

# Test Practice 5: Functions

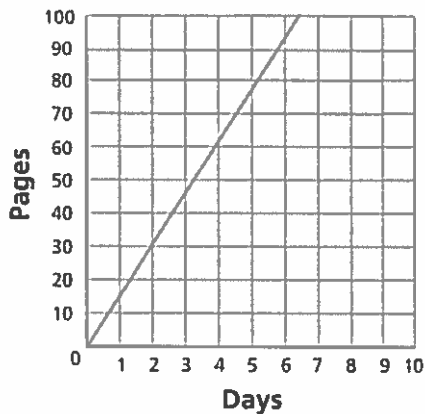
Estimated time: 20 minutes

Directions: Read and answer each question.

1 Which set of ordered pairs is a function?

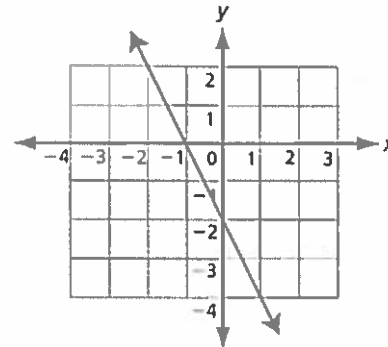
- (A)  $\{(1.6, 2), (1.4, 1), (1.4, 2)\}$
- (B)  $\{(0.3, 33), (0.2, 22), (0.3, 333)\}$
- (C)  $\{(-2, 4), (-2, 1), (-2, 8)\}$
- (D)  $\{(4, -2), (1, -2), (8, -2)\}$

2 Which relationship could be shown by this graph?



- (A) the number of pages Joyce reads if she reads 15 pages each day
- (B) the number of days it takes Joyce to read a book if she reads 20 pages a day
- (C) the number of books Joyce can read if she reads 5 books a month
- (D) the number of weeks it takes Joyce to read a book if she reads 100 pages a week

3 Which table below contains points shown on this graph?



- | (A) | <table border="1"><tr><th>x</th><th>y</th></tr><tr><td>-3</td><td>3</td></tr><tr><td>-2</td><td>2</td></tr><tr><td>-1</td><td>1</td></tr></table> | x | y | -3 | 3 | -2 | 2  | -1 | 1  |
|-----|---|---|---|----|---|----|----|----|----|
| x   | y   |   |   |    |   |    |    |    |    |
| -3  | 3   |   |   |    |   |    |    |    |    |
| -2  | 2   |   |   |    |   |    |    |    |    |
| -1  | 1   |   |   |    |   |    |    |    |    |
| (B) | <table border="1"><tr><th>x</th><th>y</th></tr><tr><td>-1</td><td>0</td></tr><tr><td>0</td><td>-2</td></tr><tr><td>1</td><td>-4</td></tr></table> | x | y | -1 | 0 | 0  | -2 | 1  | -4 |
| x   | y   |   |   |    |   |    |    |    |    |
| -1  | 0   |   |   |    |   |    |    |    |    |
| 0   | -2  |   |   |    |   |    |    |    |    |
| 1   | -4  |   |   |    |   |    |    |    |    |
- | (C) | <table border="1"><tr><th>x</th><th>y</th></tr><tr><td>-1</td><td>0</td></tr><tr><td>2</td><td>0</td></tr><tr><td>-2</td><td>2</td></tr></table>  | x | y | -1 | 0  | 2 | 0  | -2 | 2  |
|-----|---|---|---|----|----|---|----|----|----|
| x   | y   |   |   |    |    |   |    |    |    |
| -1  | 0   |   |   |    |    |   |    |    |    |
| 2   | 0   |   |   |    |    |   |    |    |    |
| -2  | 2   |   |   |    |    |   |    |    |    |
| (D) | <table border="1"><tr><th>x</th><th>y</th></tr><tr><td>0</td><td>-2</td></tr><tr><td>1</td><td>-4</td></tr><tr><td>2</td><td>-2</td></tr></table> | x | y | 0  | -2 | 1 | -4 | 2  | -2 |
| x   | y   |   |   |    |    |   |    |    |    |
| 0   | -2  |   |   |    |    |   |    |    |    |
| 1   | -4  |   |   |    |    |   |    |    |    |
| 2   | -2  |   |   |    |    |   |    |    |    |

4 Which rule is true for all of the pairs of values in the table?

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

- (A)  $y = x - 3$
- (B)  $y = 3x + 1$
- (C)  $y = 2x + 1$
- (D)  $y = 2x - 1$



5 Examine the following table.

$x$	$y$
-1	-3
0	1
1	5
2	9
3	13

Which equation shows the relationship between  $x$  and  $y$ ?

- (A)  $y = 5x - 3$
- (B)  $y = 2x + 1$
- (C)  $y = x^2 + 3$
- (D)  $y = 4x + 1$

6 A function  $I$  pairs each real number with its opposite. Which ordered pair belongs to this function?

- (A)  $(-5, 5)$
- (B)  $(-5, \frac{1}{5})$
- (C)  $(5, \frac{1}{5})$
- (D)  $(\frac{1}{5}, 1)$

7 Which set of numbers completes this function table for the equation below?

$$y = \frac{1}{2}x + 4$$

$x$	-2	0	4
$y$			

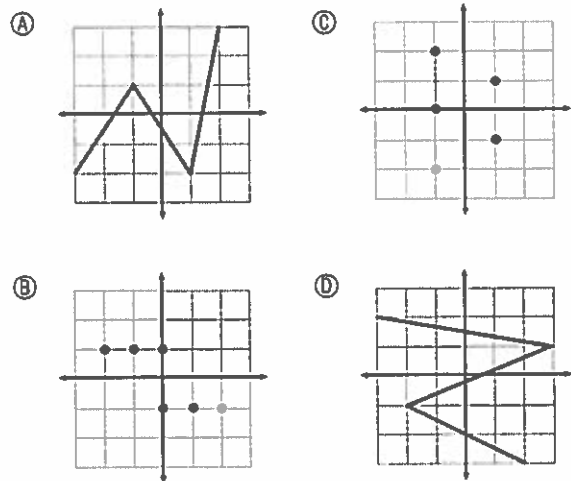
- (A) 3, 4, 6
- (B) 5, 4, 8
- (C) 0, 4, 6
- (D) -3, 0, 4

