Day 4 *Rearranging a Line in Standard Form to y=mx+b form*

The form of a linear equation that we have focused on so far is the slope y-intercept form:

$y = mx + b$

m → slope
b → y-intercept

Another form of a linear equation that is used is called the Standard Form. Standard form of a linear equation is:

→ $Ax + By + C = 0$

- A, B, C are integers (no fractions!)
- A & B are not **both** equal to zero
- Right Side of Equation equals Zero!
- The coefficient on the x term is positive.

Example 1: Which equations are in standard form?

a) $3x - 4y - 3 = 0$

Yes

b) $y = 2x - 3$

No.

c) $2y + 5x - 7 = 0$

No.

d) $0 = 3x - y + 1$

No.

e) $x - 2 = 0$

Yes.

f) $y + \frac{7}{2} = 0$

fraction

No.

Example 2: Express each equation in y=mx+b form. State the slope and y-intercept:

a) $4x + 6y + 8 = 0$

$\frac{6y}{6} = \frac{-4x}{6} - \frac{8}{6}$

$y = -\frac{4}{6}x - \frac{8}{6}$

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

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

b) $10x - 2y - 6 = 0$

$\frac{-2y}{-2} = \frac{-10x}{-2} + \frac{6}{-2}$

$y = 5x - 3$

$m = 5 \quad b = -3$

c) $7x - 7y + 14 = 0$

$\frac{-7y}{-7} = \frac{-7x}{-7} - \frac{14}{-7}$

$y = 1x + 2$

$y = x + 2$

$m = 1 \quad b = 2$

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