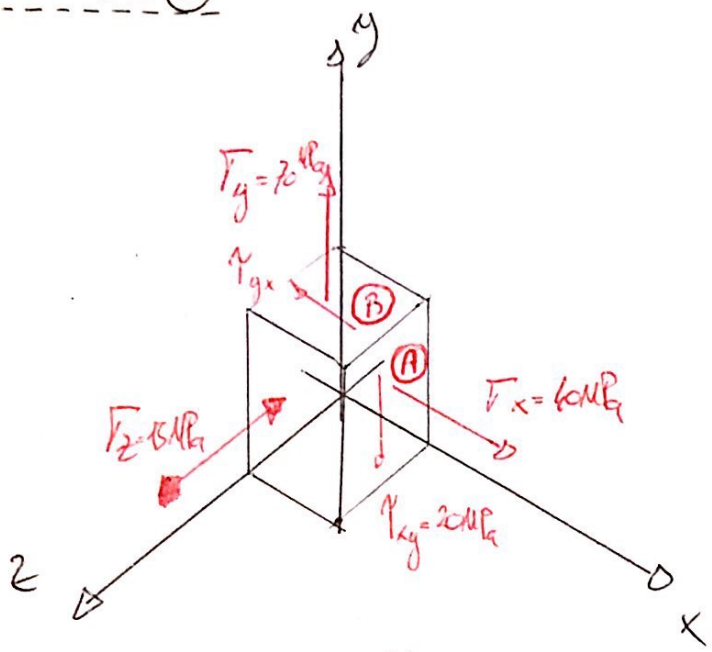
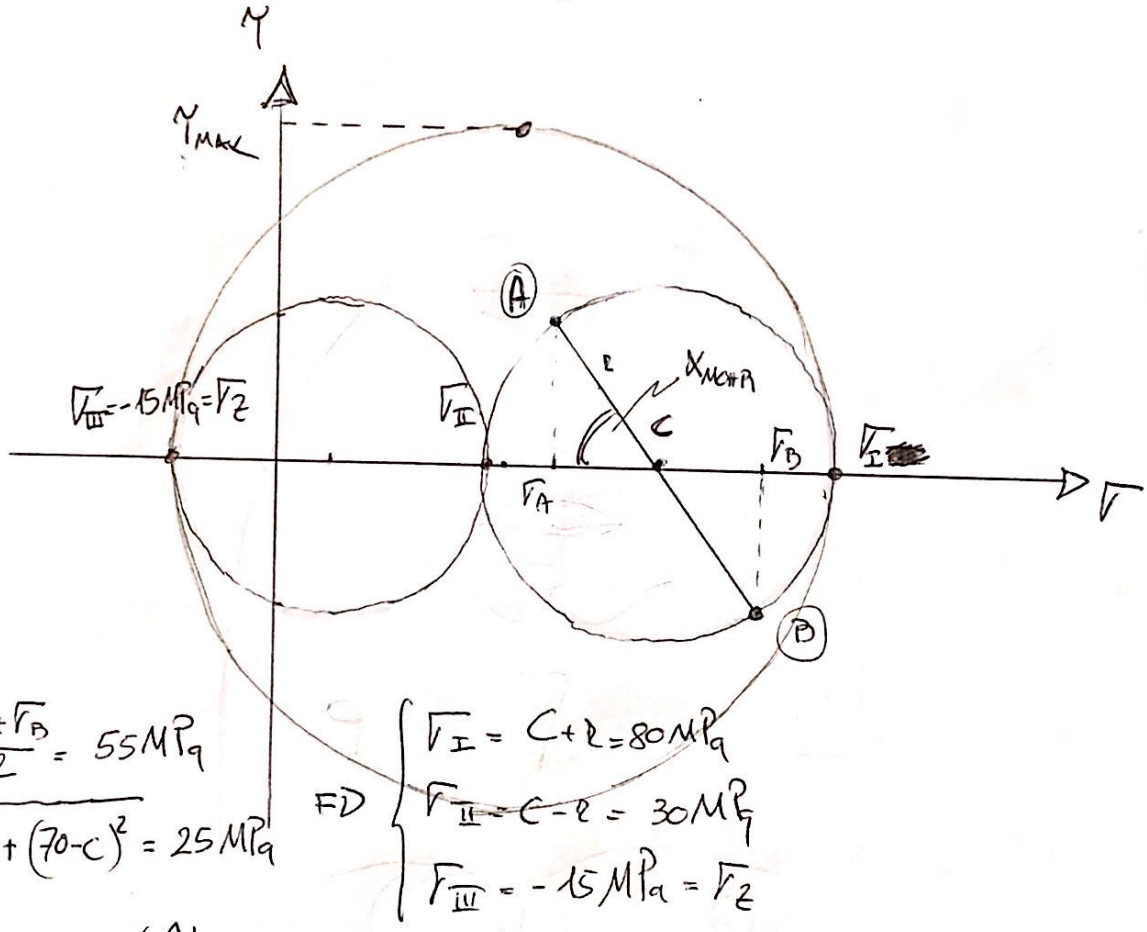
ESERCIZIO (1)

1)



2) $|\underline{t}|$



$$\begin{cases} C = \dfrac{\sigma_A + \sigma_B}{2} = 55\,MPa \\ R = \sqrt{20^2 + (70-C)^2} = 25\,MPa \end{cases} \Rightarrow \begin{cases} \sigma_I = C + R = 80\,MPa \\ \sigma_{II} = C - R = 30\,MPa \\ \sigma_{III} = -15\,MPa = \sigma_Z \end{cases}$$

3) $\alpha_{MOHR} = \operatorname{atan}\left(\dfrac{\tau_{xy}}{(C-\sigma_A)}\right) \simeq 53° \Rightarrow \alpha_{REALE} = \dfrac{\alpha_{MOHR}}{2} \simeq 26{,}5°$

4) $\tau_{MAX} = \dfrac{\sigma_I - \sigma_{III}}{2} \simeq 47{,}5\,MPa$

ESERCIZIO (2)