8 What rule is shown in this table?

$x$	15	30	5	25
$y$	3	6	1	5

- (A)  $y = x - 12$
- (B)  $y = x - 20$
- (C)  $y = 5x$
- (D)  $y = \frac{x}{5}$

9 Which graph shows a function?



10 Which rule describes the pattern in this chart?

$A$	$B$
1	6
2	11
3	16
4	21

- (A)  $5A + 1 = B$
- (B)  $6A - 3 = B$
- (C)  $6A = B$
- (D)  $A + 5 = B$

11 Which table gives the ordered pairs for the graph of a nonlinear equation?

Ⓐ

x	y
-3	3
-2	1
2	1
3	3

Ⓒ

x	y
1	5
2	6
3	7
4	8

Ⓑ

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

Ⓓ

x	y
4	8
6	12
8	16
10	20

12 Which ordered pair belongs to this function?

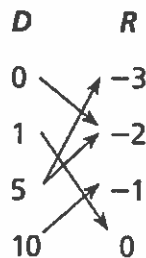
$$P(x) = 2x^2 + 5$$

- Ⓐ (3, 11)                      Ⓒ (3, 17)  
 Ⓑ (11, 3)                      Ⓓ (3, 23)

13 Which set of ordered pairs is a function?

- Ⓐ  $\{(-1, 2), (0, -1), (1, 2), (0, 0)\}$   
 Ⓑ  $\{(-1, 3), (0, 0), (-1, 4), (2, 0)\}$   
 Ⓒ  $\{(-1, 10), (0, 8), (1, 6), (2, 4)\}$   
 Ⓓ  $\{(-1, 6), (0, 2), (-1, 4), (2, 6)\}$

14 Which ordered pair is a member of the relation shown in this mapping?



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

15 Which number correctly completes this table?

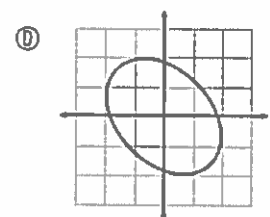
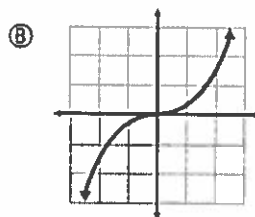
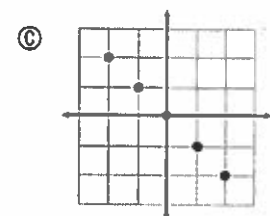
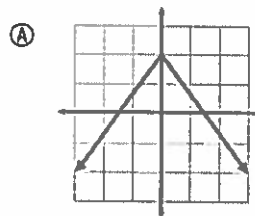
x	-2	-1	0	1	2
y	4	2	0		-4

- Ⓐ 2                                      Ⓒ -1  
 Ⓑ 1                                      Ⓓ -2

16 Which equation shows a linear relationship?

- Ⓐ  $x \div y = 8$   
 Ⓑ  $x + y = 8$   
 Ⓒ  $x^2 - y^2 = 8$   
 Ⓓ  $x^2 + y^2 = 8$

17 Which graph does NOT show a function?



18 Which equation shows the relationship between  $x$  and  $y$ ?

$x$	$y$
-1	-2
0	2
1	6
2	10
3	14

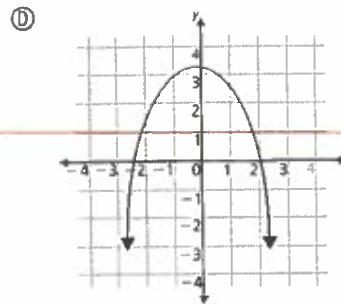
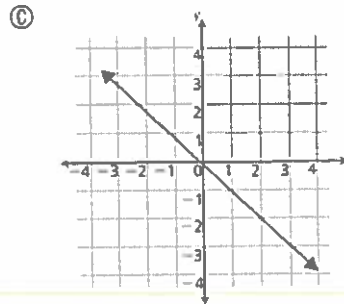
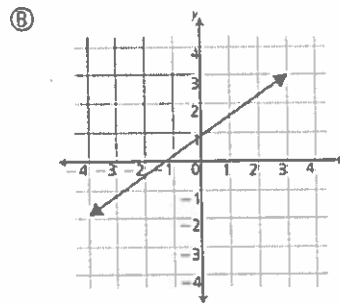
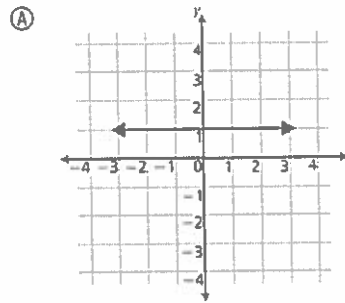
- (A)  $y = 4x$
- (B)  $y = 4x - 2$
- (C)  $y = 4x + 2$
- (D)  $y = x + 4$

19 Which rule was used to make this table?

Input	Output
400	200
300	150
200	100
150	75
100	50

- (A) Divide by 2.
- (B) Subtract 200.
- (C) Subtract 150.
- (D) Divide by 3.

20 Which is the graph of a nonlinear function?



Number Correct/Total = \_\_\_\_/20