

L.O.: INBAT write eqns of $\parallel$ and $\perp$ lines.

recall: point-slope form $y - y_1 = m(x - x_1)$

① Write eqn. of line $\parallel$ to $y = 2x - 3$
thru point $(-1, 1)$

same slope!

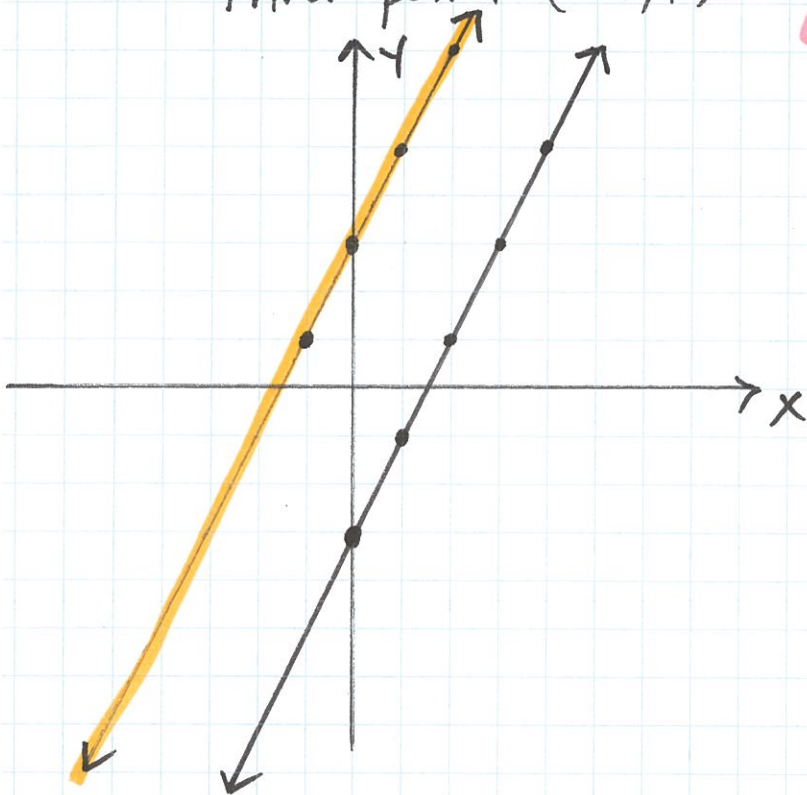
$$m = 2$$

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

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

$$y - 1 = 2x + 2$$

$$\boxed{y = 2x + 3}$$



② Write eqn. of line $\perp$ to
thru point $(2, 3)$

$$Ax + By = C$$

$$2x + y = 2$$

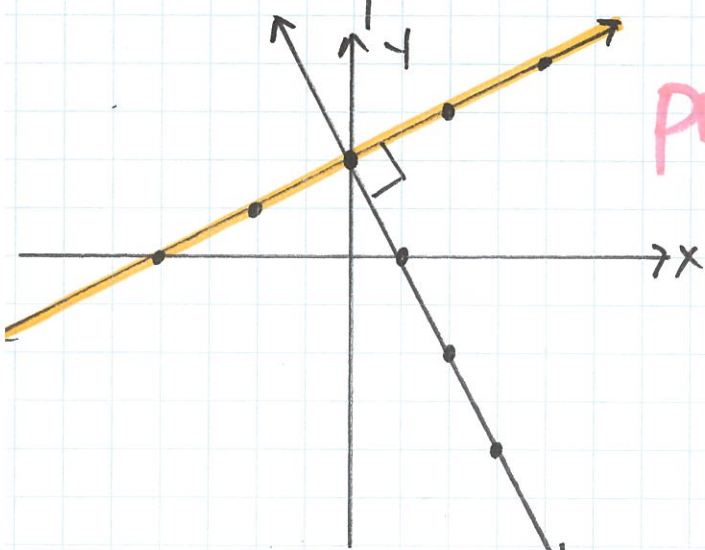
product
of slopes
 $= -1$

$$y = -2x + 2$$

$$(m)(m_{\perp}) = -1$$

$$(-2)(m_{\perp}) = -1$$

