

NAME \_\_\_\_\_

DATE \_\_\_\_\_

**Module 9** Using Functions  
**Lesson 3** Writing Functions from Patterns

**independent practice**

For each table, write a function to represent the pattern shown.

1.

Input	Output
0	-3
1	-2
2	-1
3	0
4	1

\_\_\_\_\_

2.

Input	Output
-6	0
-4	2
-3	3
0	6
2	8

\_\_\_\_\_

3.

Input	Output
-3	9
-1	3
0	0
1	-3
2	-6

\_\_\_\_\_

4.

Input	Output
-9	-4.5
-6	-3
2	1
3	1.5
8	4

\_\_\_\_\_

5.

Input	Output
0	2
1	102
2	202
3	302
4	402

\_\_\_\_\_

6.

Input	Output
-5	0
-3	0
0	0
1	0
3	0

\_\_\_\_\_

7.

Input	Output
-4	54
-2	52
1	49
4	46
6	44

\_\_\_\_\_

8.

Input	Output
1	5
2	7
3	9
4	11
5	13

\_\_\_\_\_

9.

Input	Output
-3	-10
-2	-7
-1	-4
3	8
4	11

\_\_\_\_\_



For each table, write a function to represent the pattern shown. Then use the function to complete the table.

10.

Input	Output
-4	$-\frac{3}{4}$
-2	$-\frac{1}{4}$
0	$\frac{1}{4}$
1	$\frac{1}{2}$
3	

11.

Input	Output
-3	-8
-2	-8
0	-8
1	-8
2	-8
4	

12.

Input	Output
-4	7
-3	6
-2	5
-1	4
0	3
2	

13.

Input	Output
-2	-4
-1	-1
0	0
1	-1
2	-4
4	

14.

Input	Output
-2	1
-1	2
0	3
1	4
2	5
3	

15.

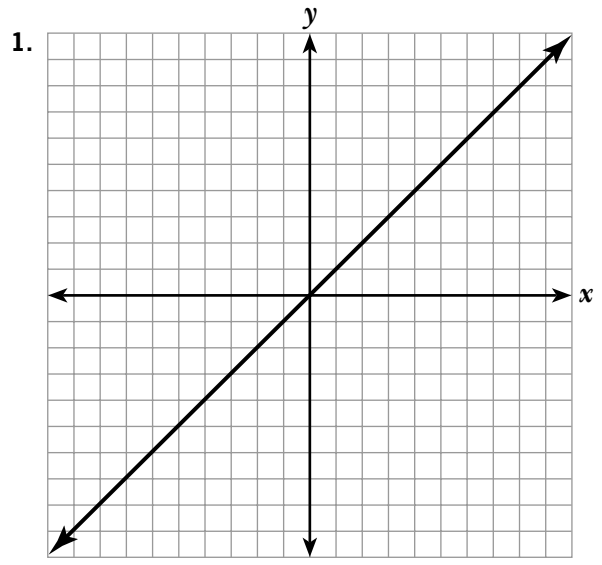
Input	Output
-5	14
-2	8
0	4
2	0
5	-6
10	

## Journal

1. A student looked at a table of values and noticed that the ordered pair (1, 1) was an ordered pair in the function. She believes that the function being described in the table is  $f(x) = x$ . Is she correct? Explain.
2. Explain how to use slope to determine whether a function is a linear function.
3. In a linear function, why is it especially helpful to have 0 as one of the x-values in the table? How does it make writing the linear function easier?
4. Explain how a scatterplot can help determine the function represented in a table of values.
5. The directions for the exercises in this lesson read, "Write **a** function for the input/output table." Could the directions be written as, "Write **the** function for the input/output table?" Why or why not?

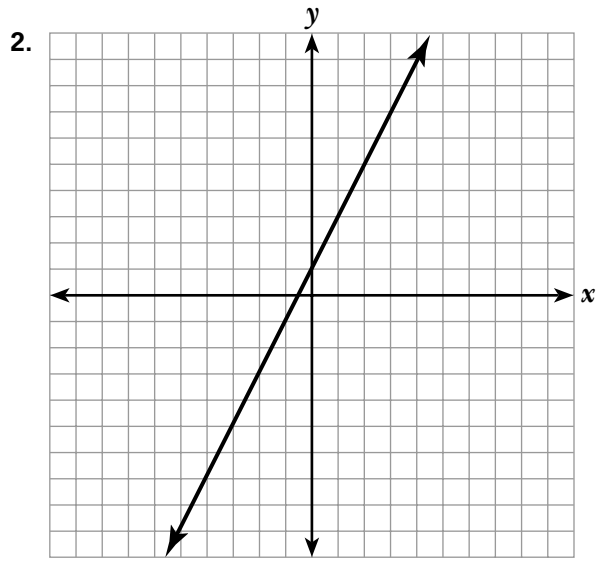
### Cumulative Review

Identify the slope and y-intercept of each line.



