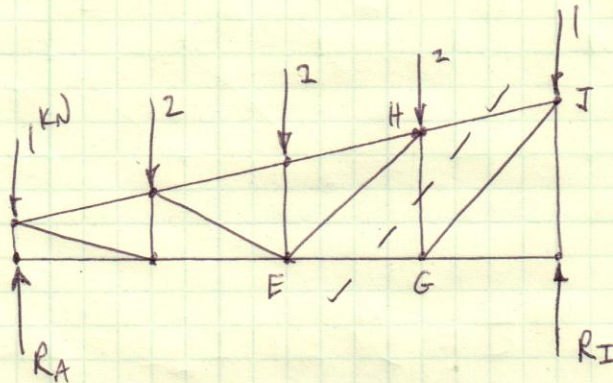
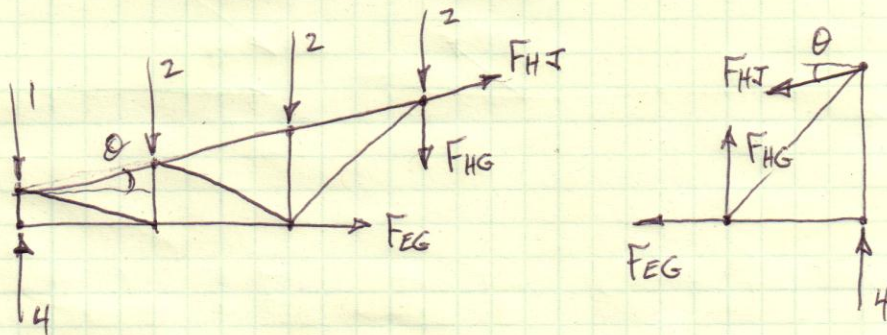


FBD: ENTIRE TRUSS



$$R_A = R_I = \frac{1}{2} [2(1 \text{ kN}) + 3(2 \text{ kN})] = 4 \text{ kN}$$

FBD: METHOD OF SECTIONS: USE RHS



$$\theta = \tan^{-1} \left[\frac{(2.62 - 0.46)}{4(2.4)} \right] = 12.68^\circ$$

$$\vec{F}_{HI} = (-F_{HI} \cdot \cos 12.68^\circ) \hat{i} + (-F_{HI} \cdot \sin 12.68^\circ) \hat{j}$$

$$\vec{F}_{HI} = (-0.9756 F_{HI}) \hat{i} + (-0.2195 F_{HI}) \hat{j} \text{ kN}$$

$$\vec{F}_{HG} = (F_{HG}) \hat{j} \text{ kN}, \quad \vec{F}_{EG} = (-F_{EG}) \hat{i} \text{ kN}$$

$$\sum F_x = 0: -F_{EG} - 0.9756 F_{HI} = 0$$

$$F_{EG} = -0.9756 F_{HI} \text{ EQN. (1)}$$

$$\sum F_y = 0: F_{HG} + 4 - 1 - 0.2195 F_{HI} = 0$$

$$F_{HG} = 0.2195 F_{HI} - 3 \text{ EQN. (2)}$$

$$\sum M_I = 0 \uparrow: -(2.4^m) F_{HG} - (2.62^m) F_{EG} = 0$$

$$F_{HG} = -1.092 F_{EG} \text{ EQN. (3)}$$

EQN. (3) INTO EQN. (2):

$$-1.092 F_{EG} = 0.2195 F_{HI} - 3$$

$$F_{EG} = -0.201 F_{HI} + 2.747 \text{ EQN. (4)}$$

EQN. (4) INTO EQN. (1):

$$-0.201 F_{HI} + 2.747 = -0.9756 F_{HI}$$

$$F_{HI} = -3.546 \text{ kN (C)}$$

$$\text{EQN. (2): } F_{HG} = 0.2195(-3.546 \text{ kN}) - 3 = -3.778 \text{ kN (C)}$$

$$\text{EQN. (4): } F_{EG} = -0.201(-3.546 \text{ kN}) + 2.747 = 3.460 \text{ kN (T)}$$