

# Linear Tables

Directions: Find the slope and y-intercept of each table below. Then write an equation for the line.

$y = mx + b$

m is the slope

b is the y-intercept

Examples:

1.

X	y
0	6
1	9
2	12
3	15
4	18

Slope = 3

y-intercept = (0, 6)

Equation:  $y = 3x + 6$

2.

X	y
0	23
2	17
4	11
6	5
8	-1

Slope = -3

y-intercept = (0, 23)

Equation:  $y = -3x + 23$

Now you try...

4.

X	y
-6	-12
-3	-10
0	-8
3	-6
6	-4

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

y-intercept = (0, -8)

Equation:  $y = \frac{2}{3}x - 8$

5.

X	y
-10	1
-6	0
-2	-1
2	-2
6	-3

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

y-intercept =  $(0, \frac{3}{2})$

Equation:  $y = -\frac{1}{4}x + \frac{3}{2}$

6.

x	y
8	20
12	22
16	24
20	26
24	28

Slope =  $\frac{1}{2}$

y-intercept = (0, 16)

Equation:  $y = \frac{1}{2}x + 16$

7.

x	y
-3	-3
-2	-1
-1	1
0	3
1	5

Slope = 2

y-intercept = (0, 3)

Equation:  $y = 2x + 3$

8.

X	y
-8	5
-4	6
0	7
4	8
8	9

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

y-intercept = (0, 7)

Equation:  $y = \frac{1}{4}x + 7$

9.

X	y
-9	6
-6	4
-3	2
0	0
3	-2

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

y-intercept = (0, 0)

Equation:  $y = -\frac{2}{3}x$

10.

X	-4	-2	0	2	4
Y	30	25	20	15	10

slope =  $-\frac{5}{2}$

y-intercept = (0, 20)

Equation:  $y = -\frac{5}{2}x + 20$

slope = -3

y-intercept = (0, 9)

Equation:  $y = -3x + 9$

11.

x	4	5	6	7	8
y	-3	-6	-9	-12	-15

$-6 = -3(5) + b$  I used (5, -6)

$-6 = -15 + b$

+15 +15

$b = 9$

9. To find the slope from a table, do you only have to find the change in the y values? Why or why not?

NO; you have to find the change in y's divided by the change in x's.

10. How do you find the y-intercept if the table doesn't show the values where  $x = 0$ ?

Substitute the value of the slope, the x-value and y-value from the same ordered pair and solve for b.