Algebra I

Notes Section 4.2
Write Linear Equations in Slope-Intercept Form

Big Ideas
1. How to write an equation of a line given slope and a point on the line.
2. How to write an equation of a line given two points on the line.
3. How to use the slope formula to find the slope of a line.
4. How to use the slope and the slope-intercept form to find the y-intercept.

VOCABULARY

Slope-Intercept Form: _____

Slope: _____   Y-intercept: _____

EXAMPLE 1   Write an equation of the line that passes through the given point and has the following slope.

a) (-1, 3) and m = -4   b) (6, 3) and m = -2   c) (-2, 4) and m = 0

EXAMPLE 2   Write an equation of the line that passes through the following **2** points.

a) (-2, 5) and (2, -1)

b) (3, 0) and (2, -4)

c) (2, 3) and (2, -7)

EXAMPLE 3   Find the function that has the values f(4) = 9 and f(-4) = -7.

EXAMPLE 4   Your gym membership costs $33 per month after an initial membership fee. You paid a total of $228 after 6 months. Write and equation that gives the total cost as a function of the length of your gym membership (in months). Find the total cost after 9 months.

EXAMPLE 5   In BMX racing, racers purchase a one year membership to a track. They also pay an entry fee for each race at that track. One racer paid a total of $125 after 5 races. A second racer paid a total of $170 after 8 races. How much does the track membership cost? What is the entry fee per race?