

5.1: Write Linear Equations in Slope – intercept form

Goals:

- *Write an equation in slope – intercept form given slope and y – int.
- *Write an equation in slope – intercept form given two points
- *Write an equation in slope – intercept form given two function values

Slope – intercept form:

Situation 1: Write the equation of a line in slope – intercept form if given slope and the y – intercept

Ex:
Slope: -2
y – intercept: 5

Ex:
Slope: 8
y – intercept: -7

Ex:
Slope: 4
y – intercept: -3

Ex:
Slope: $\frac{3}{4}$
y – intercept: -3

Ex:
Slope: 0
y – intercept: 5

Ex:
Slope: -1
y – intercept: 0

Situation 2: Write the equation of a line in slope – intercept form if given two points on the line

1.

Ex: $(0, -5)$ $(3, -1)$

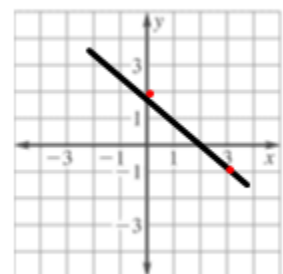
2.

3.

Ex: $(0, 2)$ $(4, -1)$

Ex: $(0, 1)$ $(4, -1)$

Ex:



Situation 3: Write an equation of a line given two function values

1.

Ex: $f(0) = 5$ $f(4) = 17$

2.

3.

4.

Ex: $f(0) = -2$ $f(8) = 4$

Ex: $f(-3) = 6$ $f(0) = 5$

Ex: $f(0) = 7$ $f(3) = 1$

Real – world connection: $y = mx + b$

*In the real world, $m =$
and $b =$

Ex: A recording studio charges musicians an initial fee of \$50 to record an album. Studio time costs an additional \$35 per hour.

a) Write an equation that gives the total cost to record an album as a function of studio time needed.

b) Find the total cost to make an album that takes 10 hours to record.

Ex: A dance studio charges \$20 to use the facility and \$25 per hour of instruction.

a) Write an equation that gives the total cost as a function of hours of dance instruction.

b) Find the total cost for 2 hours of dance instruction.