1.3 Part 3

Tuesday, November 30, 2021 9:49 AM

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

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

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

$-12x \quad -12x$

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

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

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

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

$m = -3$

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

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

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

$y - 3 = -3x - 3$

$+3 \quad +3$

$y = -3x$

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

$x_1 \quad y_1$

$-3 \quad -3$

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

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

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

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

$y + 8 = -4x - 8$

$-8 \quad -8$

$y = -4x - 16$

$m_1 \cdot m_2 = -1$

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

$m_1 = -4$

slope of our line

-3

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

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

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

Exp Find slope and intercepts for the line

$x + 2y = 8$

$-x \qquad -x$

slope

$\frac{2y}{2} = \frac{8}{2} - \frac{x}{2}$

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

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

متعاكسة مع محور x

intercepts

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

$y = 4$

يعني الخط المستقيم يقطع محور y عند $y = 4$

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

$x = 8$

يعني الخط المستقيم يقطع محور x عند $x = 8$