Linear Equation

(Slope-Intercept Form)

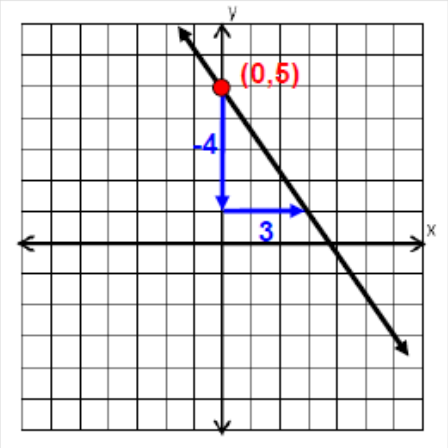
$$y = mx + b$$

(slope is m and y-intercept is b)

Example: $y = \frac{-4}{3}x + 5$

$m = \frac{-4}{3}$

$b = 5$



Linear Equation

(Point-Slope Form)

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

where m is the slope and (x_1, y_1) is the point

Example:
Write an equation for the line that passes through the point $(-4,1)$ and has a slope of 2.

$$y - 1 = 2(x - -4)$$
$$y - 1 = 2(x + 4)$$
$$y = 2x + 9$$

Linear Equation

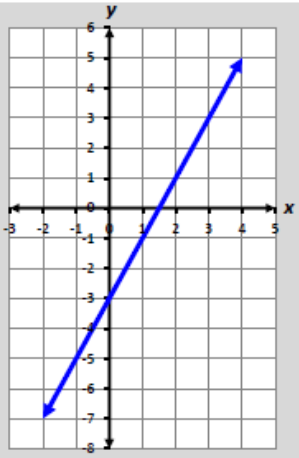
(Standard Form)

$$Ax + By = C$$

(A, B and C are integers; A and B cannot both equal zero)

Example:

$-2x + y = -3$



The graph of the linear equation is a straight line and represents all solutions (x, y) of the equation.

Equivalent Forms of a Linear Equation

Forms of a Linear Equation	$3y = 6 - 4x$
Slope-Intercept	$y = -\frac{4}{3}x + 2$
Point-Slope	$y - (-2) = -\frac{4}{3}(x - 3)$
Standard	$4x + 3y = 6$