

EQUATIONS OF A LINE

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

- ▶ m is the slope (think m for mountain)
- ▶ b is the y -intercept
- ▶ $(0, b)$ is a good point to start graphing the line

This is the MOST useful format

Standard Form: $ax + by = c$

- ▶ a and b must be integers, a must be positive
 - ▶ turn it into slope intercept by subtracting ax from both sides, then dividing everything by b
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Point-Slope Form: $(y - y_1) = m(x - x_1)$

- ▶ m is slope
- ▶ x_1 and y_1 are coordinates for a given point
- ▶ Use point-slope for problems like this:

Given the line $2x - 3y = 9$ and the point $(4, -1)$, find lines through the point that are:

- parallel to the given line and
- perpendicular to it.