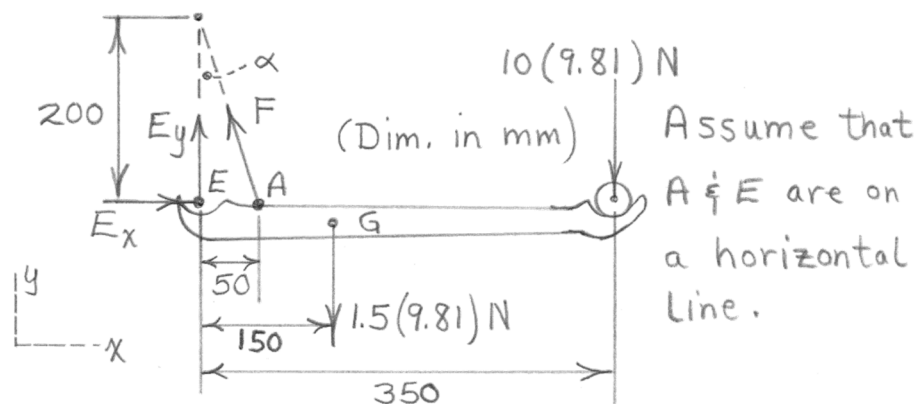


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$$\alpha = \tan^{-1}\left(\frac{50}{200}\right) = 14.04^\circ$$



$$\begin{aligned} \sum M_E = 0 : F \cos 14.04^\circ (50) - 1.5(9.81)(150) \\ - 10(9.81)(350) = 0, \quad \underline{F = 753 \text{ N}} \end{aligned}$$

$$\begin{aligned} \sum F_x = 0 : -753 \sin 14.04^\circ + E_x = 0 \\ E_x = 182.7 \text{ N} \end{aligned}$$

$$\begin{aligned} \sum F_y = 0 : 753 \cos 14.04^\circ - (10 + 1.5)(9.81) + E_y = 0 \\ E_y = -618 \text{ N} \end{aligned}$$

$$E = \sqrt{E_x^2 + E_y^2} = \sqrt{182.7^2 + 618^2} = \underline{644 \text{ N}}$$