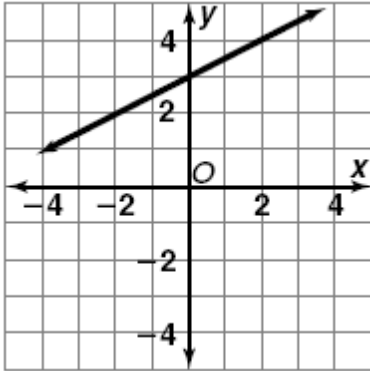


# Find and Use Slopes of Lines

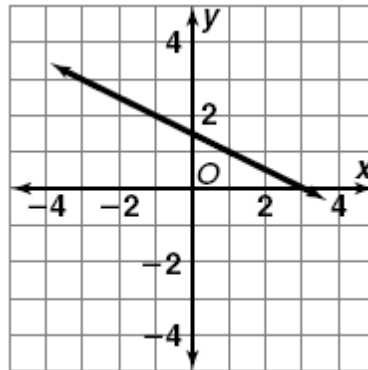
## Guided Notes: Teacher Edition

The rate of change in a linear relationship is known as **slope**. This measure of steepness is one of the most important properties of a straight line.

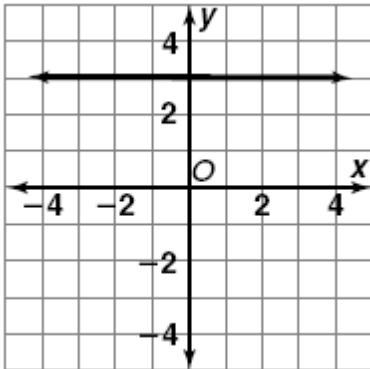
Lines with an increasing rate of change have a **positive** slope:



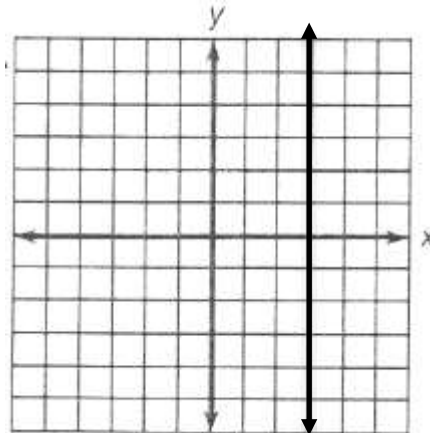
Lines with a decreasing rate of change has a **negative** slope:



Lines with a constant rate of change have **zero** slope:



Vertical lines have an **undefined** slope.



A. What do the coordinates of lines with zero slope have in common?

B. What do the coordinates of lines with an undefined slope have in common?

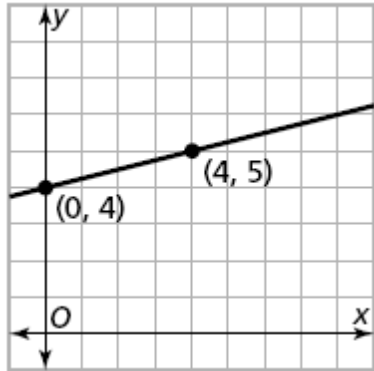
# Find and Use Slopes of Lines

## Guided Notes: Teacher Edition

### I. Slope from Graphs

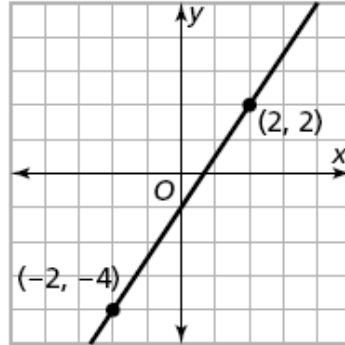
Identify the slope for each graph below.

1.



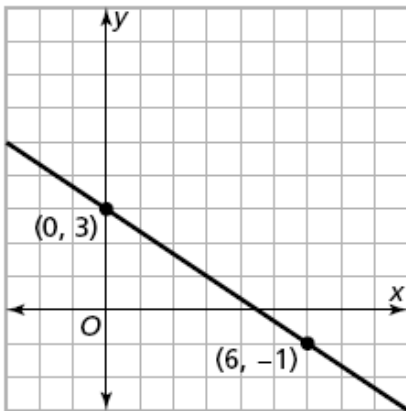
Slope = \_\_\_\_\_

2.



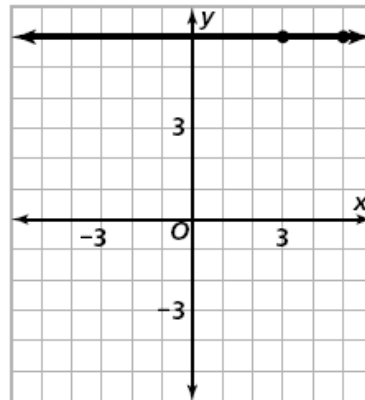
Slope = \_\_\_\_\_

3.



