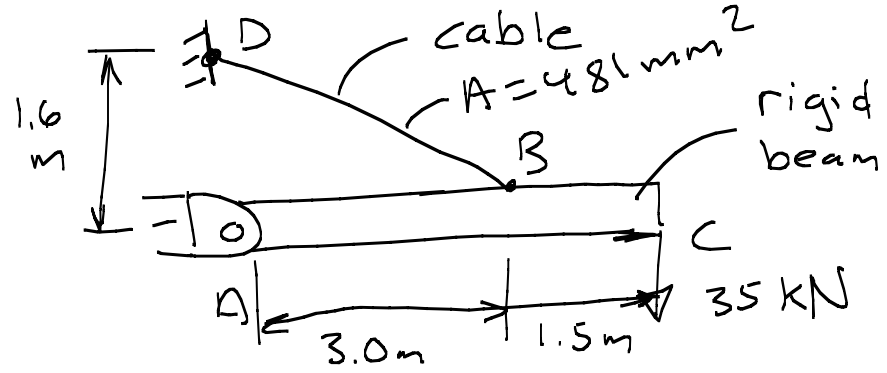
Problem 1

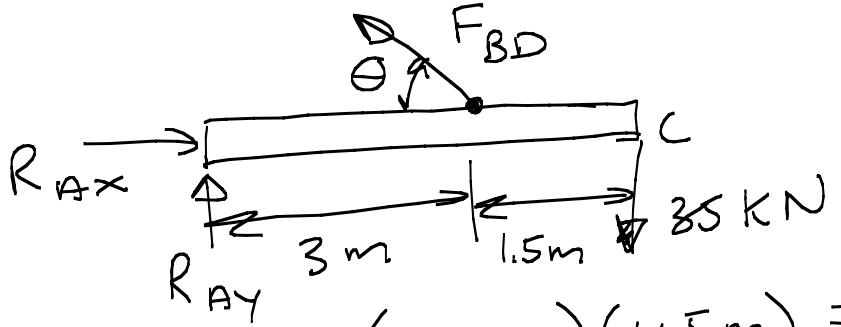


Determine: The average Tensile stress in the cable

$$\sigma = \frac{P}{A}$$

$$\tan\theta = \frac{1.6\,m}{3\,m}$$

$$\theta = 28.1^\circ$$



$$+\circlearrowright \Sigma M_A = 0 \Rightarrow +F_{BD}(\sin 28.1^\circ)\,3m - (35\,kN)(4.5m) = 0$$

$$F_{BD} = 102\,kN$$

$$\sigma_{BD} = \frac{102\,kN}{(481\,mm^2 \times \frac{1}{(1000m)})} = 212 \times 10^3\,kPa$$

$$= \boxed{212\,MPa}$$