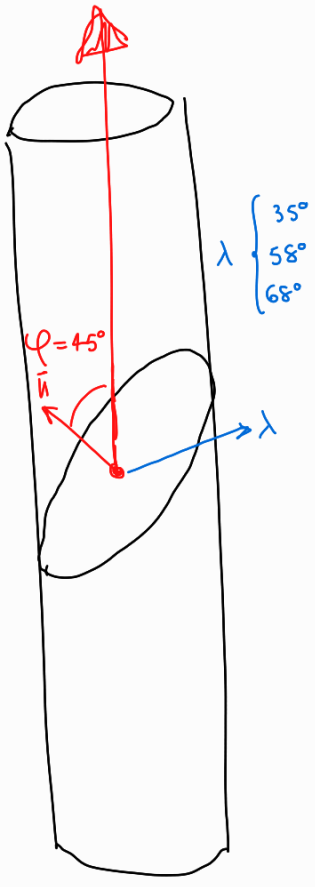
(2)

a)



$\tau = \sigma \cdot (\cos\varphi \cdot \cos\lambda)$

mas favorable → $(\cos\varphi \cdot \cos\lambda)_{MÁX}$

$\cos\varphi$ = ctt

$\cos\lambda \downarrow\downarrow\downarrow$ → $\boxed{35°}$

b) $\sigma_y = 3{,}5\ MPa$

$\tau_{crss} = \sigma_y \cdot \cos\varphi \cdot \cos\lambda$ (35° ↓)

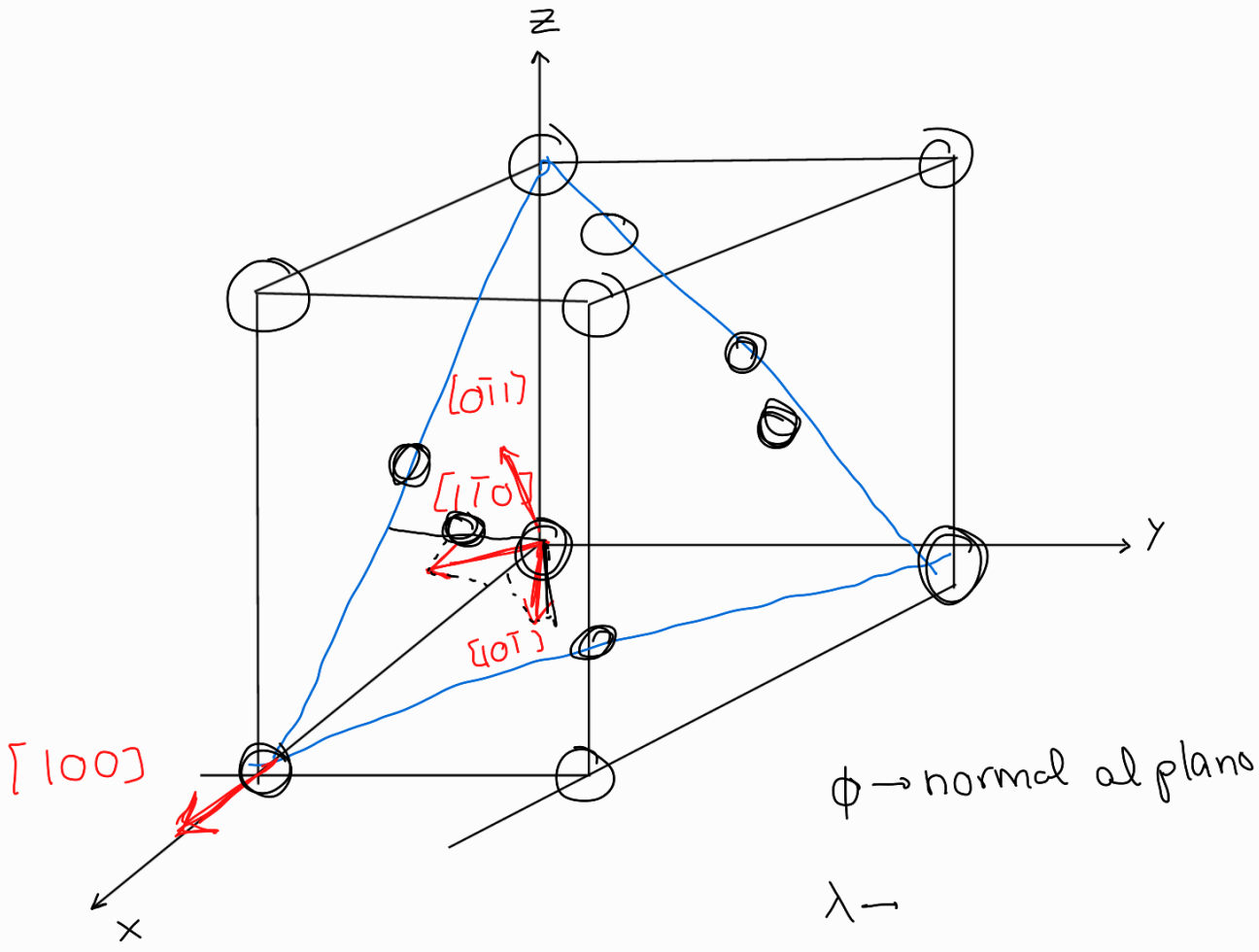
$\tau_{crss} = 3{,}5 \cdot 0{,}579 = 2{,}02\ MPa$ //

