Equations of Lines-Part 1

1. Find the equation of a line given the slope and y-intercept.
2. Find the equation of a line given the slope and a point.

Find the equation of the line with the given information. Write answers in slope-intercept form, if possible.

You will need to know 2 formulas:

    1.   Slope-intercept formula: $y = mx + b$

    2.   Point-Slope formula. $y - y_1 = m(x - x_1)$

Ex. #1: $m = \dfrac{2}{5}$; y-intercept $= -5$ Ex. #2: $m = 0$; y-intercept $= -\dfrac{1}{2}$

Find an equation of a line given a slope and a point:
    Use the Point-Slope Formula: $y - y_1 = m(x - x_1)$
    $m =$ slope   Point (x_1, y_1)

Ex. #3: $m = 5$; through $(-2, 1)$ Ex. #4: $m = -\dfrac{3}{5}$; through $(-4, -2)$

Extra Practice: $m = \dfrac{2}{3}$; through $(4,-1)$

Horizontal	Vertical
Equation: $y =$ number $m = 0$ only has a y-intercept	Equation: $x =$ number m is undefined only has an x-intercept

Ex. #5: $m = 0$;   through $(-5,3)$ Ex. #6: m is undefined; through $(-2,-7)$