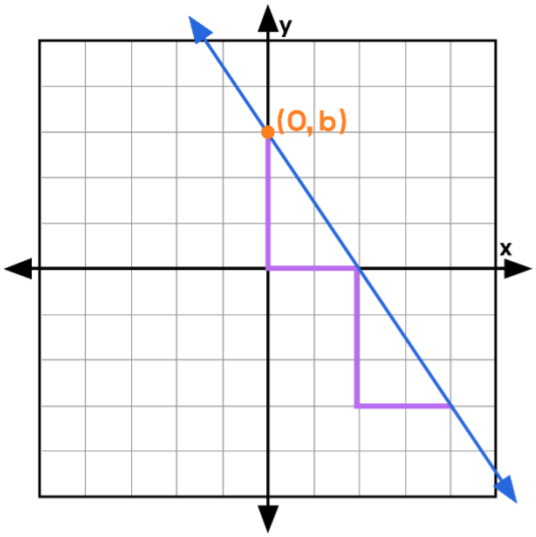
LINEAR EQUATIONS: GUIDED NOTES

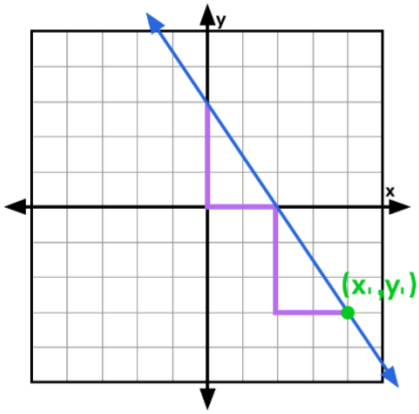
Slope-Intercept Form: $y = mx + b$



b = y - intercept; the point where the line crosses the y - axis

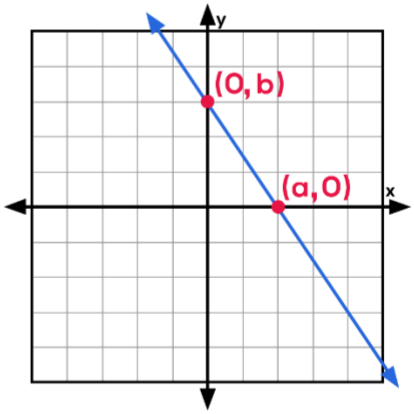
m = Slope = $\frac{\text{rise}}{\text{run}} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$

Point - Slope Form: $y - y_1 = m(x + x_1)$



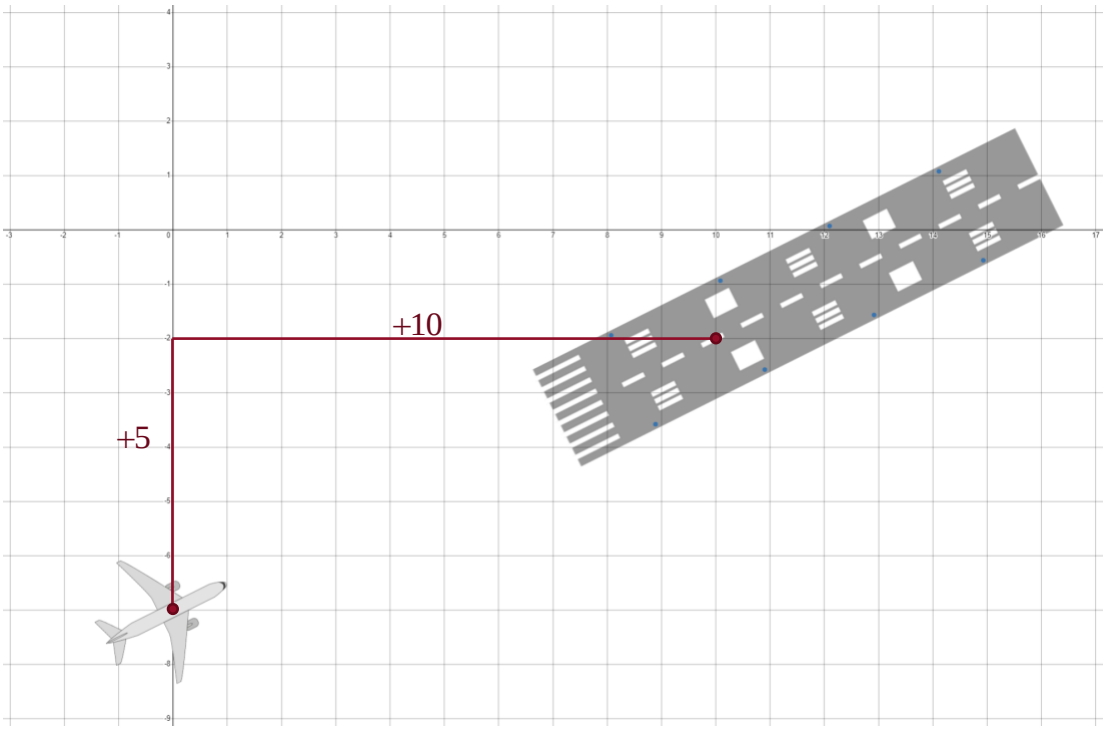
m = slope
(x_1, y_1) = any point on the line

