I. Function Arithmetic (p.128):
\[ [f \pm g](x) = f(x) \pm g(x) \]
\[ [f \cdot g](x) = f(x) \times g(x) \]
\[ [f \div g](x) = f(x) \div g(x) \]

II. Domain ~ permitted set of \( x \)-values
set of Real Numbers or subset (avoid \( \div 0 \))

III. Examples (pp.132-133): Exercises #8, 10, 16, 22, 40

HW: pp.132-133 / Exercises #3-51 (every other odd)
I. \( x \)- and \( y \)-intercepts of a line...

...to find these two points...

Let \( x = 0 \) in the equation, solve for \( y = b \), then let \( y = 0 \) in the equation, solve for \( x = a \).

\[
\begin{array}{c|c}
\text{\( x \)} & \text{\( y \)} \\
0 & b \\
a & 0 \\
\end{array}
\]

II. Slope of a line (p. 138): quantitative measure of how steep a line is tilted, usually denoted “\( m \)”

For any two points on a line, \( P_1(x_1, y_1) \) & \( P_2(x_2, y_2) \)...

\[
m = \frac{y_2 - y_1}{x_2 - x_1}
\]

\( \triangleright \) “rise” (vertical change) over the “run” (horizontal change)
III. Equation Forms of a Line:
   1. $y = mx + b$  \hspace{1cm} \text{slope-intercept form}
   2. $Ax + By = C$  \hspace{1cm} \text{standard form}

IV. Examples (p.151): Exercise #4

HW: p.151 / Exercises #7,11,15
Read pp.136-150 (section 2.4)