

$$\frac{\delta_C - \delta_E}{0.4m} = \frac{\delta_A - \delta_E}{0.8m}$$

$$\sum F_y = 0$$

$$= F_A + F_C + F_E - 15 \quad (2)$$

(1) INTO (2)

$$\Rightarrow \frac{10}{3} F_C + F_C = 15 \Rightarrow F_C = 3.46 \text{ kN}$$

$$\sum M_A = 0$$

$$= -15(-2) + F_C(4) + F_E(8)$$

$$F_E = 2.02 \text{ kN}$$

$$F_A = 9.52 \text{ kN}$$

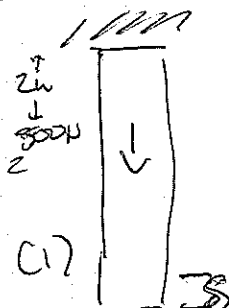
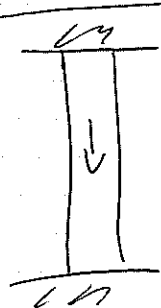
$$2(\delta_C - \delta_E) = \delta_A - \delta_E$$

$$2\delta_C = \delta_A + \delta_E$$

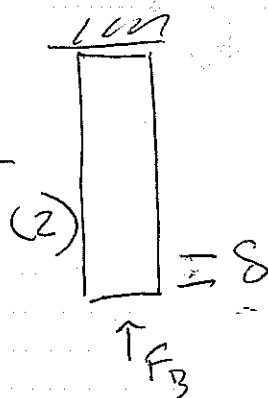
$$\frac{2F_C L_C}{A_C E_C} = \frac{F_A L_A}{A_A E_A} + \frac{F_E L_E}{A_E E_E}$$

$$\frac{2F_C}{30 \text{ mm}^2} = \frac{1}{50 \text{ mm}^2} (F_A + F_E)$$

$$(1) \frac{10}{3} F_C = F_A + F_E$$



+

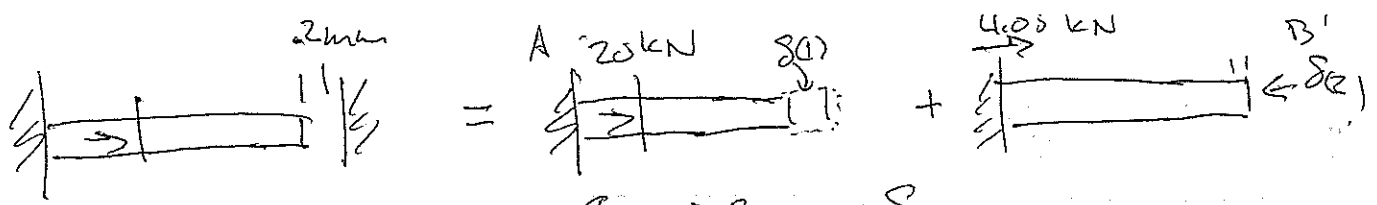


$$\delta_1 = \frac{500 \text{ N} (2m)}{A E}$$

$$\delta_2 = \frac{F_B (5m)}{A E}$$

$$\delta_1 = \delta_2$$

$$\frac{500(2)}{A E} = \frac{F_B(5)}{A E}$$



$$F_A = -20 + 4.05$$

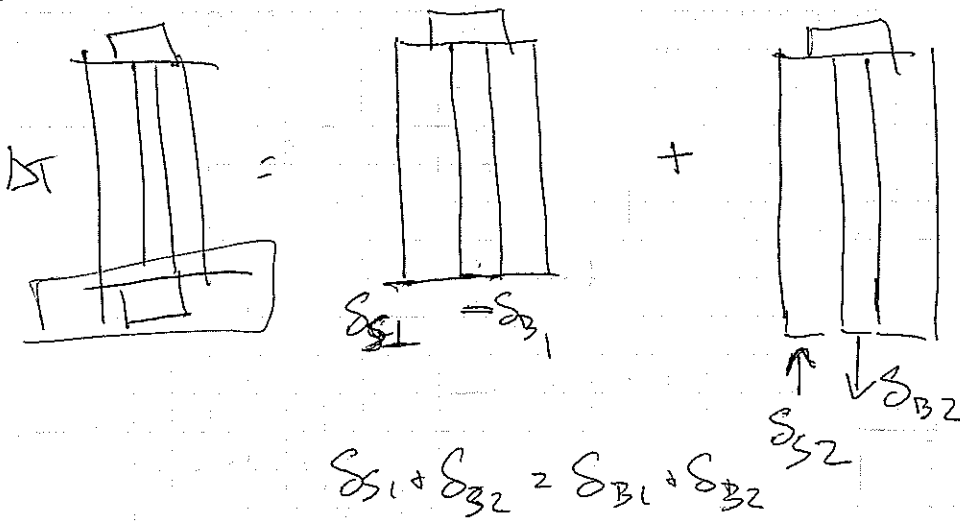
$$= -15.95 \text{ kN}$$

$$\delta_2 + 0.2 \text{ mm} = \delta_1$$

$$\frac{F_B (200 \text{ mm})}{AE} + 0.2 \text{ mm} = \frac{20 \text{ kN} \cdot 400 \text{ mm}}{AE}$$

$$0.2 \text{ mm} = \frac{1}{\pi (5 \text{ mm})^2} \frac{1}{200 \text{ GPa}} (20 \text{ kN} (400) - F_B (200))$$

$$F_B = 4.05 \text{ kN}$$



$$\delta_{S1} + \delta_{B2} = \delta_{B1} + \delta_{B2}$$