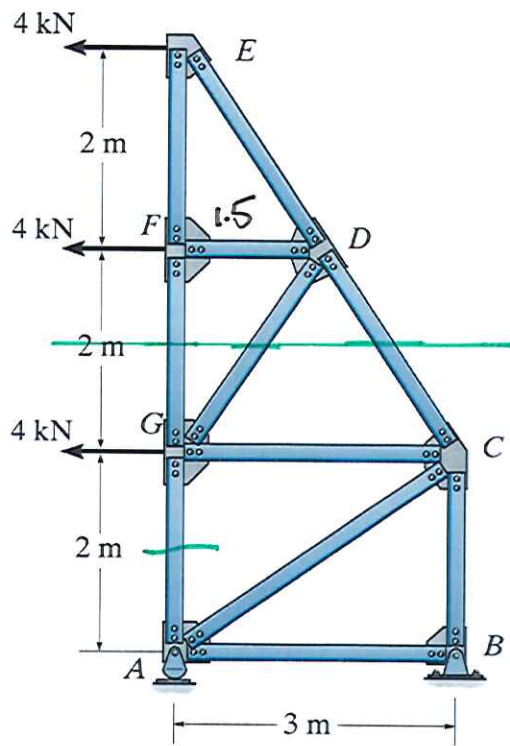
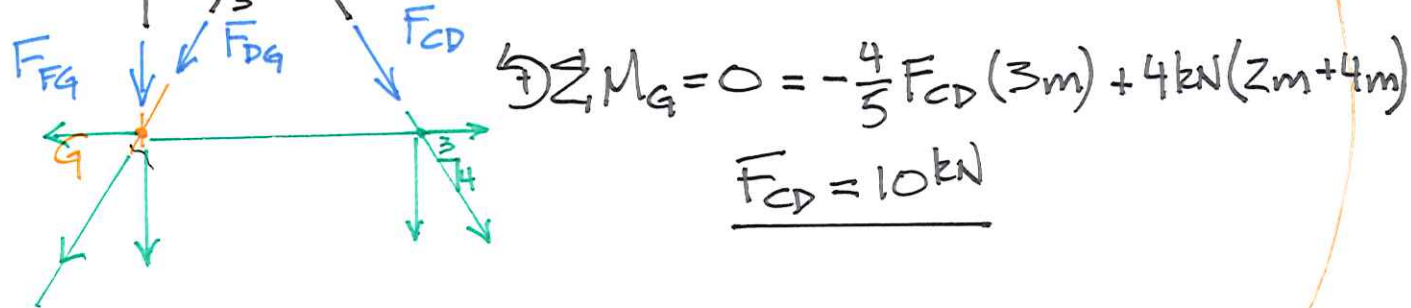


**Problem 3-21:** Determine the forces in members  $FG$ ,  $GD$ ,  $CD$ , and  $GA$ .



$$\sum M_E = 0 = -\frac{3}{5} F_{DG} (4m) - 4kN (2m)$$

$$\underline{F_{DG} = -3.33 kN}$$



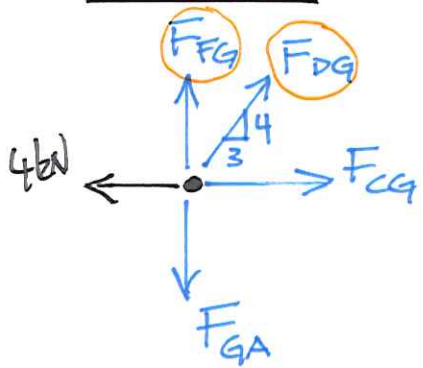
$$\sum M_G = 0 = -\frac{4}{5} F_{CD} (3m) + 4kN (2m + 4m)$$

$$\underline{F_{CD} = 10 kN}$$

$$\sum M_D = 0 = F_{FG} (1.5m) + 4kN (2m)$$

$$\underline{F_{FG} = -5.33 kN}$$

JOINT G



$$+\uparrow \sum F_y = 0 = -F_{GA} + F_{FG} + \frac{4}{5} F_{DG}$$

$$\underline{F_{GA} = -7.9 kN}$$