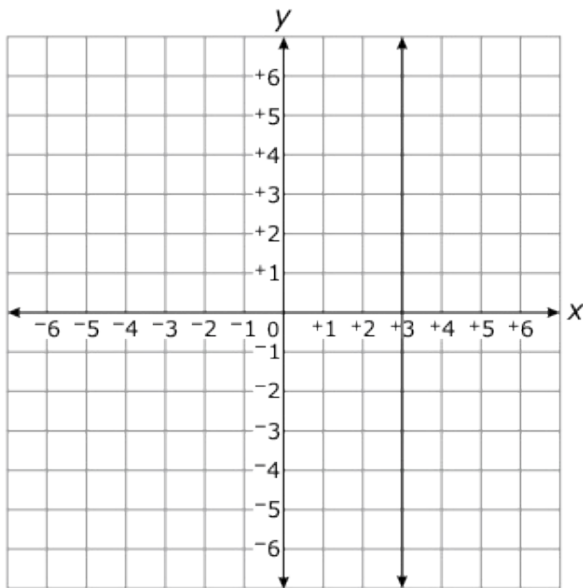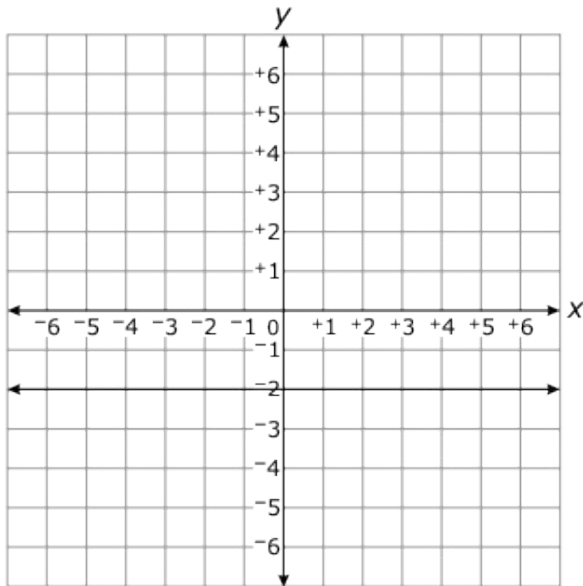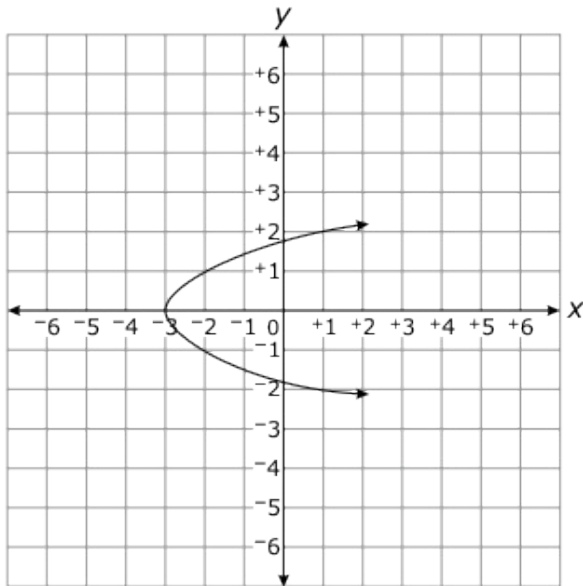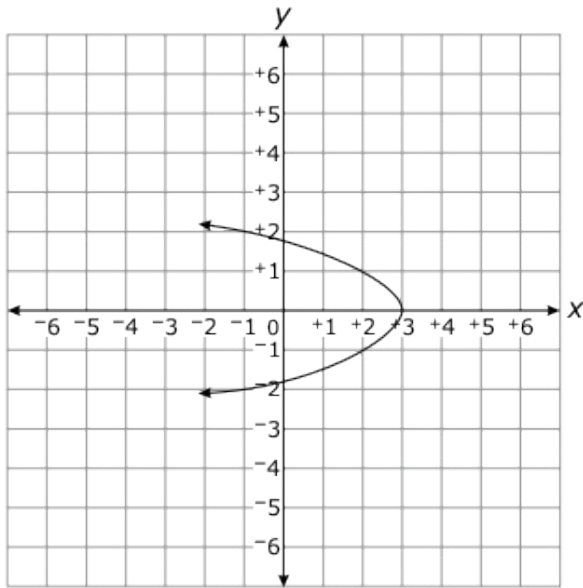
138. **Sean collected information on the cost of renting kayaks for one day. He used the graph below to summarize his findings.**
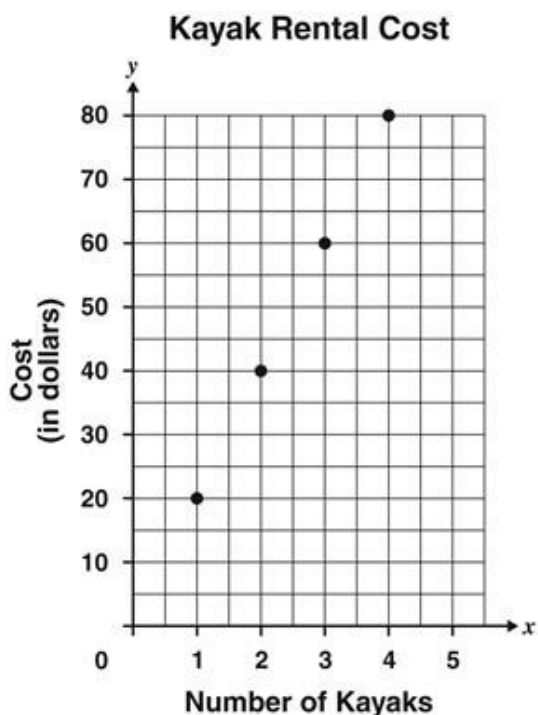
Kayak Rental Cost

Which table of values best represents the data used to construct the graph?

