

Parallel  never touch
 Parallel 
 Perpendicular  Cross @ 90°

Slope of parallel line $\rightarrow m_1 = m_2$
 Slope of perpendicular $\rightarrow m_1 \rightarrow -\frac{1}{m_1}$
 $m_1 = \frac{3}{2} \rightarrow m_2 = -\frac{2}{3}$ $m_1 = \frac{4}{1}$
 $m_2 = -\frac{1}{4}$

1a) state the slope of parallel + perpendicular
 $m = 5$ parallel $\rightarrow m = 5$
 perpendicular $\rightarrow m = -\frac{1}{5}$

2c) m_{\parallel} m_{\perp}

$$3x + y - 5 = 0$$

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

$$m_{\parallel} = -3 \quad m_{\perp} = \frac{1}{3}$$

2b) $m = -1$
 $m_{\parallel} = -1 \quad m_{\perp} = 1$

$$4a) \frac{n}{10}, 2$$

$$2 \xrightarrow{=} \frac{n}{10}$$

$$2 = \frac{n}{10}$$

$$2(10) = n$$

$$20 = n$$

$$2 \xrightarrow{=} \frac{n}{10}$$

$$-\frac{1}{2} = \frac{n}{10}$$

$$-\frac{10}{2} = n$$

$$-5 = n$$

eqⁿ of line = through a point.

$$6a) y = \underline{2}x + \underline{5} \quad \underline{P}(\underline{1}, \underline{-6})$$

slope / int
General Form
slope / point

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

$$y - (-6) = 2(x - 1)$$

$$y + 6 = 2(x - 1)$$

$$6c) y = 8 \quad (3, 4)$$

huh... what's m?

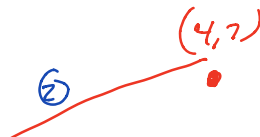
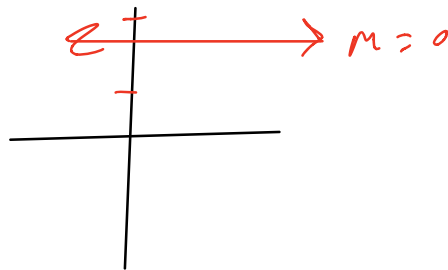
$$y = mx + b$$

$$y = 0x + 8$$

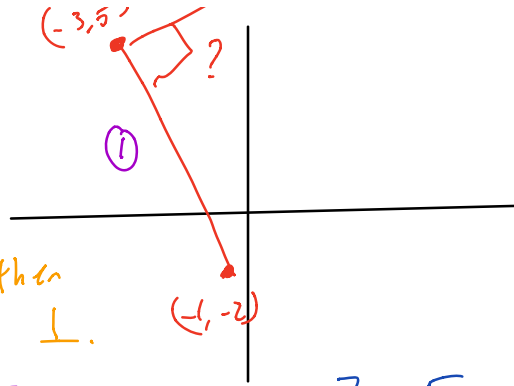
$$y - y_2 = m(x - x_2)$$

$$y - 4 = 0(x - 3)$$

$$y = 4$$



12)



\therefore that's 90° then
① and ② are \perp .

$$m_1 = \frac{-2-5}{-1-(-3)}$$

$$m_2 = \frac{7-5}{4-(-3)}$$

$$= \frac{-7}{2} \qquad = \frac{2}{7}$$

inverse reciprocal
 \therefore cross @ 90° .
 \therefore right angle \triangle

13a) eqⁿ || to $5x + y + 4 = 0$ with a point of $(0, -6)$
 $y = -5x - 4$ point

$$y - y_1 = m(x - x_1)$$
$$y - (-6) = -5(x - 0)$$
$$y + 6 = -5x$$

7d) $4x - 3y - 6 = 0$ $(-2, -1)$

$$-3y = -4x + 6$$
$$y = \frac{4x}{3} - 2$$

∴

$$m = \frac{7}{3}$$

$$m_{\perp} = -\frac{3}{4}$$

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

$$y - (-1) = -\frac{3}{4}(x - 2)$$

$$y + 1 = -\frac{3}{4}(x - 2)$$