

OTHER FORMS OF LINEAR EQUATIONS

DIFFERENT FORMS OF LINEAR EQUATIONS:

Slope-Intercept Form	Point-Slope Form	Standard Form
$y = mx + b$ (0, #) slope \uparrow y -intercept \swarrow Ex: $y = \frac{3}{5}x - 4$	$y - y_1 = m(x - x_1)$ slope \uparrow (x_1, y_1) Any point! Ex: $y - 3 = \frac{1}{2}(x + 4)$ $m = \frac{1}{2}$ $(-4, 3)$ point	$Ax + By = C$ A, B, C are integers Ex: $3x - 6y = 12$

Example 1) $y - 5 = -2(x - 4)$

- Graph the line.
- Transform the equation to slope-intercept form.
- Transform the equation to standard form.

Part a)

Graphing in Pt-Slope form:

- Identify slope & point
- Graph point
- Graph additional points w/ slope

- $(4, 5)$ $m = -2$
- see graph
- "

Part b)

$$y - 5 = -2(x - 4) \text{ (distribute)}$$

$$y - 5 = -2x + 8 \text{ (isolate } y)$$

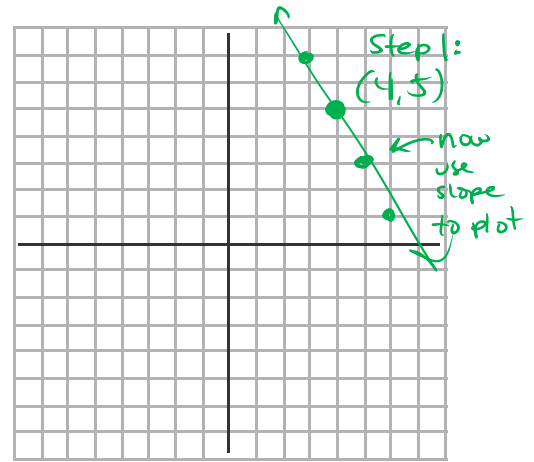
$$y = -2x + 13$$

Part c)

- use slope into form

$$y = -2x + 13 \text{ (move } x \text{ to same side as } y)$$

$$2x + y = 13$$



Example 1) $y + 6 = \frac{2}{5}(x + 1)$

- Graph the line.
- Transform the equation to slope-intercept form.
- Transform the equation to standard form.

Part a)

$$m = \frac{2}{5}$$

$$(-1, -6)$$

See graph

$$b) y + 6 = \frac{2}{5}(x + 1)$$

$$c) y = \frac{2}{5}x - \frac{28}{5}$$

$$y + 6 = \frac{2}{5}x + \frac{2}{5}$$

$$\left(-\frac{2}{5}x + y = -\frac{28}{5} \right)$$

$$y = \frac{2}{5}x + \frac{2}{5} - 6$$

$$-2x + 5y = -28$$

$$y = \frac{2}{5}x + \frac{2}{5} - \frac{30}{5}$$

$$y = \frac{2}{5}x - \frac{28}{5}$$

