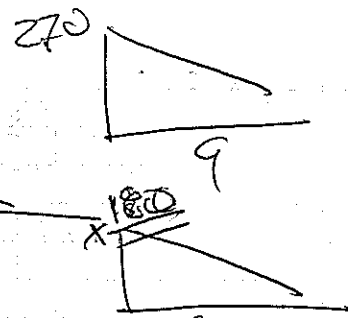
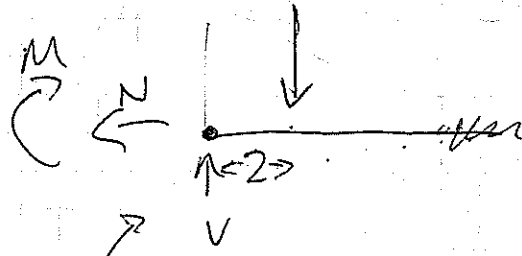
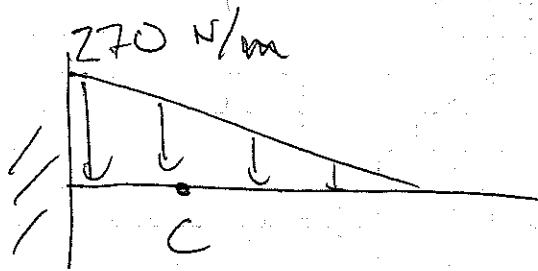
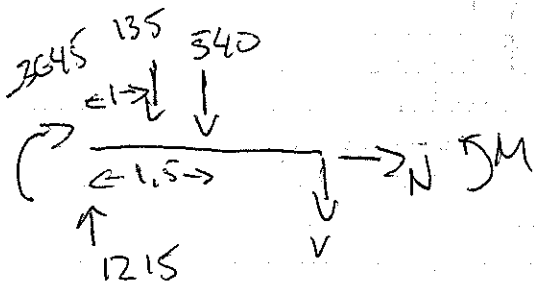
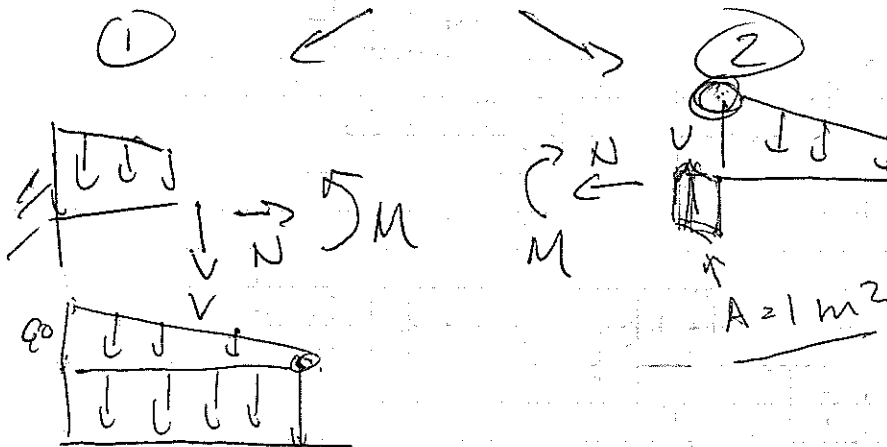


EXAMPLE 1.1



$$\frac{x}{c} = \frac{270}{9}$$



$$\begin{aligned} V &= 540 \\ N &= 0 \\ M &= -1080 \end{aligned}$$

$$\sum F_x = 0 \Rightarrow 1215 - 135 - 540 - V = 0$$

$$V = 540 \checkmark$$

$$N = 0 \checkmark$$

$$\sum M_c = 0 \Rightarrow M + 540(1.5) + 135(2) - 1215(3) + 3645$$

$$M = -1080$$

$$\sum M_x = 0$$

$$M_x + 70 - 50(1.5) = 0$$

$$\underline{M_x = -45}$$

$$\sum M_y = 0$$

$$M_y + 50(1.25) = 0$$

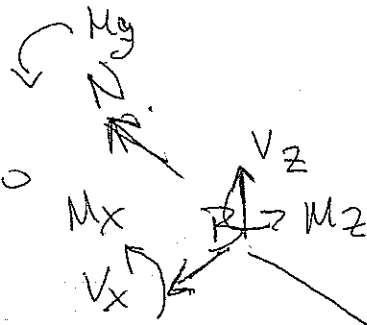
$$\underline{M_y = -62.5}$$

$$\sum M_z = 0$$

$$M_z + 30(1.25) = 0$$

$$\underline{M_z = -37.5}$$

$$A = 350 \text{ mm}^2$$



$$\sum F_x = 0$$

$$V_x = 0$$

$$\sum F_y = 0$$

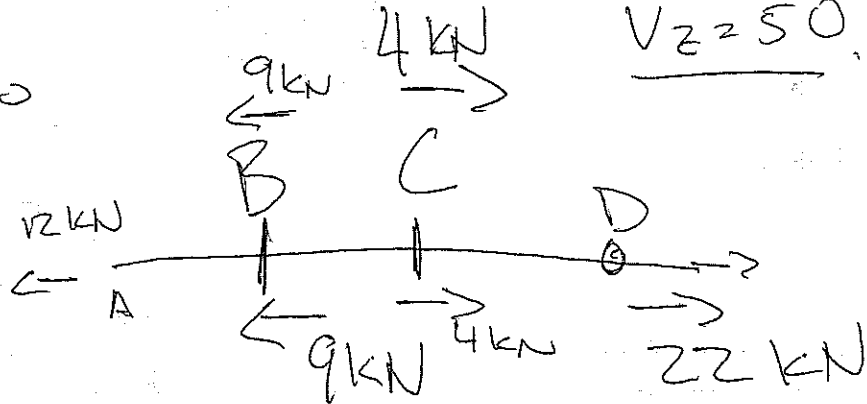
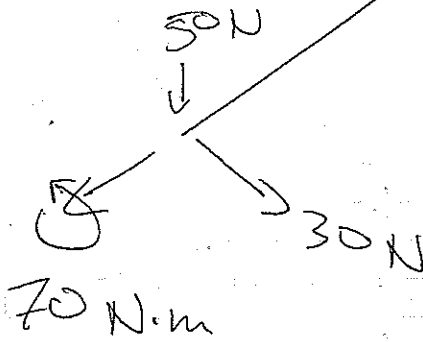
$$V_y - N + 30 = 0$$

$$\underline{N = 30}$$

$$\sum F_z = 0$$

$$V_z - 50 = 0$$

$$\underline{V_z = 50}$$



$$\sigma_{BC} = \frac{F_{BC}}{A} = \frac{30 \text{ kN}}{350 \text{ mm}^2} = \underline{85.7 \text{ MPa}}$$