A. Kayak Rental Cost

Number of Kayaks	1	2	3	4
Cost (in dollars)	0	20	40	60

B. Kayak Rental Cost

Number of Kayaks	1	2	3	4
Cost (in dollars)	20	40	60	80

C. Kayak Rental Cost

Number of Kayaks	1	2	3	4
Cost (in dollars)	100	200	300	400

D. Kayak Rental Cost

Number of Kayaks	1	2	3	4
Cost (in dollars)	20	30	50	70

139. **The graph below displays a relation between *x* and *y*.**
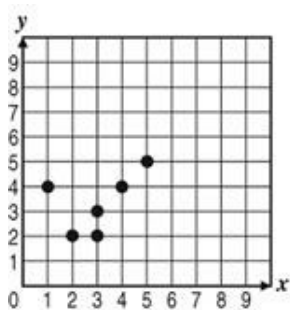
This relation does not define *y* as a function of *x* because

A. the relation is not linear.

B. points (2, 2) and (3, 2) have the same *y*-value.

C. points (3, 2) and (3, 3) have the same *x*-value.

D. several points have equal *x*- and *y*-values.

140. **Which relation is not a function?**

A.

x	y
1	2
2	2
3	2
4	2
5	2

B. $\{(0, 1), (-1, -1), (2, 4), (1, -1)\}$

C.

D.
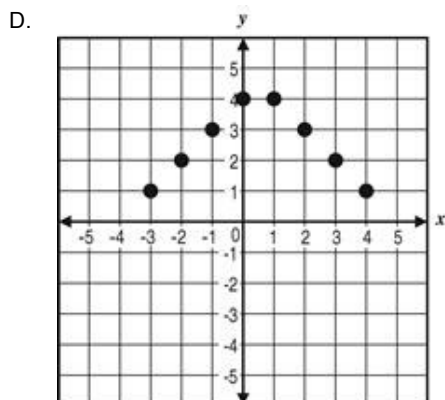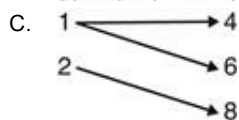
141. **Which set of ordered pairs does not represent a function?**

A. $\{(0, 0), (1, 1), (2, 2), (3, 3)\}$

B. $\{(0, 0), (0, 1), (1, 2), (1, 3)\}$

C. $\{(0, 1), (1, 2), (2, 3), (3, 4)\}$

D. $\{(1, 0), (2, 0), (3, 0), (4, 0)\}$

142. Which relation is a function?

A. {(3, 2), (4, 5), (6, 8), (7, 5)}

B. {(3, 2), (4, 5), (7, ⁻3), (7, ⁻2)}

C. {(1, 4), (2, 5), (4, 7), (1, 9)}

D. {(2, 3), (5, 4), (2, ⁻3), (0, ⁻1)}

143. **The table below gives some *x*-values and their corresponding *y*-values.**

x	-2	-1	0	1	2	3
y	-8	-5	-2	1	4	7

Which graph shows the relationship between *x* and *y*?

A.

B.

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C.

D.

