

Equations of a Line

Standard Form:

$$Ax + By = C$$

where A and B are not both zero

Slope-Intercept Form:

$$y = mx + b$$

where m = slope and b = y -intercept

Point-Slope Form:

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

where m = slope and (x_1, y_1) is a point on the line

Slopes and Equations:

$$m = \frac{\textit{vertical change}}{\textit{horizontal change}} = \frac{y_2 - y_1}{x_2 - x_1}.$$

$$y = mx + b \text{ slope-intercept}$$

$$y - y_1 = m(x - x_1) \text{ point-slope}$$