Using the Slope-Intercept Form to Graph a Line

1. Use \( y = mx + b \) (slope-intercept form) to find the \( y \)-intercept, \( b \), and slope, \( m \).

2. Plot the \( y \)-intercept on your graph by finding the \( y \)-intercept, \( b \), on the \( y \)-axis.

3. Use the slope, \( m \), to find and plot the rise over run on the graph.

   **EX 1:** If \( m = \frac{3}{4} \), start at the point of the \( y \)-intercept and move up 3 (rise). Because the slope is positive you move up the \( y \)-axis. Then move to the right 4 (run). Plot your 2\(^{nd} \) point at that spot. The slope, \( m = \frac{3}{4} \) so the rise is 3 and the run is 4.

   **EX 2:** If \( m = -2 \), start at the point of the \( y \)-intercept and move down 2 (rise). Because the slope is negative you move down the \( y \)-axis. Then move to the right 1 (run). Plot your 2\(^{nd} \) point at that spot. The slope, \( m = -2 \) = \( \frac{-2}{1} \) so the rise is -2 and the run is 1.

4. Use a straightedge to line up both the points and draw a line with arrows on both ends.