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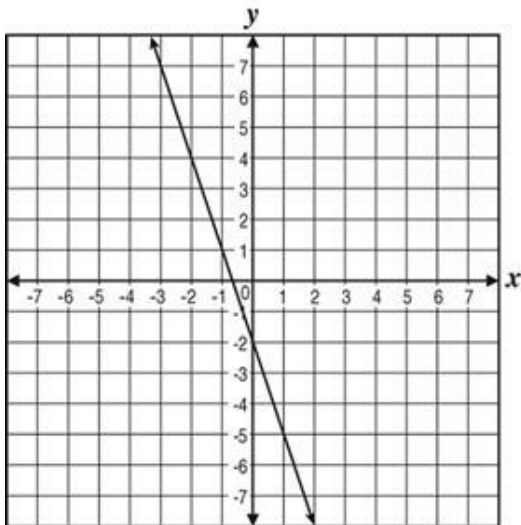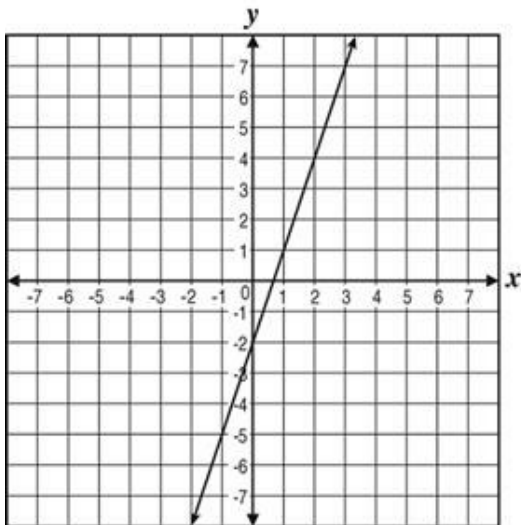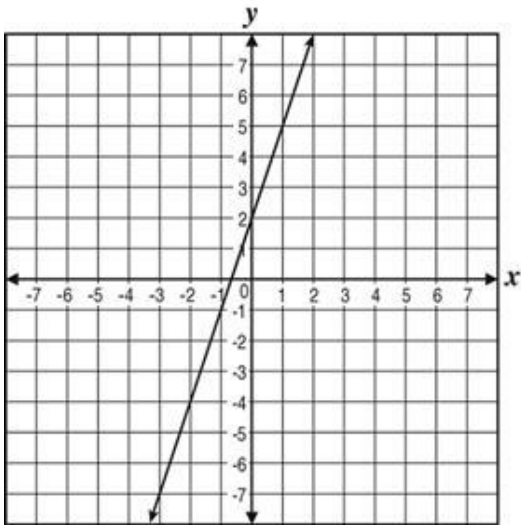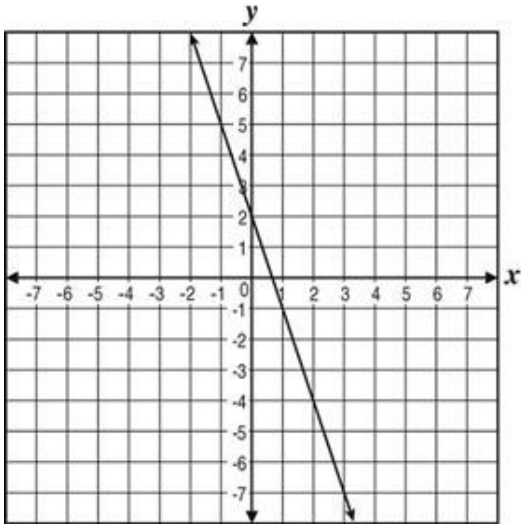
144. **Which relation below is a function?**

A.

x	y
0	−2
1	−3
0	−4
2	−5

B.

x	y
0	2
1	3
0	4
2	5

C.

x	y
0	0
1	1
0	8
2	27

D.

x	y
0	0
1	−4
2	8
3	4

145. In which set of ordered pairs is y **not** a function of x?

A. {(⁻9, ⁻1), (⁻7, ⁻3), (⁻5, ⁻8)}

B. {(4, ⁻7), (8, ⁻3), (12, ⁻5)}

C. {(0, 2), (4, 3), (8, 1)}

D. {(4, 6), (10, 6), (10, 8)}

146. **This table shows values for *x* and *y*.**

x	−2	−1	0	1	2	3
y	−5	−3	−1	1	3	5

Which graph correctly represents the relationship of x and y?

A.
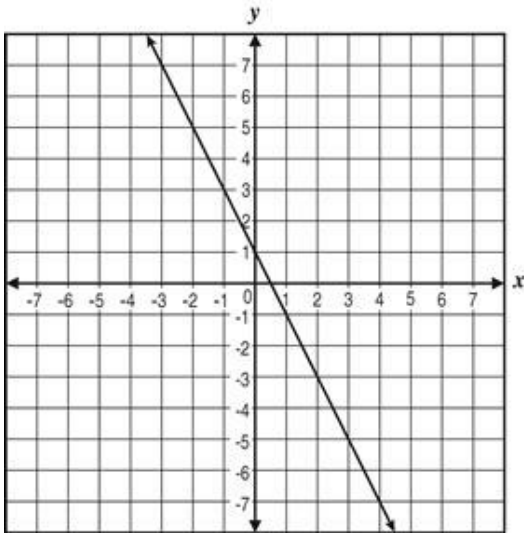
B.
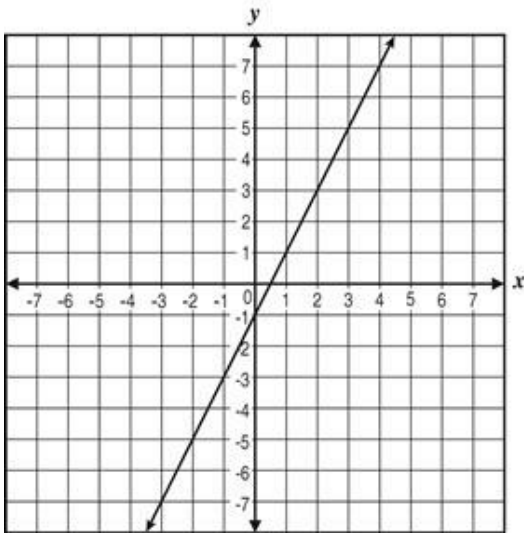
C.
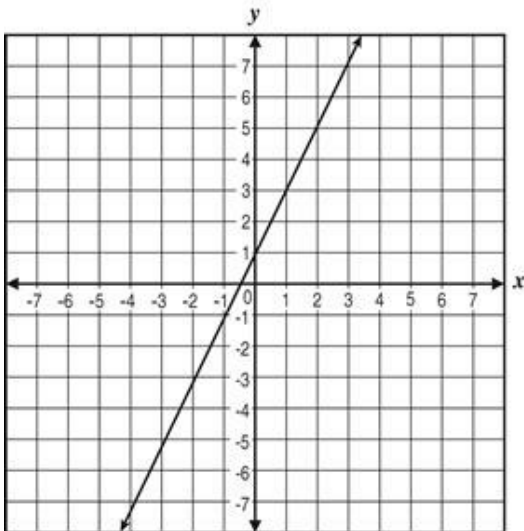
D.
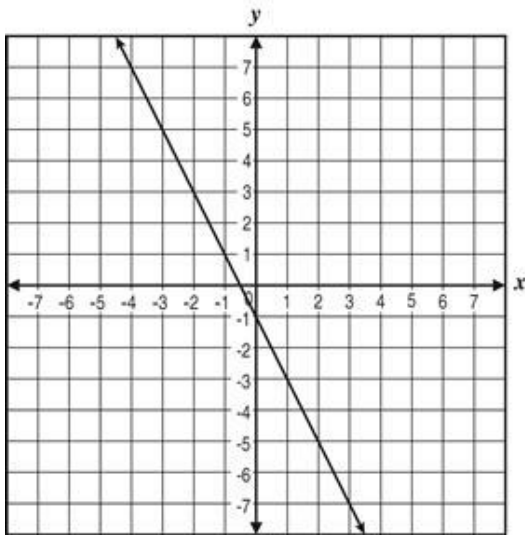
147. **The sets of ordered pairs below represent relations.**