$$m_{\perp} = \frac{-1}{-2} = \frac{1}{2}$$



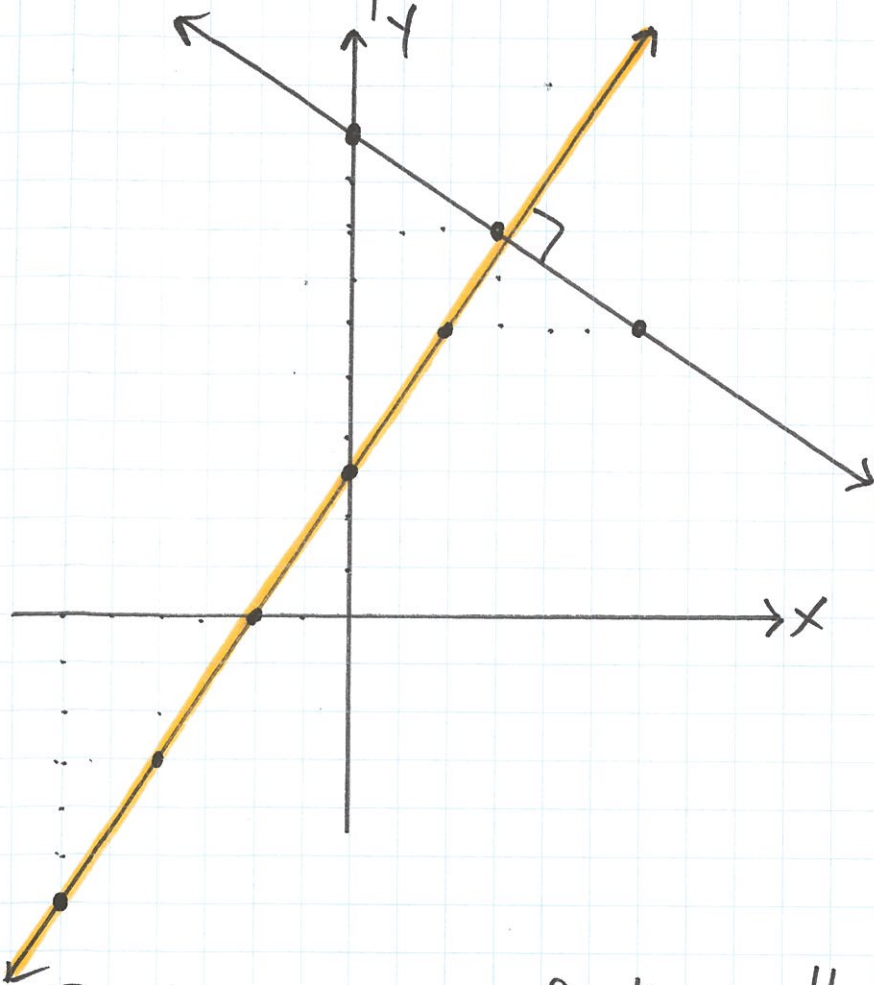
$$y - y_1 = m(x - x_1)$$

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

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

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

③ Write eqn of line $\perp$ to $y = -\frac{2}{3}x + 10$
thru point $(-6, -6)$



$$m_{\perp} = \frac{3}{2}$$

$$y + 6 = \frac{3}{2}(x + 6)$$

$$y + 6 = \frac{3}{2}x + 9$$

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

④ Write eqn of line $\parallel$ to $y = 3x - 9$
thru point $(1, 5)$

$$m_{\parallel} = 3$$

$$y - 5 = 3(x - 1)$$

$$y - 5 = 3x - 3$$

$$y = 3x + 2$$

