Bell Ringer - Write the equation of the line in point-slope form that passes through points (-18 , 8) and (-11 , 19)

Writing Linear Equations in Standard Form

Standard Form: $Ax + By = C$

* *A*, *B*, and *C* are integer coefficients; *A* must be **positive**.
* *x* and *y* represent an ordered pair.
* *C* term is called a constant; doesn't have a variable.
* most common form used in story problems.
* to graph, find the intercepts (x , 0) and (0 , y) and plot these points on the graph, then connect with a line.

Write the equation in standard form.

$Ax + By = C$

1. $-5x + 11 = \frac{1}{2}y$

$+5x \qquad +5x$

$11 = 5x + \frac{1}{2}y$

$(5x + \frac{1}{2}y = 11) \times 2$ b/c need integer coefficients

$10x + y = 22$

Write the equation in standard form.

2. y = 2x - 9

$Ax + By = C$

$-2x \quad -2x$

$(-2x + y = -9) \cdot -1$

$2x + -1y = 9$

Write the equation in standard form.

3. $y = -2 + 3/2\,x$

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

$4 = 3x - 2y$

$3x - 2y = 4$

Given the following information, write the equation in standard form.

4. Slope (m) = 3/4 ; point (-5 , 1)

$$y - 1 = \frac{3}{4}(x + 5)$$

$$\left(y - 1 = \frac{3}{4}x + \frac{15}{4} \right) \times 4 \qquad \frac{15}{4} \cdot \frac{4}{1}$$

$$4y - 4 = 3x + 15$$

$$-19 = 3x - 4y \quad \text{rewrite}$$

$$3x - 4y = -19$$

Given the following information, write the equation in standard form.

$Ax + By = C$

5. point (3 , 0) ; point (-5 , 3)

$$m = \frac{0-3}{3-(-5)} = -\frac{3}{8}$$

$$y - 0 = -\frac{3}{8}(x-3)$$

$$\left(y = -\frac{3}{8}x + \frac{9}{8}\right) \times 8$$

$$8y = -3x + 9$$

$$3x + 8y = 9$$