        I   {(0, 0), (1, 1), (2, 2), (3, 3), (4, 4)}

        II   {(1, 2), (2, 1), (1, 3), (0, 1), (3, 1)}

        III   {(0, 2), (1, 2), (2, 4), (3, 4), (3, 6)}

        IV   {(1, 6), (2, 6), (3, 6), (4, 6), (5, 6)}

Which of these sets are also functions?

A.   I only

B.   I and IV

C.   II and III

D.   II, III, and IV

148. **Which linear graph best represents the line containing the values in the table?**

x	y
−4	0
0	3
4	6

A.

B.

C.

D.
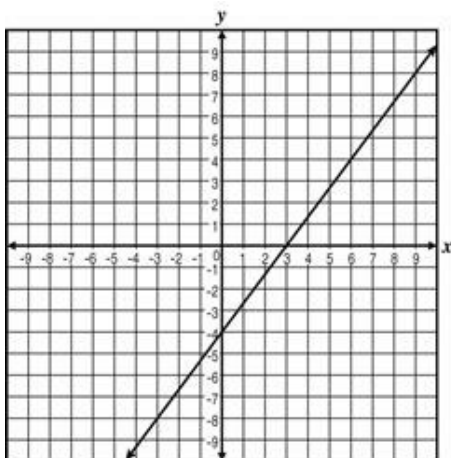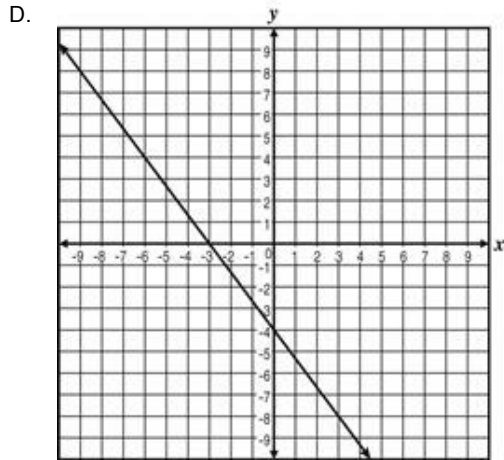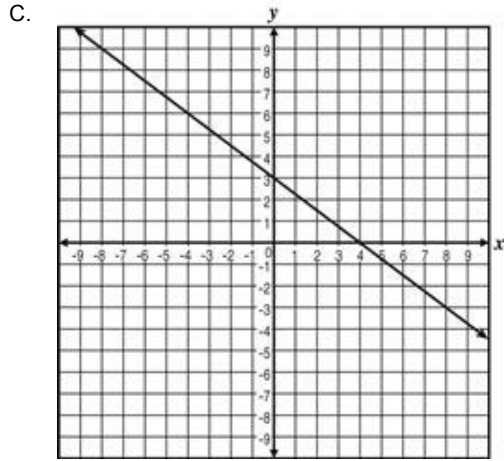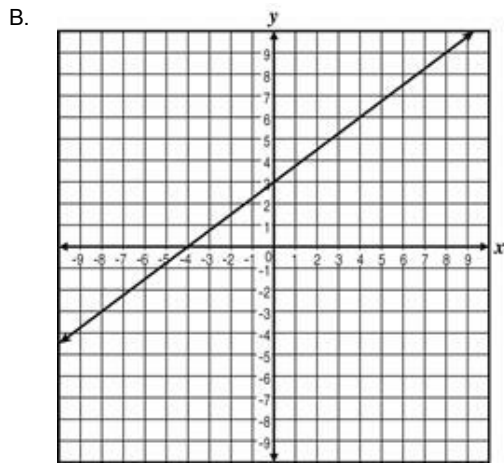
149. **What characteristic is true for all relations that are functions?**

A.   The graph of the relation passes the vertical line test.

B.   Every *x*-value in the relation has at least one *y*-value.

C.   Every *y*-value in the relation has exactly one *x*-value.

D.   The graph of the relation passes the horizontal line test.

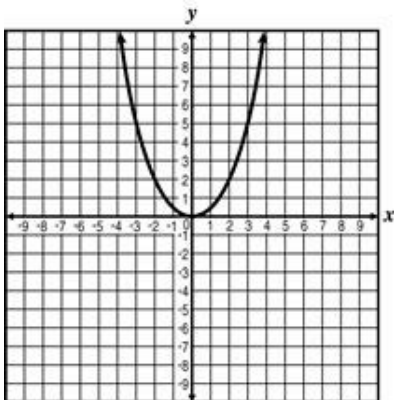150. **Which graph represents a function?**

