

Equation line : we need point (x_1, y_1)
slope m

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

Exp Find equation line passing through $(-1, 3)$
and this line parallel to the line $12x + 4y = 1$

$$(x_1, y_1) = (-1, 3)$$

our line has slope $= m = -3$ since they are parallel

$$\frac{4y}{4} = \frac{1 - 12x}{4}$$

$$y = \frac{1}{4} - 3x$$

$$\boxed{m = -3}$$

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

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

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

$$y - 3 = -3x - 3$$

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

Exp Find equation of line passes through $(-2, -8)$ and perpendicular to the line $x = 4y + 3$

$$y - y_1 = m_1(x - x_1) \quad | \quad m_1 \cdot m_2 = -1$$

$$x = 4y + 3$$

$$y - y_1 = m_1(x - x_1)$$

$$y - -8 = -4(x - -2)$$

$$y + 8 = -4(x + 2)$$

$$y + 8 = -4x - 8$$

$$y = -4x - 16$$

$$m_1 \cdot m_2 = -1$$

$$m_1 \cdot \frac{1}{4} = -1$$

$$m_1 = -4$$

slope of our line

-3

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

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

$$m_2 = \frac{1}{4}$$

Exp Find slope and intercepts for the line

$$x + 2y = 8$$

-x

slope

$$2y = 8 - x$$

$$y = 4 - \frac{x}{2}$$

$$\text{slope} = -\frac{1}{2} < 0$$

منفردة مع x

intercepts

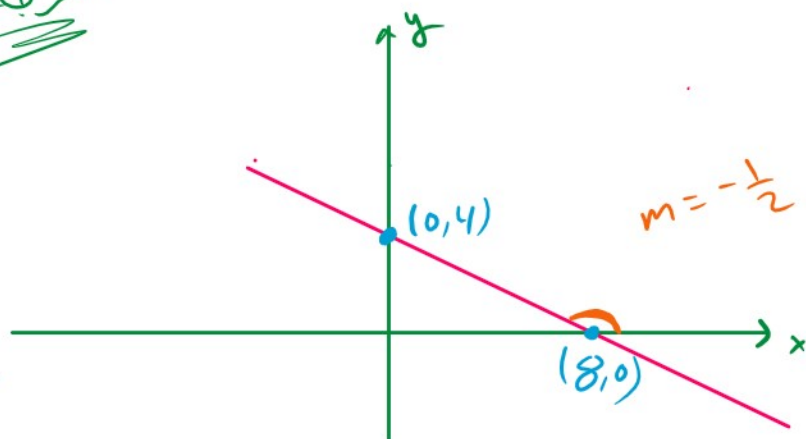
$$y\text{-intercept} \Rightarrow x = 0 \Rightarrow 0 + 2y = 8$$

$$y = 4$$

$$x\text{-intercept} \Rightarrow y = 0 \Rightarrow x + 2(0) = 8$$

$$x = 8$$

$$x = 8$$





$(8,0)$

