Slope-Intercept Form

$y = mx + b$

m ↑ Slope b ↑ y-Intercept

y-Intercept is the y-coordinate of a point where the graph crosses the y-axis.

① What is an equation of the line with slope $-\frac{2}{3}$ and y-Int. 10?

$y = -\frac{2}{3}x + 10$

② What equation in slope-intercept form represents the line that passes through (3, -2) and (1, -3)?

$m = \frac{y_2 - y_1}{x_2 - x_1}$

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

$= \frac{-1}{-2} = \frac{1}{2}$

$y = mx + b$

$y = \frac{1}{2}x + b$

$-2 = \frac{1}{2}(3) + b$

$-2 = 1\frac{1}{2} + b$

$-1\frac{1}{2} \quad -1\frac{1}{2}$

$-3\frac{1}{2} = b$

$-\frac{7}{2} = b$

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

③ Graph $y = -2x + 3$