

1-20*

Cut a section through CD , DG , and FG , and draw a free-body diagram of the upper-portion of the truss. The equilibrium equations give

$$\circlearrowleft \Sigma M_G = 0: \quad (5 \cos 30^\circ)(9) - (5 \sin 30^\circ)(4) + T_{CD}(3) = 0$$

$$\circlearrowleft \Sigma M_D = 0: \quad (5 \cos 30^\circ)(6) - T_{FG}(3) = 0$$

$$T_{CD} = -9.66 \text{ kN} = 9.66 \text{ kN (C)} \dots\dots\dots \text{Ans.}$$

$$T_{FG} = 8.66 \text{ kN (T)} \dots\dots\dots \text{Ans.}$$