A.
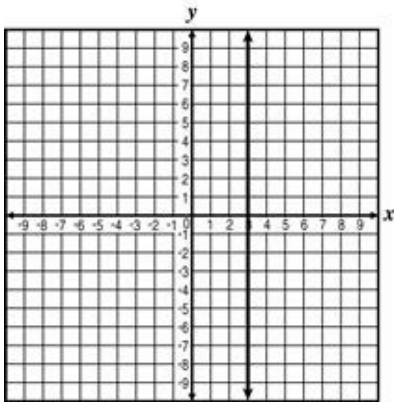
B.
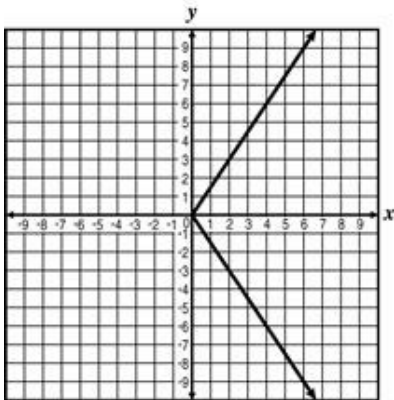
C.
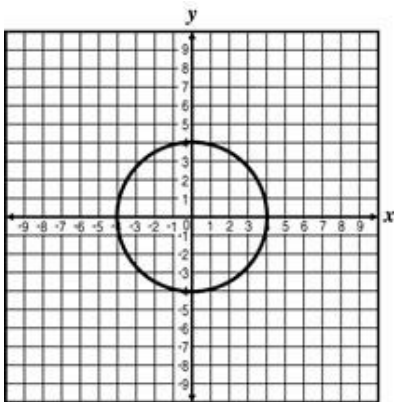
D.

151. **Which ordered pair can be substituted for (x, y) to ensure that the relation**
$\{(3, 0), (1, 4), (5, 9), (2, 8), (x, y)\}$ **is a function?**

   A.   (0, 0)
   B.   (1, 5)
   C.   (2, 7)
   D.   (3, 3)

152. **Which of the following equations represents a function?**

   A. $x = 2$
   B. $y^2 = x + 2$
   C. $y^2 = x^4 + 2$
   D. $y = x^2$

153. **The following ordered pairs (*x*, *y*) define the relation Q. Is Q a function?**

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

   A.   Yes, because there is exactly one *x*-value for every *y*-value.
   B.   Yes, because there is exactly one *y*-value for every *x*-value.
   C.   No, because there is more than one *x*-value for some *y*-values.
   D.   No, because there is more than one *y*-value for every *x*-value.

154. **The following ordered pairs (x, y) define the relation Q.**

   $Q = \{(-1, 4), (-2, 3), (4, 4), (2, -2)\}$
   Is Q a function?

   A.   Yes, because there is exactly one *y*-value for every *x*-value.
   B.   Yes, because there is exactly one *x*-value for every *y*-value.
   C.   No, because there is more than one *x*-value for some *y*-values.
   D.   No, because there is more than one *y*-value for every *x*-value.

155. **In the relation defined by the equation $y = x^2$ for all *x* > 0, *y* is a function of *x* because**

   A.   *x* cannot be negative.
   B.   the graph of the equation is a line.
   C.   each value of *y* has a unique value of *x*.
   D.   each value of *x* has a unique value of *y*.

156. **Which relation is a function?**
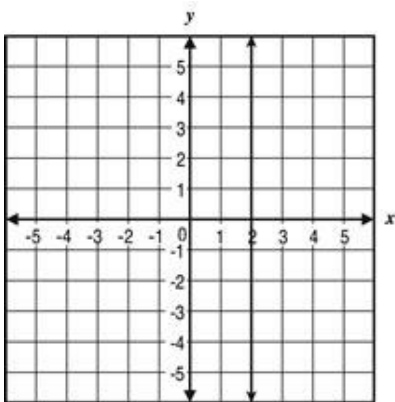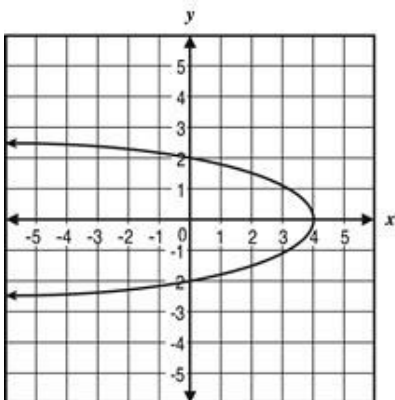
A.
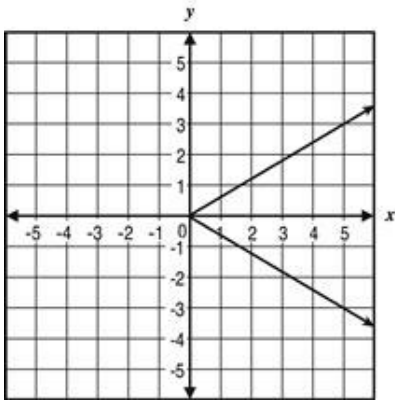
B.
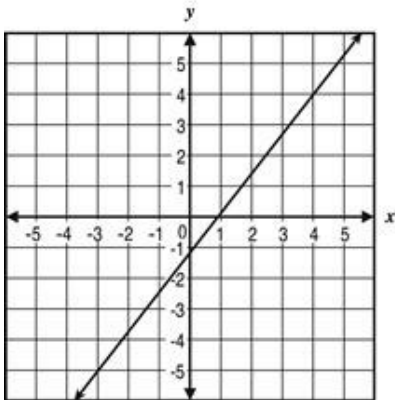
C.

