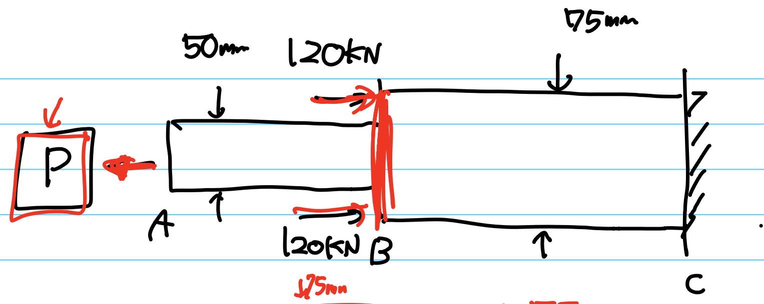
50. OK mm φ   50. ....

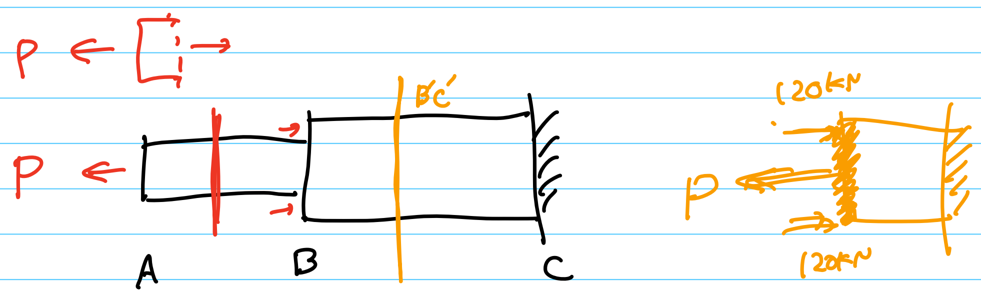


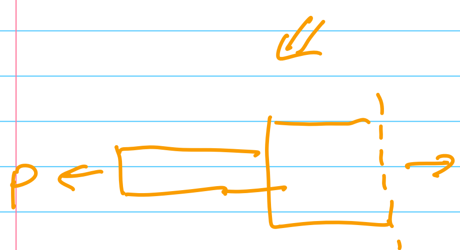
$\sigma_{AB} : 2 \cdot \sigma_{BC}$

Area BC (75mm) $\Rightarrow \left(\frac{75\text{mm}}{2}\right)^2 \cdot \pi = 4417.9\text{mm}^2$

Area AB (50mm) $\Rightarrow \left(\frac{50\text{mm}}{2}\right)^2 \cdot \pi = 1963.4\text{mm}^2$

$$\sigma_{BC} = \frac{(120^{kN} + 120^{kN}) - P^{kN}}{\text{Area BC}} = \frac{240^{kN} - P^{kN}}{4417.9\text{mm}^2}$$





$$\sigma_{AB} = \frac{P}{1963.4\text{mm}^2}$$

113.0 kN

$P \approx 112.9^{kN}$

$$\sigma_{AB} = 2 \cdot \sigma_{BC}$$

$$\frac{P^{kN}}{1963.4\text{mm}^2} = 2 \cdot \left(\frac{240^{kN} - P^{kN}}{4417.9\text{mm}^2}\right)$$