


Look at $\frac{\text{rise}}{\text{run}}$ as

$\frac{\text{the change in the } y\text{'s}}{\text{the change in the } x\text{'s}}$


$= \frac{3 - (-1)}{4 - (-2)} = \frac{4}{6} = \frac{2}{3}$

Unit 5: Linear Equations



5.6 Writing Equations in $y=mx+b$ Form

Class Ex. #1




Write the equation of a line passing through the point $(0, 2)$ with slope $\frac{5}{2}$.

$y = mx + b$

$y = \frac{5}{2}x + 2$ $y\text{-int: } b$

~~$y = \frac{5}{2}x + 2$~~
 $y = \frac{5x}{2} + 2$

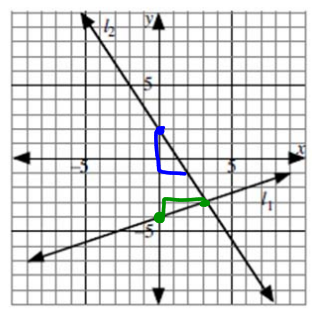
Class Ex. #2



Each line on the grid passes through points with integer coordinates. In each case, state the slope and y -intercept of the line, and determine the equation of the line.

$l_1: b = -4$
 $m = \frac{1}{3}$
 $y = \frac{1}{3}x - 4$

$l_2: b = 2$
 $m = -\frac{3}{2}$
 $y = -\frac{3}{2}x + 2$




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Unit 5: Linear Equations



Ex.) Determine the equation of the following lines:

a) the line perpendicular to $y = \frac{1}{3}x + 7$ and with the same y -intercept as $y = \frac{1}{3}x + 7$

$m = \frac{1}{3}$ $m_{\perp} = -3$ $b = 7$

$y = -3x + 7$

b) the line passing through $(0, 9)$ and parallel to the line joining $(2, -6)$ and $(-5, 0)$

$b = 9$

$y = -\frac{6}{7}x + 9$

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - (-6)}{-5 - 2}$

$= \frac{6}{-7} = -\frac{6}{7}$

$= -\frac{6}{7}$