② $\sigma = 50\,MPa$ (111) [1 0 0]

[1$\bar{1}$0]

[10$\bar{1}$]

[0$\bar{1}$1]



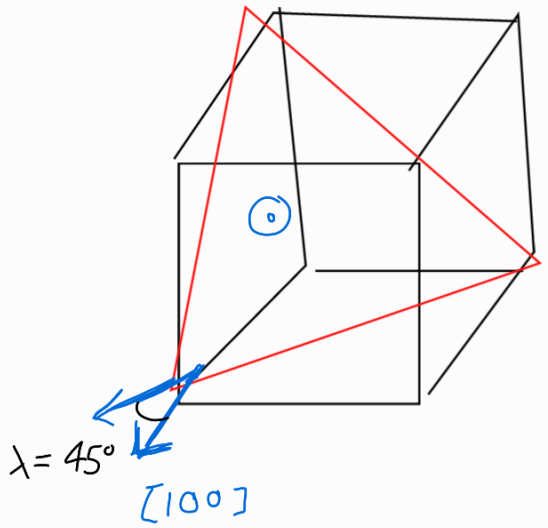
$\phi \rightarrow$ normal al plano

$\lambda \rightarrow$

$\tau_{crss} = 50\,MPa$ $\quad \sigma_y = \dfrac{\tau_r}{(\cos\phi \cdot \cos\lambda)_{MAX}}$

primer caso

[1$\bar{1}$0]



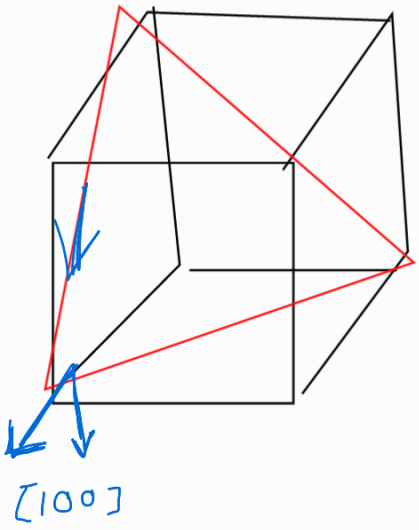
[111]

$\bar{p} \cdot \bar{q} = |\bar{p}| \, |\bar{q}| \cdot \cos\varphi$

$\varphi = 54,7°$

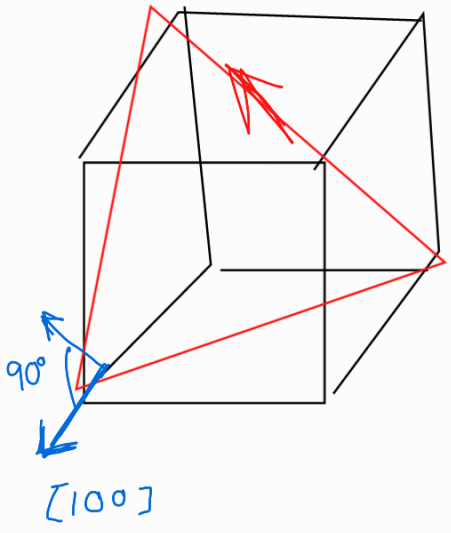
$$\sigma_y = \frac{50}{\cos 54{,}7 \cdot \cos 45} =$$

$[10\bar{1}]$



Lo mismo, $\lambda = 45°$

$[0\bar{1}1]$



$\sigma_y = \infty$

No se deslizará en este sistema de deslizamiento