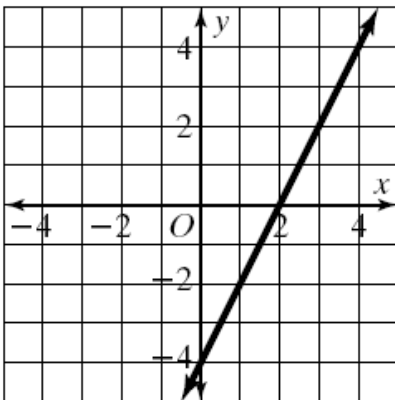
Slope = \_\_\_\_\_

4.



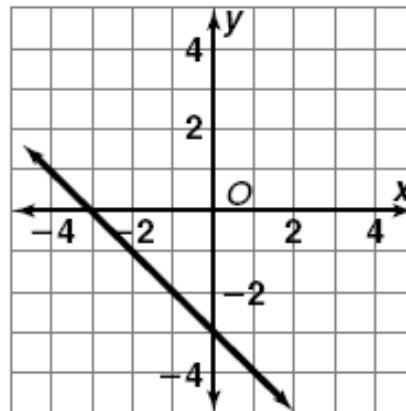
Slope = \_\_\_\_\_

5.



Slope = \_\_\_\_\_

6.



Slope = \_\_\_\_\_

### II. Slope from Tables

# Find and Use Slopes of Lines

## Guided Notes: Teacher Edition

Identify the slope for each table below.

7. \_\_\_\_\_

X	Y
-1	-3
2	3
4	7
8	15
10	19

8. \_\_\_\_\_

X	Y
-2	7
-1	4
0	1
1	-2
2	-5

9. \_\_\_\_\_

X	Y
-2	3
-1	3
0	3
1	3
2	3

10. \_\_\_\_\_

X	Y
-3	11
1	9
3	8
7	6
9	5

### III. Slope from Two Points

Identify the slope from the points below.

11. (1, -3) and (4, 2)

12. (7, 2) and (-1, 2)

13. (0, 3) and (6, 6)

### IV. Slope from Equations

Identify the slope for each equation

14.  $y = 4x - 6$

Slope: \_\_\_\_\_

15.  $y = -4$

Slope: \_\_\_\_\_

16.  $y = 6 + \frac{1}{2}x$

Slope: \_\_\_\_\_

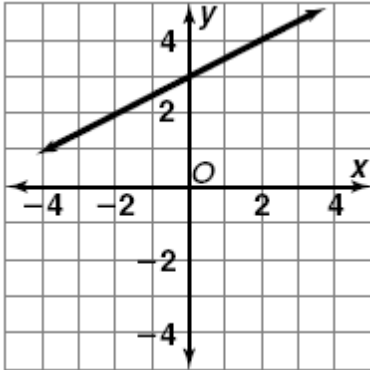
# Find and Use Slopes of Lines

Guided Notes: Teacher Edition

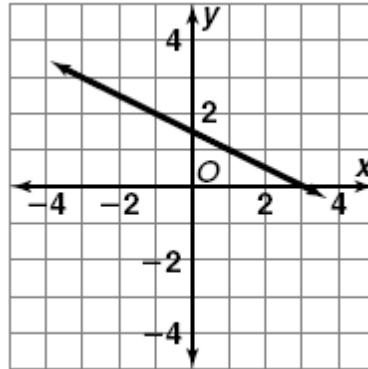
## Slope Answer Key

The rate of change in a linear relationship is known as **slope**. This measure of steepness is one of the most important properties of a straight line.

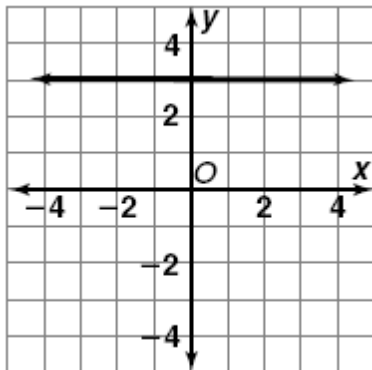
Lines with an increasing rate of change have a **positive** slope:



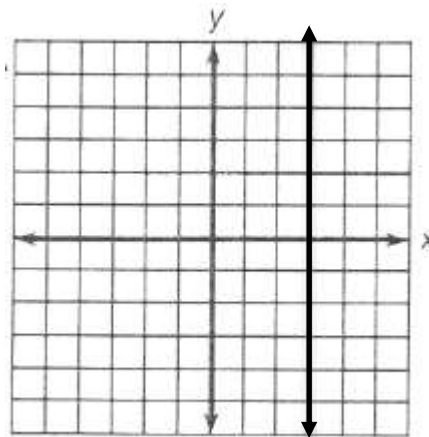
Lines with a decreasing rate of change has a **negative** slope:



Lines with a constant rate of change have **zero** slope:



Vertical lines have an **undefined** slope.



A. What do the coordinates of lines with zero slope have in common?

All the **y-coordinates** have the same value.

B. What do the coordinates of lines with an undefined slope have in common?

All the **x-coordinates** have the same value.

