FIBO · CHEAT SHEET

The Equation of a Line: Three Forms, One Line

Unit 7 · Linear Functions — the whole lesson on one page. Keep it in your binder.

🖼️ Key picture

$y = mx + b$

m = slope · b = y-intercept

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

plug in a point (x_1, y_1) and the slope **m**

$Ax + By = C$

A, B, C are integers — handy for finding intercepts

Slope-intercept shows **m** and **b**; point-slope starts from a point; standard form keeps everything integer.

📌 Key points

- $y = mx + b$ — **slope** × x plus **y-intercept**; best for graphing
- $y - y_1 = m(x - x_1)$ — one point + slope; substitute *signed* values
- $Ax + By = C$ — integers, $A \geq 0$; set x = 0 for the y-intercept, y = 0 for the x-intercept
- Convert slope-intercept → standard: move the x-term left (it flips sign)
- **b** is a number; (0, **b**) is the point
- Real world: total = (rate)(amount) + (starting fee) — phone, taxi, gym

💡 **One-line pointer:** worked examples, application problems, and blank workspaces live in the companion **equation-of-a-line-lecture.pdf**.