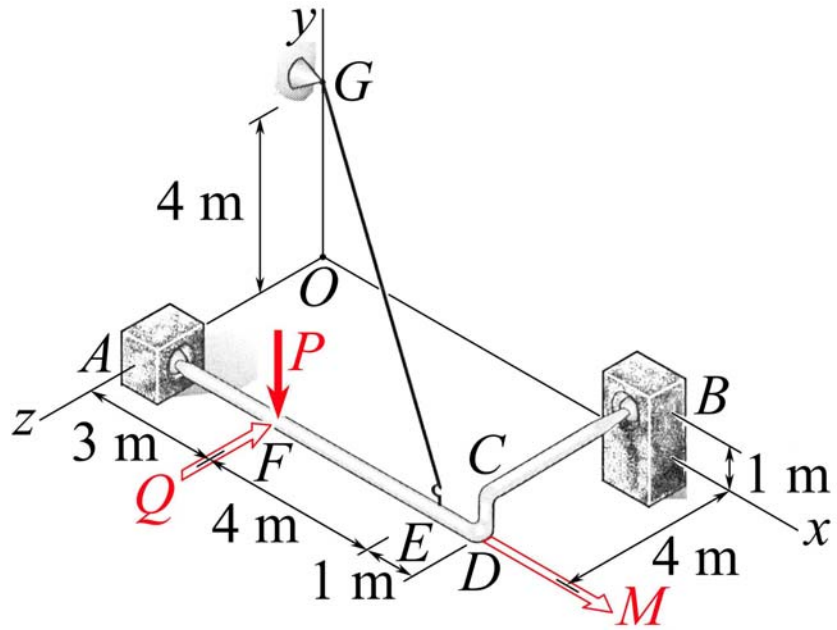


MEEG 2003
Quiz #5.m17

A bent rod is shown, where $P = 14 \text{ kN}$, $Q = 9 \text{ kN}\cdot\text{m}$, and $M = 6 \text{ kN}\cdot\text{m}$. Determine the tension T_{EG} in the cable EG .



FBD ②

$$\mathbf{T}_{EG} = \frac{T_{EG}}{9} \langle -7, 4, -4 \rangle \quad \text{①} \qquad \lambda_{AB} = \frac{1}{9} \langle 8, 1, -4 \rangle \quad \text{①}$$

$$\lambda_{AB} \cdot [3\mathbf{i} \times (-P\mathbf{j})] + \lambda_{AB} \cdot (7\mathbf{i} \times \mathbf{T}_{EG}) + \lambda_{AB} \cdot (M\mathbf{i} - Q\mathbf{k}) = 0 \quad \text{④}$$

$$T_{EG} = 27 \text{ kN} \quad \text{②}$$