

Warm-up ① Write eqn
(1, 4), (6, -1)
 $y + 1 = -1(x - 6)$ or $y - 4 = -1(x - 1)$

5.4 Writing in Standard Form

Slope-Intercept Form: $y = mx + b$
 $m = \text{slope}$ $b = \text{y-int}$

Point-Slope Form: $y - y_1 = m(x - x_1)$
 $m = \text{slope}$ Point (x_1, y_1)

Standard Form: $Ax + By = C$

* x & y on same side

* Use S.I. or P.S. to write equation
then move stuff around

Ex: $2x - 6y = 4$ $\leftarrow +6y$ to get
 $x - 3y = 2$ \leftarrow
 $4x - 12y = 8$ $\leftarrow *4$ to get

} Equivalent expressions
(are the same)

Write in Standard Form

① (4, -1), $m = 3$

$$y - y_1 = m(x - x_1)$$

$$y - (-1) = 3(x - 4)$$

1st - Write the equation using
Point-Slope

$$y + 1 = 3(x - 4)$$

2nd - Move things around so
 x & y are on same side

$$y + 1 = 3x - 12$$

$-3x \quad -3x$

$$-3x + y + 1 = -12$$

$-1 \quad -1$

$$\boxed{-3x + y = -13}$$

$(-2, -2), (-4, 1)$ $m = \frac{1}{3}$

$$m = \frac{-2-1}{-5-4} = \frac{-3}{-9} = \frac{1}{3}$$

$$y - (-2) = \frac{1}{3}(x - 5)$$

$$y + 2 = \frac{1}{3}(x - 5)$$

$$y + 2 = \frac{1}{3}x + \frac{5}{3}$$

$+\frac{1}{3}x$ $+\frac{1}{3}x$

$$\frac{1}{3}x + y + 2 = \frac{5}{3}$$

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

1st Use P.S. Form

* find slope & pick pt to use

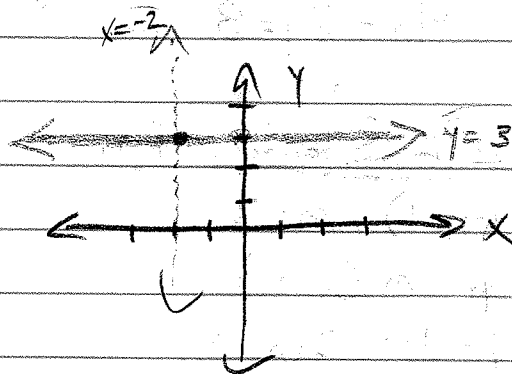
2nd - Move stuff get x & y on same side

Vertical & Horizontal Lines

① $(-2, 3)$... write the equations

Horizontal: Goes thru y-axis @ 3
 $y = 3$

Vertical: Goes thru x-axis @ -2
 $x = -2$



p314: 1-3, 7, 11, 15, 20, 21, 24, 27