D.

157. In which table is *y* a function of *x*?

A.

x	y
14	1
13	⁻2
11	6
13	7

B.

x	y
⁻2	⁻8
⁻3	⁻8
1	⁻4
⁻1	⁻4

C.

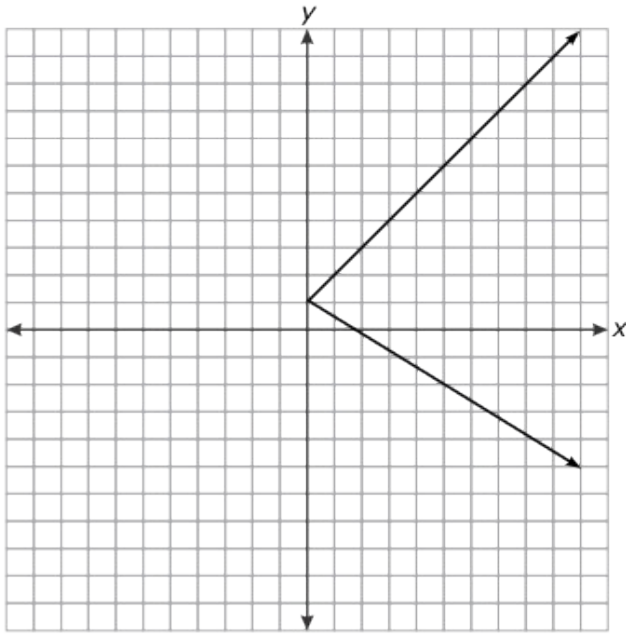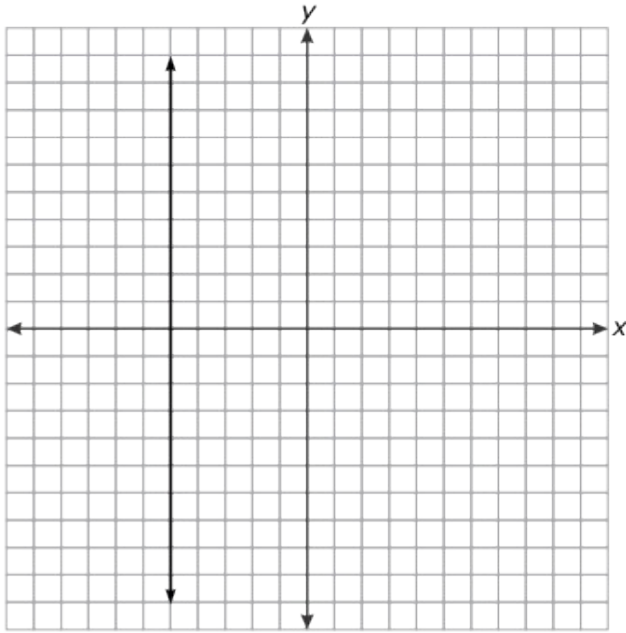| x	y
0	⁻5
⁻6	⁻2
⁻3	4
0	4

D.

x	y
4	4
⁻3	⁻2
5	⁻6
⁻3	8

158. Sarah has been keeping track of how many hours she practices basketball each week and thinks that the percentage of free throws she makes during practice improves the more she practices. To check this, she makes a graph comparing the number of hours she practices each week with the percentage of free throws she makes each week. Based on what she learned in her Algebra class, she realizes that her graph represents a function. Which of these could be Sarah's graph?

A.

SARAH'S FREE THROWS

B.

SARAH'S FREE THROWS

C.

SARAH'S FREE THROWS

D.