Standard Form: $Ax + By = C$, where A, B, C are integers



most user-friendly form when working with x- and y- intercepts

Screen 9

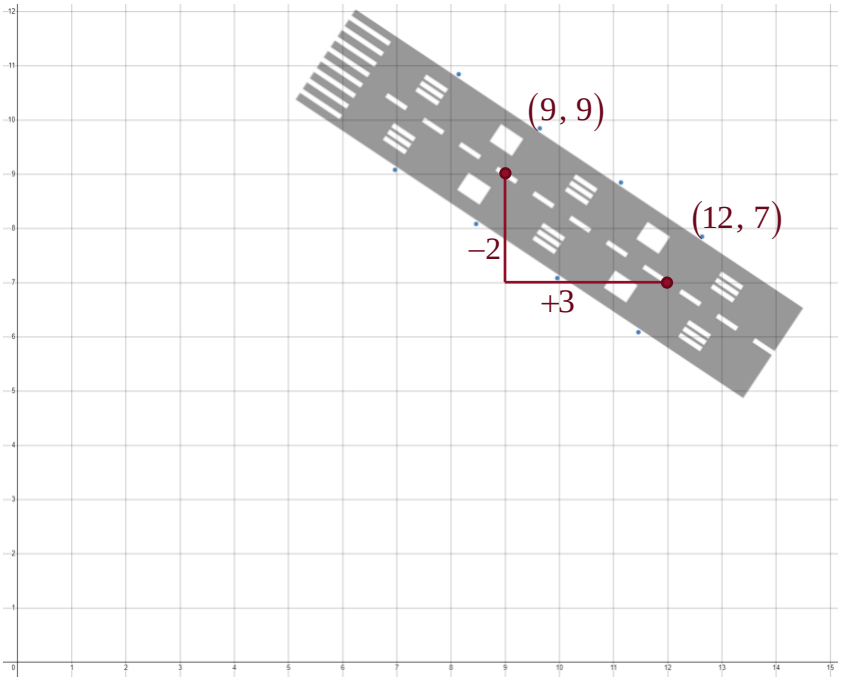


$$m = \frac{+5}{+10} = \frac{1}{2}$$

$$b = -7$$

$$y = \frac{1}{2}x - 7$$

Screen 10



$$m = \frac{-2}{+3} = -\frac{2}{3}$$

$$(x_1, y_1) = (12, 7)$$

$$y - 7 = -\frac{2}{3}(x - 12)$$

$$y - 7 = -\frac{2}{3}x + 8$$

$$y = -\frac{2}{3}x + 15$$