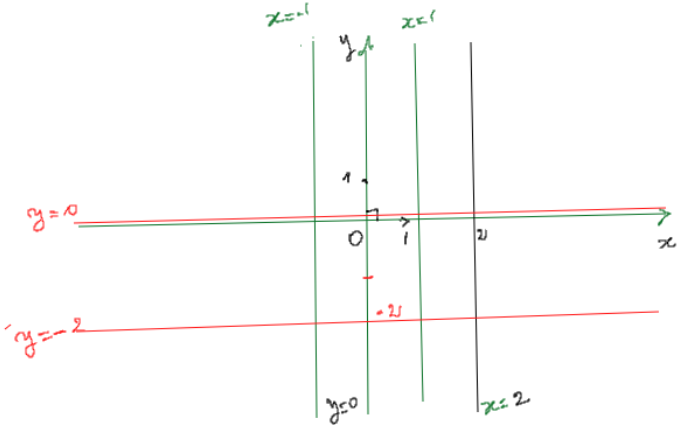
Perpendicular & parallel lines.



- $(L_1) \perp (L_2) \iff \begin{cases} (L_1) \cap (L_2) = \{A\} \\ \text{and} \\ \widehat{L_1 A L_2} = 90° \end{cases}$

$\widehat{xOy} = 90°$.

$(Ox) \cap (Oy) = \{O\}$.

- $(L_1) \parallel (L_2) \iff \{ (L_1) \cap (L_2) = \emptyset$.

$(y=0) \parallel (y=2)$.

$L_1 : y = m_1 x + b_1$.

$L_2 : y = m_2 x + b_2$.

$(L_1) \perp (L_2) \iff m_1 m_2 = -1$

$(L_1) \parallel (L_2) \iff m_1 = m_2$

A vertical line $\perp$ horizontal line

Ex :

$L_1 : y = 2x + 1$

$L_2 : y = x - 1$

$L_3 : y = -x + 1$

$L_4 : y = 2x - \sqrt{3}$.

$L_5 : x = 1$

$L_6 : y = -2$

$L_7 : x = -1$

$L_8 : y = 0$

// Lines	$\perp$ lines.
$L_1 \parallel L_4$	$L_2 \perp L_4$
$L_5 \parallel L_7$.	$L_5 \perp L_6$
$L_6 \parallel L_8$	$L_5 \perp L_8$.