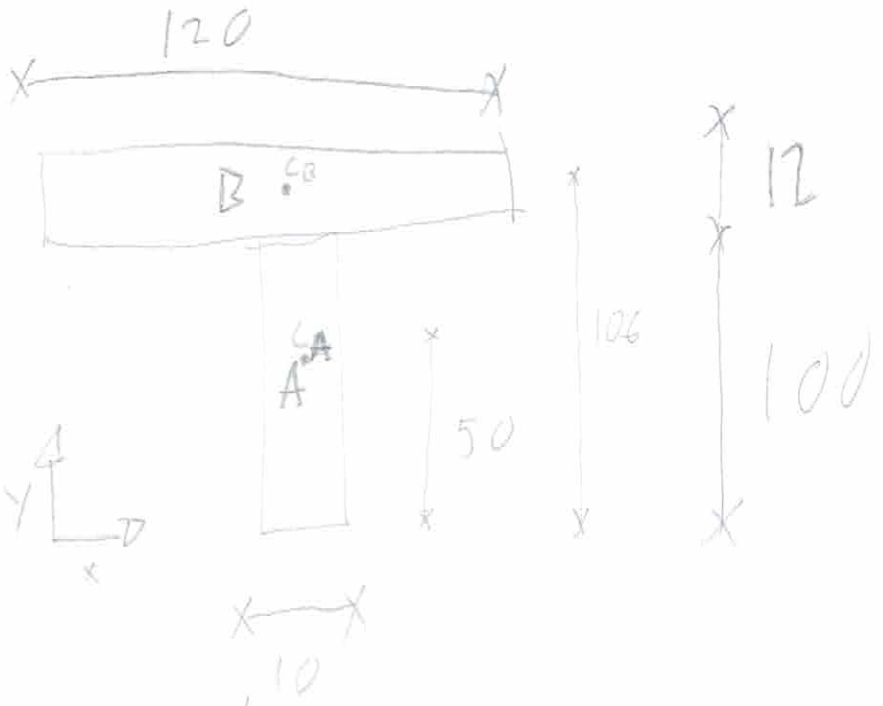


1. arealmoment

$$S_x = C_{Ay} \cdot A_A + C_B \cdot A_B = 50 \cdot 10 \cdot 100 + 106 \cdot 120 \cdot 12$$

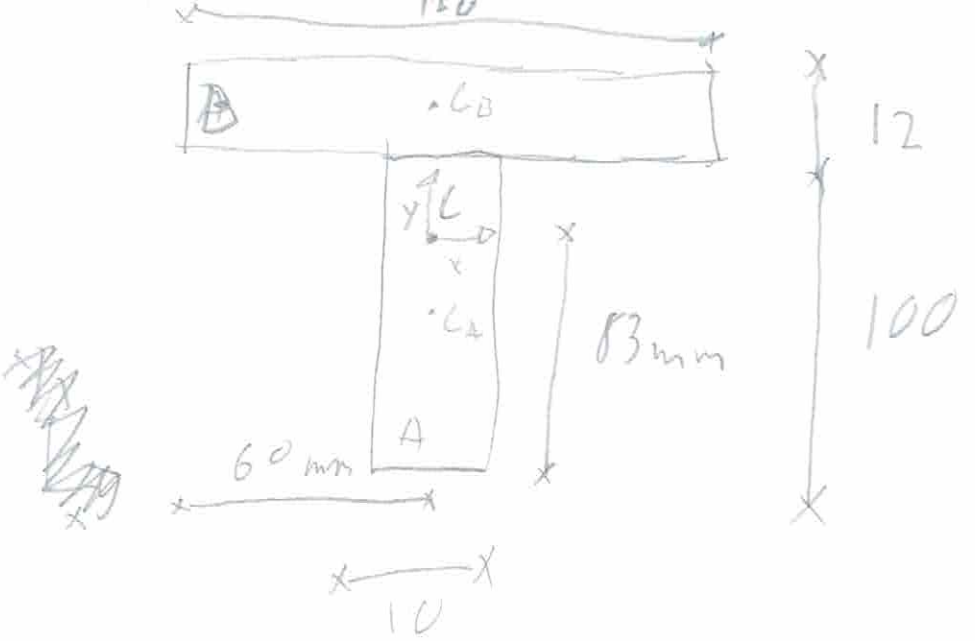
$$= 50000 + 152640 = \underline{202640\ mm^3}$$

Sentroide:

$$C_y = \frac{S_x}{A} = \frac{202640\ mm^3}{10 \cdot 100 + 12 \cdot 120} = \frac{202640}{2440} = \underline{83\ mm}$$

Ser av symmetri at $C_x = 60\ mm$

$$C = (\bar{x}, \bar{y}) = (C_x, C_y) = (60, 83)$$



Andre arealmoment:

~~Ståners~~ Steiners setning:

$$I_x = I_{xA} + e_{yA}^2 \cdot A_A + I_{xB} + e_{yB}^2 \cdot A_B$$

$$= \frac{1}{12} \cdot 10 \cdot 100^3 + (83-50)^2 \cdot 10 \cdot 100$$

$$\times \frac{1}{12} \cdot 120 \cdot 12^3 + (106-83)^2 \cdot 120 \cdot 12$$

$$= 1422333 + 778040 = \underline{2701373 \text{ mm}^4}$$