

10.

Slope: $-\frac{1}{2}$

Y-intercept: $\frac{1}{2}$

Equation: $\frac{2}{3}y + \frac{1}{2}x = -2$

$-\frac{1}{2}$

$$y = m \cdot x + b$$

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

$$\frac{12}{3}y + \frac{6}{2}x = -12$$

$$4y + 3x = -12$$

$$\frac{4}{4}y = \frac{-3x - 12}{4}$$

$$y = \frac{-3x - 12}{4}$$

①

Slope Intercept

 $m = \text{Slope}$ $b = y\text{-intercept.}$

$$y = mx + b$$

②

③

$$m = \frac{\text{rise}}{\text{run}} \quad \frac{y^2 - y^1}{x^2 - x^1}$$

Red points left to right.

④

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

P1 (x₁, y₁)
P2 (x₂, y₂)

⑤ Parallel lines are the same slope

$$\frac{6}{\frac{2}{4}} = \frac{6}{\frac{1}{2}}$$

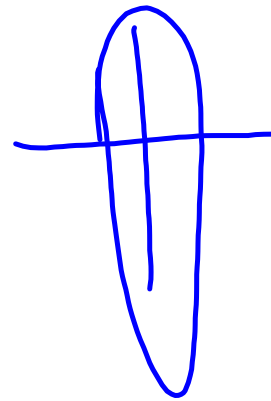
Perpendicular $\frac{3}{4}$ $-\frac{4}{3}$

①

$$m = \frac{\text{rise}}{\text{run}}$$

↙ y
↖ x

Point \Rightarrow y-intercept.



Equation $y = mx + b$

↖ y-int.

↖
Slope

⑧ $y = mx + b$

Isolate y

- What you do to one side you do to the other

- + -
x :-

ii) $\sum x + b = 7x$ ← Not x

① P1 $(x_1, y_1) = (-3, k)$ P2 $(x_2, y_2) = (2, 10)$ $m = \frac{17}{6}$

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

$$\frac{17}{6} = \frac{10 - k}{2 - (-3)}$$

$$6(10 - k) = 17(2 - (-3))$$

$$60 - 6k = 17(2 + 3)$$

$$60 - 6k = 17(5)$$

$$60 - 6k = 85 - 60$$

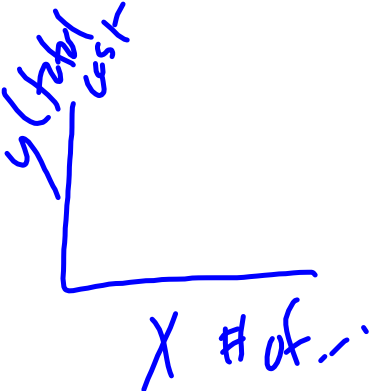
$$-6k = 25$$

$$\frac{-6k}{-6} = \frac{25}{-6}$$

$$k = \frac{25}{-6}$$

10 Rearrang $y = mx + b$

11 $y = mx + b \rightarrow$ Slope
y-intercept

16  $y = mx + b$
Slope y -intercept