

example

Find equation of line \bar{w}
 x -int of -4 and point
 point $(-2, 1)$

$$a = \frac{y_2 - y_1}{x_2 - x_1}$$

$$P_1(x_1, y_1) = (-2, 1)$$

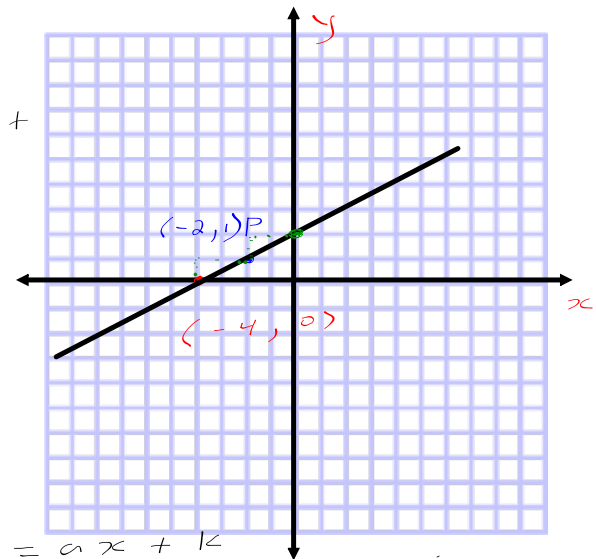
$$P_2(x_2, y_2) = (-4, 0)$$

$$a = \frac{0 - 1}{-4 - (-2)}$$

$$a = \frac{-1}{-4 + 2}$$

$$a = \frac{-1}{-2}$$

$$a = \frac{1}{2} = \frac{\text{rise}}{\text{run}}$$



$$y = ax + k$$

$$y = \frac{1}{2}x + k$$

sub in
 $(-4, 0)$
 x y

$$0 = \frac{1}{2}(-4) + k$$

evaluate

$$0 = -2 + k$$

$$k = 2$$

ANS

$$y = 0.5x + 2$$

Lesson 3: Identifying Parallel Distinct and Parallel Coincident Lines

Parallel or Perpendicular Lines

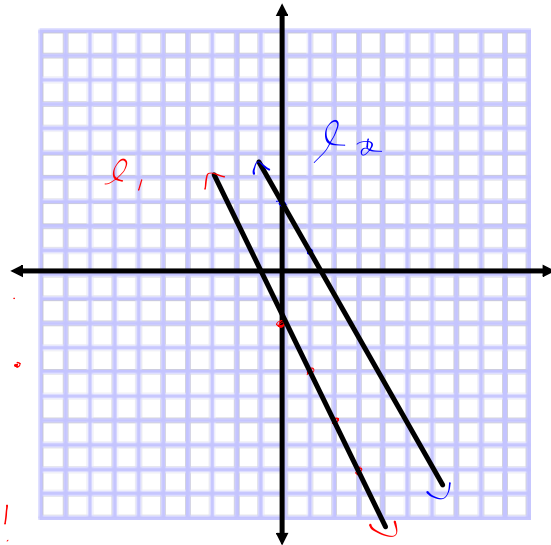
$$l_2: y = (-2)x + 3$$

What is the relation between l_1 and l_2 ?

★ Parallel lines never intersect.

★ Parallel lines has the same slope/same a value!

★ Two lines are parallel and distinct if they have the same slope and different b/k y -ints.



$$a_1 = -2$$

$$a_2 = -2$$

→ must lines in $y = ax + b$ form.

Which lines are parallel?

$$y = ax + b$$

l_1 : $y = x + 2$ $a = 1$
 l_2 : $y = 2x + 2$ $a = 2$
 l_3 : $y = -2x + 2$ $a = -2$
 l_4 : $y = 2x + 4$ $a = 2$

isolate y .

$$y = ax + b$$

l_1 : $2y = 4x + 3$
 $y = 2x + 3/2$
 l_2 : $y = -2x + 1$
 l_3 : $3y = -6x + 4$
 $y = -2x + 4/3$

isolate y - opposite
operations.

$$3y = 12x + 6$$

it's $3 \times y$

so $0.0.$ is $\frac{0}{0}$ by 3.