

5.4 Graph Linear Equations in Standard Form

VOCABULARY: There are 3 ways to describe a line

- ① • Slope-intercept form (S/I) $y = mx + b$ $m = \text{slope}$ $b = \text{y-int } (0, b)$
- 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)

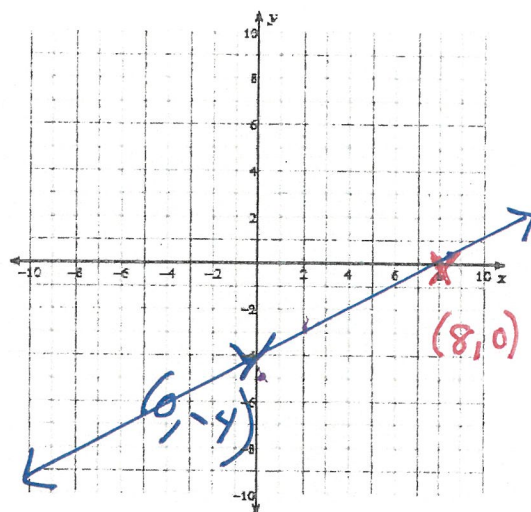
$3x = 24$

$x = 8$

YINT
(0, y)

$-6y = 24$

$y = -4$



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

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

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

Does this equation match the graph?

$m = \frac{1}{2}$

$B = -4$