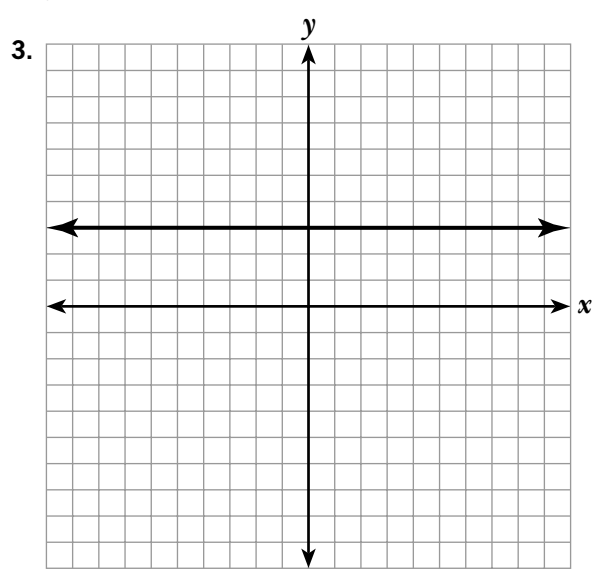
slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_



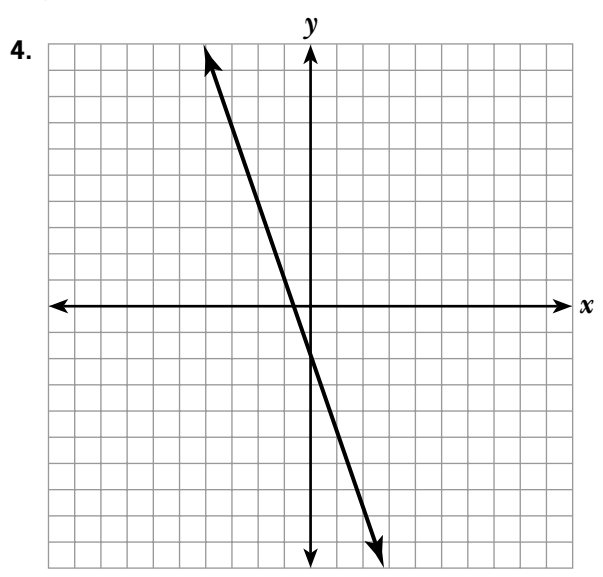
slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_



slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

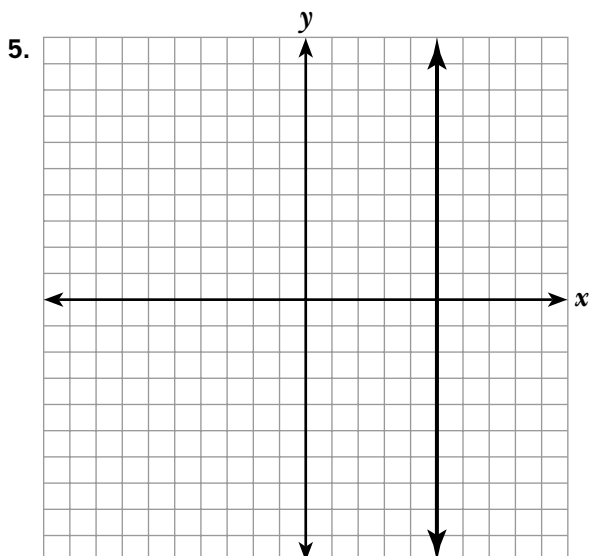


slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

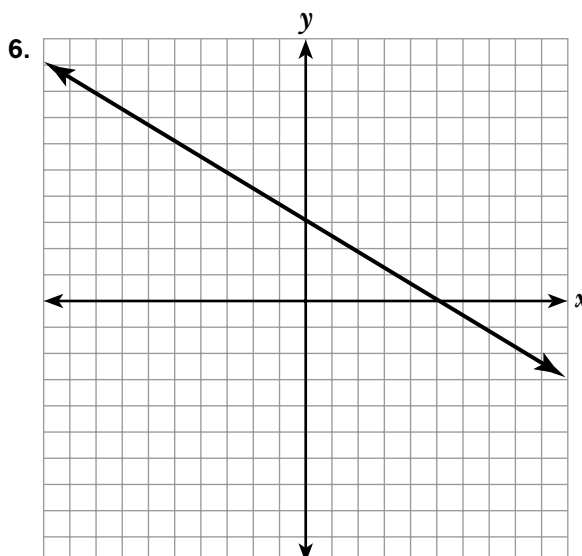
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slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_



slope: \_\_\_\_\_

y-intercept: \_\_\_\_\_

**For each exercise, write the equation of the line in slope-intercept form.**

7. slope: 2  
y-intercept: (0, -3)

\_\_\_\_\_

8. slope:  $\frac{2}{3}$   
y-intercept: (0, 4)

\_\_\_\_\_

9. passing through (-2, 3) and (2, 1)

\_\_\_\_\_

10. passing through (3, 5) and parallel to the line  $y = -x + 4$

\_\_\_\_\_

