

## Lesson 4.3 Functions and Linear Relationships

Find the relationship for each function table and then complete the table.

**a****b**

1.

x	y
2	11
3	18
5	
10	

Function: \_\_\_\_\_

x	y
8	
12	5
24	8
48	

Function: \_\_\_\_\_

2.

x	y
15	
20	7
40	11
50	

Function: \_\_\_\_\_

x	y
1	
2	
4	40
10	106

Function: \_\_\_\_\_

3.

x	y
2	2
6	18
7	
12	

Function: \_\_\_\_\_

x	y
14	
28	8
56	12
63	

Function: \_\_\_\_\_

4.

x	y
4	10
6	
9	15
12	

Function: \_\_\_\_\_

x	y
0	1
3	
6	3
9	

Function: \_\_\_\_\_

## Lesson 4.4 Functions and Nonlinear Relationships

Not all function tables represent a linear relationship. If the rate of change, or slope, is not constant, then the function does not represent a linear relationship.

Test the rate of change in a function table by using the slope formula,  $\frac{y_2 - y_1}{x_2 - x_1}$ , across multiple points on the table.

### Linear Relationship

x	y	Rate
1	217	217
2	434	
3	651	217
4	868	

### Nonlinear Relationship

x	y	Rate
-1	0	-5
0	-5	
1	-8	-1
2	-9	

Find the rate of change, or slope, for points on the function table and decide if it represents a linear or nonlinear relationship.

- a**
1. 

x	y	Rate
-10	-10	
-5	-7	
0	-4	
5	-1	

 Relationship: \_\_\_\_\_
2. 

x	y	Rate
0	2	
1	4	
2	10	
3	28	

 Relationship: \_\_\_\_\_
3. 

x	y	Rate
10	327	
20	342	
30	357	
40	372	

 Relationship: \_\_\_\_\_
- b**
- Relationship: \_\_\_\_\_
- | x  | y   | Rate |
|----|-----|------|
| -3 | -15 |      |
| 1  | -8  |      |
| 5  | -1  |      |
| 9  | 6   |      |
- Relationship: \_\_\_\_\_
- Relationship: \_\_\_\_\_
- | x | y | Rate |
|---|---|------|
| 1 | 6 |      |
| 2 | 5 |      |
| 3 | 4 |      |
| 4 | 5 |      |
- Relationship: \_\_\_\_\_
- Relationship: \_\_\_\_\_
- | x | y       | Rate |
|---|---------|------|
| 0 | 100,000 |      |
| 1 | 102,000 |      |
| 2 | 104,040 |      |
| 3 | 106,120 |      |
- Relationship: \_\_\_\_\_
- Relationship: \_\_\_\_\_