

5.4 Graph Linear Equations in Standard Form

VOCABULARY: There are 3 ways to describe a line

- ① Slope-intercept form (S/I)  $y = mx + b$   $m = \text{slope}$   $b = \text{yint } (0, b)$
- ② Point-Slope form (P/S)  $y - y_1 = m(x - x_1)$   $m = \text{slope}$   $\text{point } (x_1, y_1)$   
opposite signs
- ③ Standard form  $Ax + By = C$

- Where A, B, C are integers
- What would be the easiest method to graph an equation in Standard form?

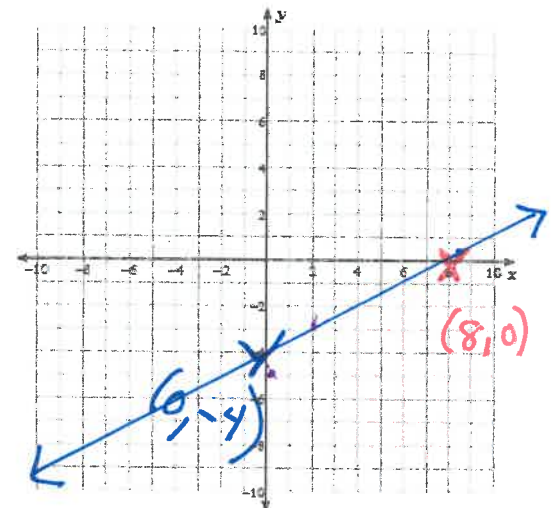
USE THE X and Y intercept method

Example 1 Graph an equation using Standard Form

a) Graph:  $3x - 6y = 24$

XINT  $(x, 0)$      $3x = 24$      $x = 8$

YINT  $(0, y)$      $-6y = 24$      $y = -4$



b) Rewrite the equation in slope-intercept form.  $\rightarrow y = mx + b$

$$\begin{array}{r}
 3x - 6y = 24 \\
 \underline{-3x} \quad \quad \underline{-3x} \\
 -6y = -3x + 24 \\
 \underline{-6} \quad \quad \underline{-6} \quad \underline{-6} \\
 y = \frac{1}{2}x - 4
 \end{array}$$

S/I:  $y = \frac{1}{2}x - 4$

Does this equation match the graph?

$m = \frac{1}{2}$  |  $B = -4$