

## Practice Isolating "y"

①  $2x + 5y = 10$

$$\frac{5y}{5} = \frac{-2x + 10}{5}$$

$$y = -\frac{2}{5}x + 2$$

$$m = -\frac{2}{5} \quad b = 2$$

Y must be alone

$$y = \boxed{m}x + b$$

↑  
slope is in front of x

②  $\frac{1}{2}x + 2y = 4$

$$\frac{2y}{2} = \frac{-\frac{1}{2}x + 4}{2}$$

$$-\frac{1}{2} \div \frac{2}{1} = -\frac{1}{2} \cdot \frac{1}{2} = -\frac{1}{4}$$

$$y = -\frac{1}{4}x + 2$$

$$m = -\frac{1}{4} \quad b = 2$$

$$3. \quad 6x - 3y - 3 = 0$$

$$\frac{-3y}{-3} = \frac{-6x + 3}{-3}$$

$$y = 2x - 1$$

$$m = 2$$

$$b = -1$$

$$4. \quad x - 4y = 0$$

$$\frac{-4y}{-4} = \frac{-1x}{-4}$$

$$y = \frac{1}{4}x$$

$$m = \frac{1}{4}$$

$$b = 0$$

5.

$$\frac{1}{4}x + \frac{1}{2}y - 2 = 0$$

$$\frac{2}{1} \left[ \frac{1}{2}y \right] = \frac{2}{1} \left( -\frac{1}{4}x + 2 \right)$$

Whenever there's  
a fraction in front  
of  $y$ , multiply everything  
by its FLIP.

$$y = \frac{-2}{4}x + 4$$

$$y = \frac{-1}{2}x + 4$$

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

$$b = 4$$

⑥

$$3x + \frac{2}{3}y = 5$$

$$\frac{3}{2} \left( \frac{2}{3}y \right) = \frac{3}{2} \left( -\frac{3}{1}x + \frac{5}{1} \right)$$

$$y = -\frac{9}{2}x + \frac{15}{2}$$

↑  
Leave as improper  
fraction for slope

↑ If you want  
 $\frac{15}{2}$  : improper  
fraction

(shows:

$\frac{\text{rise}}{\text{run}}$  ratio !!!)

$7\frac{1}{2}$  : mixed  
number

7.5 : decimal

$$7. \quad \frac{x}{4} + \frac{y}{3} = \frac{1}{2}$$

$$\frac{1}{4}x + \frac{1}{3}y = \frac{1}{2}$$

$$\frac{-3}{-1} \left( \frac{1}{3}y \right) = \frac{-3}{-1} \left( -\frac{1}{4}x + \frac{1}{2} \right)$$

$$y = -\frac{3}{4}x + \frac{3}{2}$$

$$m = -\frac{3}{4} \quad b = \frac{3}{2}$$

8.

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

$$\frac{-2}{-1} \left( -\frac{1}{2}y \right) = \frac{-2}{-1} \left( 2x + \frac{2}{3} \right)$$

$$y = -4x - \frac{4}{3}$$

$$m = -4$$

$$b = -\frac{4}{3}$$

$$\textcircled{9} \quad \frac{1}{5}x - 2 = \frac{4}{5}y$$

$$-\frac{5}{4} \left( -\frac{4}{5}y \right) = -\frac{5}{4} \left( \frac{1}{5}x + 2 \right)$$

$$y = \frac{5 \div 5}{20 \div 5}x - \frac{10 \div 2}{4 \div 2}$$

$$y = \frac{1}{4}x - \frac{5}{2}$$

$$m = \frac{1}{4}$$

$$b = -\frac{5}{2}$$

$\textcircled{10}$

$$-\frac{x}{3} = -\frac{y}{2} + \frac{1}{4}$$

$$-\frac{2}{2} \left( -\frac{1}{3}y \right) = -\frac{2}{2} \left( -\frac{1}{3}x + \frac{1}{4} \right)$$

$$y = \frac{2}{3}x + \frac{1}{2} \div 2$$

$$y = \frac{2}{3}x + \frac{1}{2}$$

$$m = \frac{2}{3}$$

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