SARAH'S FREE THROWS
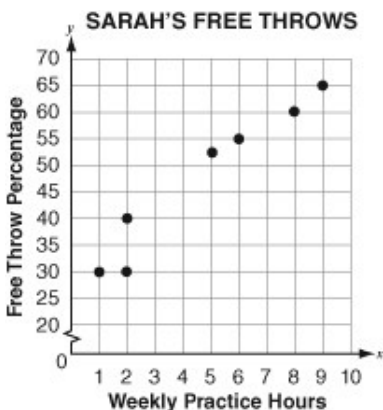
159. Which graph represents a function?
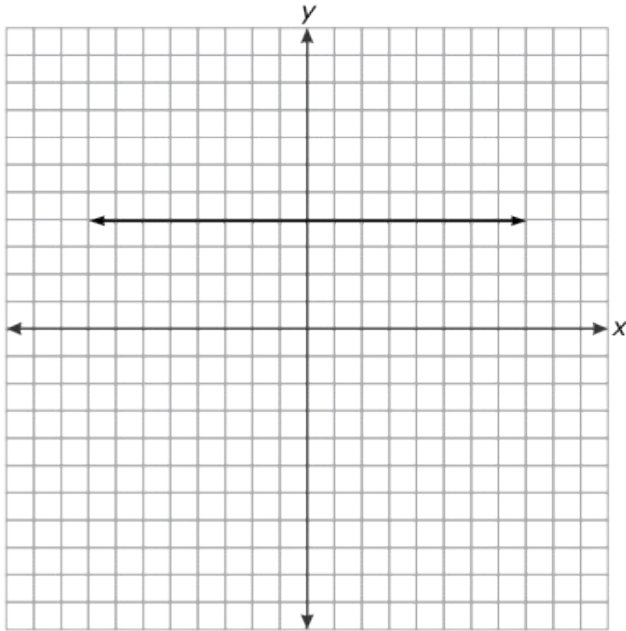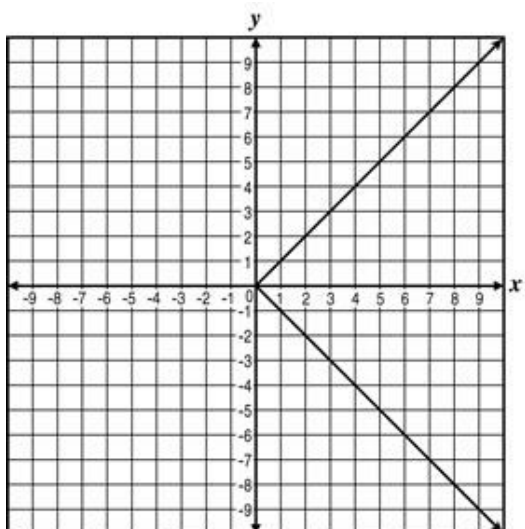
schoolnet

A.

B.

C.
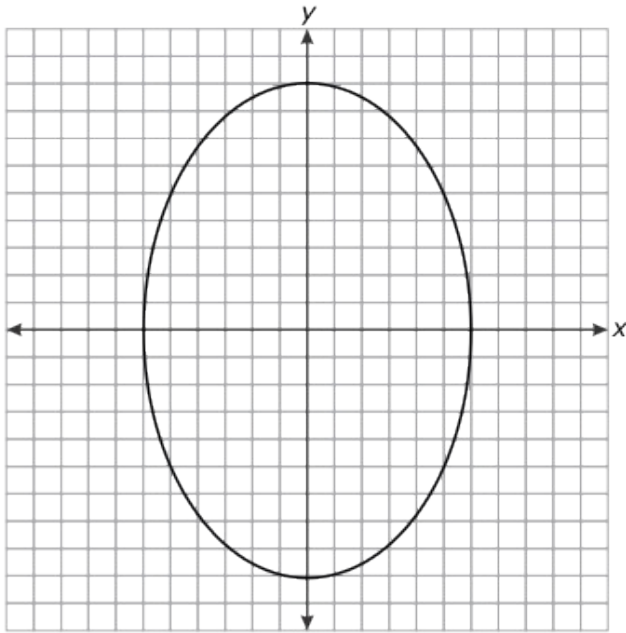
D.

160. **Which statement best explains why the graphed relation is not a function?**

A. The graphed relation is not a line.
B. There are infinitely many points on the graph.
C. The domain of the graph does not include all real numbers.
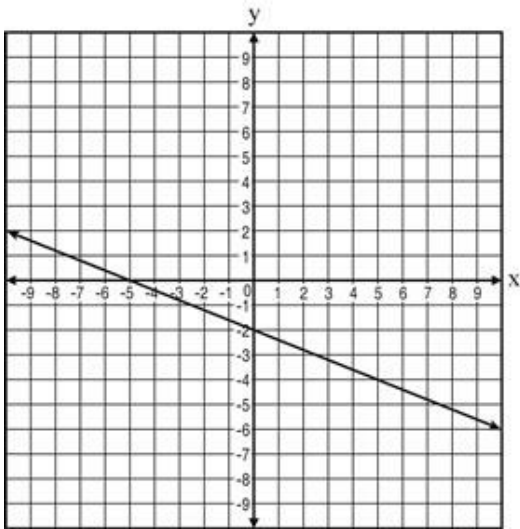D. There are points on the graph with the same *x*-coordinate but different *y*-coordinates.

161. Which ordered pair is a solution to the function $y = \frac{1}{3}x - 5$?

A. $(-5, 3)$

B. $(-4, 3)$

C. $(3, -5)$

D. $(3, -4)$

162. **Which graph represents the line formed by the points in the table?**

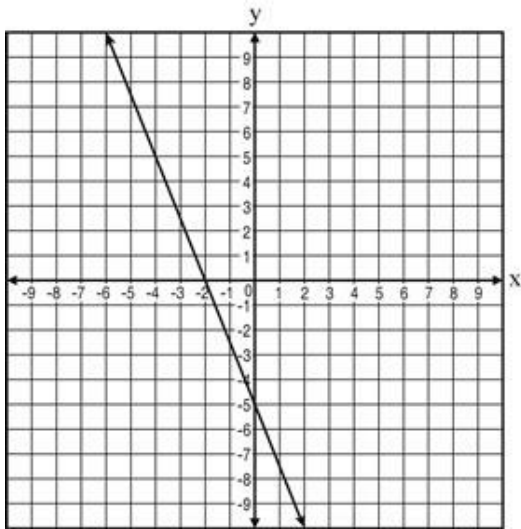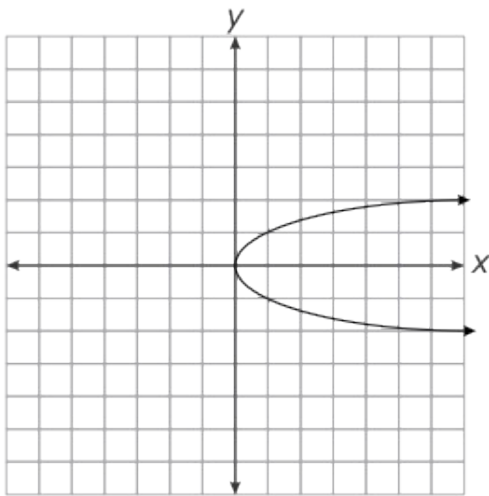| x	y
−2	0
−1	−2.5
0	−5
1	−7.5
2	−10

A.

