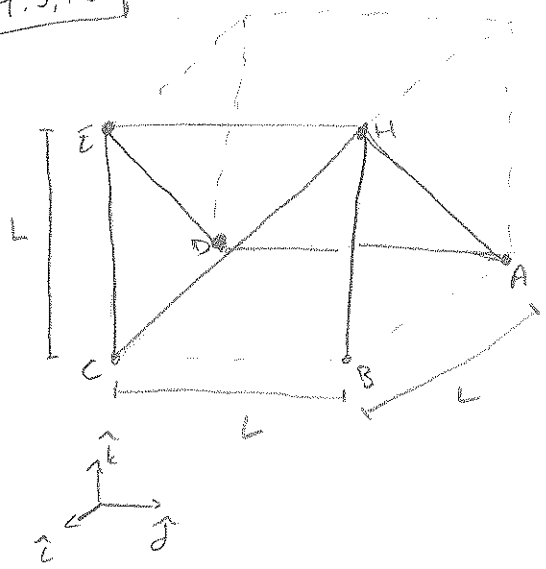
4.5.10



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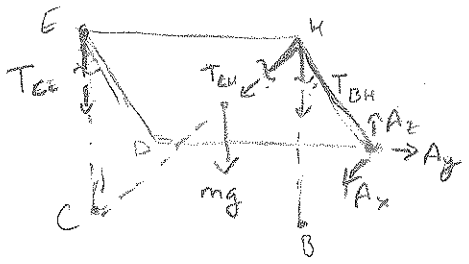
Reaction force at A

$\vec{A} = A_x \hat{\imath} + A_y \hat{\jmath} + A_z \hat{k}$



$\{\sum \vec{F}\} \cdot \hat{\imath} = A_x = 0$

$\{\sum \vec{F}\} \cdot \hat{\jmath} = A_y - \frac{T_{EH}}{\sqrt{2}} = 0$

$A_y = \frac{T_{EH}}{\sqrt{2}}$

$\{\sum \vec{F}\} \cdot \hat{k} = A_z - T_{CE} - T_{BH} - \frac{T_{EH}}{\sqrt{2}} - mg = 0$

$\{\sum M_{/B}\} \cdot \hat{k} = -A_y L = 0$

$\Rightarrow A_y = 0$

$\Rightarrow T_{EH} = 0$

$\{\sum M_{/B}\} \cdot \hat{\imath} = mg\left(\frac{L}{2}\right) + T_{CE}(L) = 0$

$\Rightarrow T_{CE} = -\frac{mg}{2}$

$\{\sum M_{/B}\} \cdot \hat{\jmath} = -mg\left(\frac{L}{2}\right) + A_z(L) = 0$

$\Rightarrow A_z = \frac{mg}{2}$

$\{\sum \vec{F}\} \cdot \hat{k} \Rightarrow \frac{mg}{2} + \frac{mg}{2} - T_{BH} - mg = 0 \Rightarrow T_{BH} = 0$

$\vec{A} = \frac{mg}{2} \hat{k}$

$T_{CH} = 0$

$T_{BH} = 0$

$T_{CE} = -\frac{mg}{2}$