REMEMBER!

$3x - 5 = 13$ *What do you do first?*

$+5 \quad +5$

Okay, if you can move a # , can you move a variable (to the other side)? Yes

$30 - 5x = 10x$

$+5x \quad +5x$

$30 = 15x$

Don't forget about the Commutative **Property:** it allows you to reorder the terms of an expression or equation involving + or x .

Be careful...this tends to cause some difficulty:

$-1y = \frac{-2}{3}x + 7$ *solve completely for y* *(Remember -a means -1 a)*

$\frac{-1y}{-1} = \frac{\frac{-2}{3}x}{-1} + \frac{7}{-1}$

$y = \frac{2}{3}x - 7$

Notes: Rewriting Linear Equations in Slope-Intercept Form

$$y = mx + b$$

To write equations in slope-intercept form you need to solve for y, just like you would solve for a variable in normal two-step equations (railroad tracks).

- Solve for y using inverse operations and the properties of equality
- Rearrange the terms to get equation in slope intercept form

Examples:

1. $y = 8 - 5x$

Commutative property to reorder

$y = -5x + 8$

2. $-3x + y = 7$

$+3x \quad +3x$

$y = 3x + 7$

3. $4x + 2y = 12$

$-4x \quad -4x$

$\frac{2y}{2} = \frac{-4x}{2} + \frac{12}{2}$

$y = -2x + 6$

4. $6x - 2y = 18$

$-6x \quad -6x$

$\frac{-2y}{-2} = \frac{-6x}{-2} + \frac{18}{-2}$

$y = 3x + -9$

5. $7x + 8y = 16$

$-7x \quad -7x$

$\frac{8y}{8} = \frac{-7x}{8} + \frac{16}{8}$

$y = -\frac{7}{8}x + 2$

6. $-5x + 3y = 12$

$+5x \quad +5x$

$\frac{3y}{3} = \frac{5x}{3} + \frac{12}{3}$

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

7. $5x - 2y = 10$

$-5x \quad -5x$

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

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

8. $x - 2y = 16$

$-x \quad -x$

$\frac{-2y}{-2} = \frac{-x}{-2} - \frac{16}{-2}$

$y = \frac{1}{2}x + 8$