B.
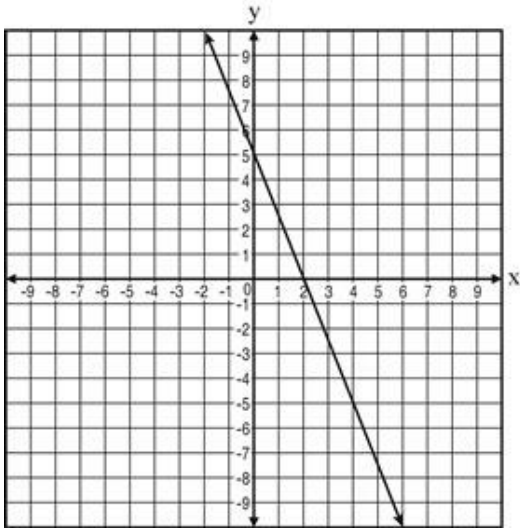
C.
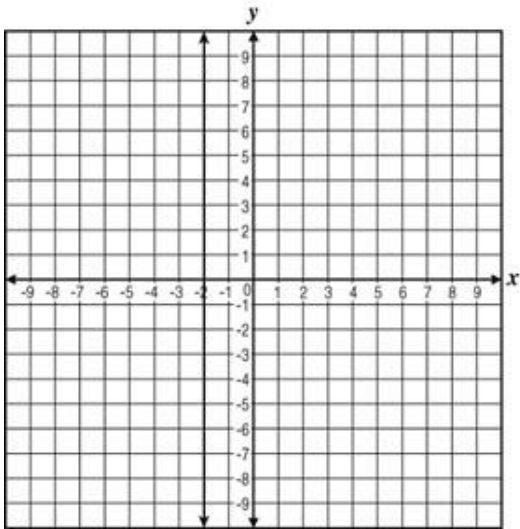
D.
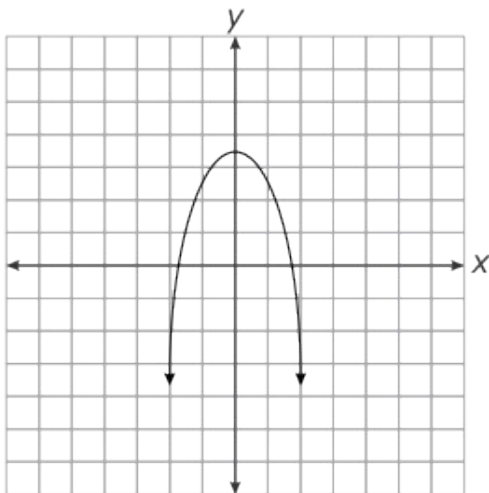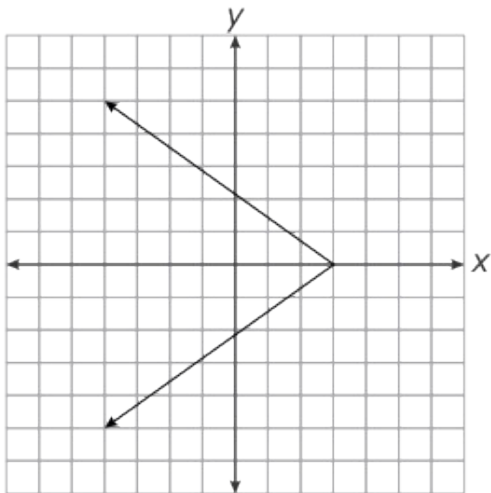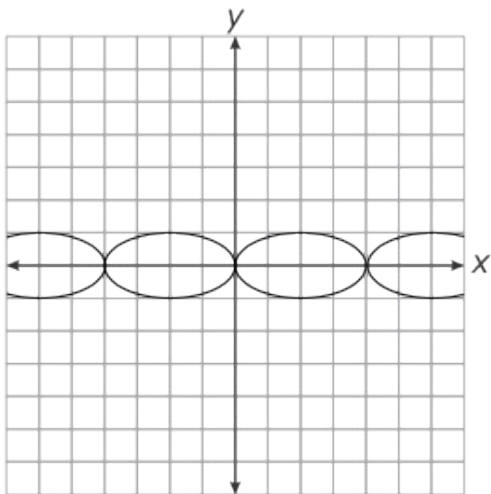

163. Which graph below is a function?

A.

B.

C.

D.

164. **In which set of ordered pairs, (x, y), is y not a function of x?**

   A. {(4, 3), (3, 4)}
   B. {(4, 3), (7, 3)}
   C. {(7, 4), (4, 7), (4, 3)}
   D. {(7, 7), (4, 4), (3, 3)}