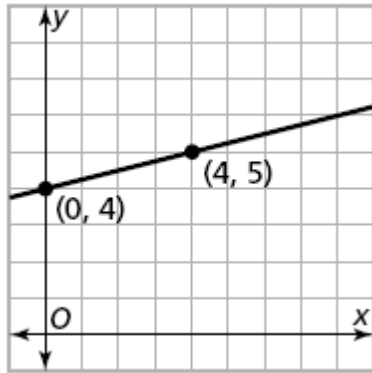
# Find and Use Slopes of Lines

## Guided Notes: Teacher Edition

### I. Slope from Graphs

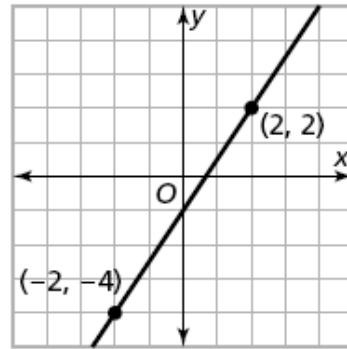
Identify the slope for each graph below.

1.



Slope =  $\frac{1}{4}$

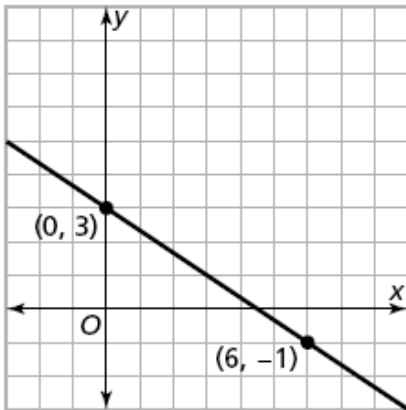
2.



Slope =  $\frac{3}{2}$

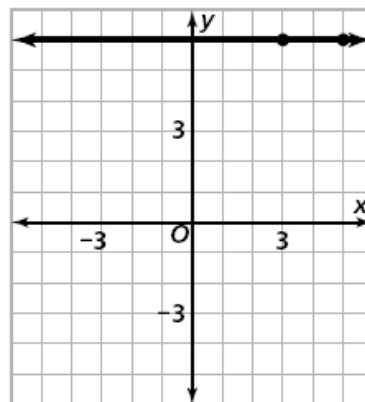
Students may choose  $\frac{6}{4}$ . Help students to see that  $\frac{6}{4}$  is two steps of  $\frac{3}{2}$ .

3.



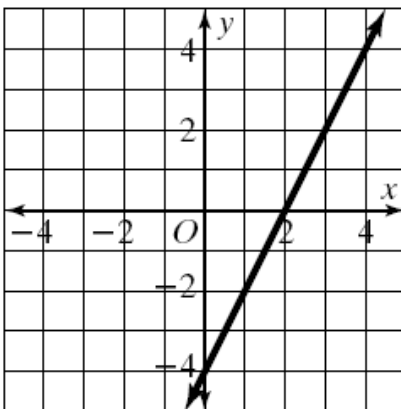
Slope =  $-\frac{4}{5}$

4.



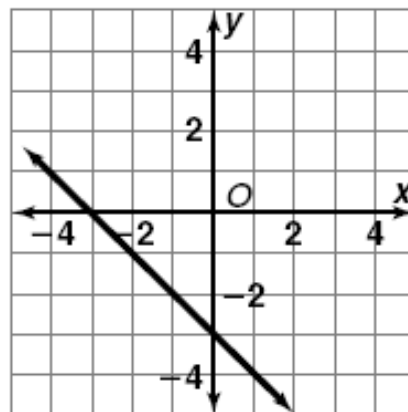
Slope = zero

5.



Slope = 2

6.



Slope = -1

# Find and Use Slopes of Lines

## Guided Notes: Teacher Edition

### II. Slope from Tables

Identify the slope for each table below.

7. 3

X	Y
-1	-3
2	3
4	7
8	15
10	19

8. -3

X	Y
-2	7
-1	4
0	1
1	-2
2	-5

9. 0

X	Y
-2	3
-1	3
0	3
1	3
2	3

10.  $-\frac{1}{2}$

X	Y
-3	11
1	9
3	8
7	6
9	5

### III. Slope from Two Points

Identify the slope from the points below.

11. (1, -3) and (4, 2)

X	Y
1	-3
4	2
The distance between -3 and 2 is 5; the distance between 1 and 4 is 3. The slope is $\frac{5}{3}$	

12. (7, 2) and (-1, 2)

X	Y
7	2
-1	2
The distance between 2 and 2 is 0; the distance between 7 and -1 is -8. The slope is $\frac{0}{-8}$ or zero	

13. (0, 3) and (6, 6)

X	Y
0	3
6	6
The distance between 3 and 6 is 3; the distance between 0 and 6 is 6. The slope is $\frac{3}{6}$ or $\frac{1}{2}$ .	

### IV. Slope from Equations

Identify the slope for each equation

14.  $y = 4x - 6$

Slope: 4

15.  $y = -4$

Slope: 0

16.  $y = 6 - \frac{1}{2}x$

Slope:  $-\frac{1}{2}$