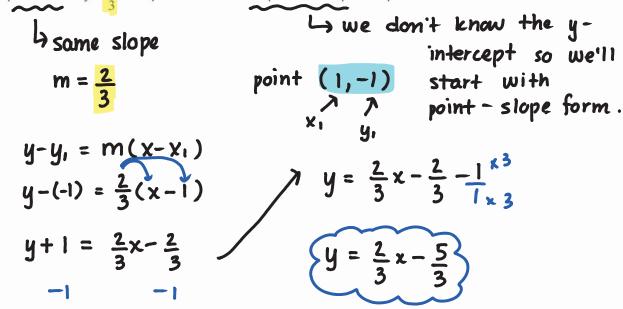
6.5 Slope-Point Form of the Equation for a Linear Function – Part2

Example 1: Write the equation of the line that passes through the point (1, -1) and is:

a) Parellel to $y = \frac{2}{3}x - 5$ (write answer in slope - intercept form)



b) **Perpendicular** to $y = \frac{2}{3}x - 5$ (write answer in slope - intercept form)

L'slope is negative reciprocal

$$m = \frac{2}{3} \rightarrow m_{\perp} = -\frac{3}{2}$$

use (1,-1) like in part (a)

$$y-(-1)=-\frac{3}{2}(x-1)$$

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

$$y = -\frac{3}{2}x + \frac{3}{2} - \frac{1}{1}x^{2}$$

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

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Example 2: Find the equation of the line which has an x-intercept of 3, and is:

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a) Parellel to y = 3x + 5 (write answer in slope - intercept form)

$$y-y_1 = m(x-x_1)$$

$$y-0=3(x-3)$$

$$y = 3x - 9$$

b) **Perpendicular** to y = 3x + 5 (write answer in slope - intercept form)

Li slope must be negative reciprocal

$$m = \frac{3}{1} \longrightarrow m_{\perp} = -\frac{1}{3}$$

use (3,0) from
part (a)

$$y-0 = \frac{1}{3}(x-3)$$

$$y = -\frac{1}{3}x - 3\left(-\frac{1}{3}\right)$$

$$y = -\frac{1}{3}x + 1$$

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