



$$y = mx + b$$

Slope Intercept Form

$$Ax + By = C$$

Standard Form

No fractions

• A positive

A and B both cannot be 0

• x and y on left, constant on right

$$y = mx + b$$

$$y = -4x + 9$$

+4x
+4x

Write in
Standard Form

$$4x + 1y = 9$$

$$Ax + By = C$$

$$Ax + By = C$$

Slope out of Standard Form

$$m = \frac{-A}{B}$$

$$A = 4 \quad B = 1$$

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

$$y = 3x - 5$$

Write in
Standard Form

$$-3x + y = -5$$

$$3x - y = 5$$

Slope $= \frac{A}{B}$

$$m = \frac{+3}{-1}$$

$$m = 3$$

$$-2x - 3y = 6$$

Write in
Standard
Form

$$2x + 3y = -6$$

$$m = -\frac{A}{B} \quad m = -\frac{2}{3}$$

$$2x + 3y = -6$$

$$3y = -\frac{2x}{3} - \frac{6}{3}$$

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

y-intercept out of Standard Form

$$b = \frac{C}{B}$$

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

$$-\frac{2}{3}x \quad -\frac{2}{3}x$$

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

$$3 \cdot \frac{2}{3}x - y^3 = -5^3$$

Multiply by
denominator

$$2x - 3y = -15$$

$$m = -\frac{A}{B} = \frac{-2}{-3}$$

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

$$b = \frac{C}{B} = \frac{-15}{-3} = 5$$

$$y = \frac{3}{5}x - 4$$

$$-\frac{3}{5}x \quad -\frac{3}{5}x$$

$$-5 \cdot -\frac{3}{5}x + y \cdot 5 = -4 \cdot 5$$

$$3x - 5y = 20$$

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

$$\frac{2}{1} \cdot \frac{2}{3}x + \frac{1}{1} \cdot \frac{1}{2}y = 4 \cdot 6 \quad \text{LCD } 6$$

$$4x + 3y = 24$$

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

$$\frac{3}{1} \cdot \frac{3}{4}x - \frac{2}{1} \cdot \frac{2}{3}y = 2 \cdot 12 \quad \text{LCD } 12$$

$$9x - 8y = 24$$

$$\frac{12}{1} \cdot \frac{3}{4} = \frac{36}{4} = 9$$

$$\frac{3}{1} \cdot \frac{3}{4} = 9$$

$$x = 7$$

Write in
Standard Form

$$Ax + By = C$$

$$x - 3 = 0$$

$$x = 3$$

$$y = 2$$

$$Ax + By = C$$

$$0x + 1y = 2$$

$$y = 2$$

$$b = x + 2y$$

$$x + 2y = b$$

Symmetric
Property

$$2x + 4y - 1 = 0$$

$$2x + 4y = 1$$

$$2x - y + 3x + 6 = 8$$

$$5x - y + 6 = 8$$

Combine
like
Terms

$$5x - y = 2$$

$$m = -\frac{A}{B}$$

$$m = \frac{-5}{-1}$$

$$m = 5$$

$$b = \frac{C}{B} = \frac{2}{-1}$$

$$b = -2$$

$$y = 5x - 2$$

p256

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