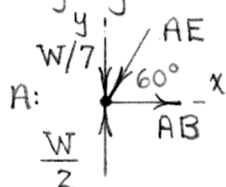


4/17 Total weight of truss  $W = 7(400)(9.81) \text{ N}$   
 $= 27.5 \text{ kN}$

By symmetry, reactions at A & C are  $W/2 = 13.73 \text{ kN}$



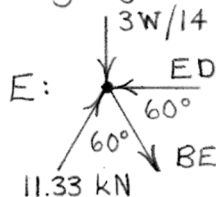
$$\sum F_y = 0: \frac{W}{2} - \frac{W}{7} - AE \sin 60^\circ = 0$$

$$AE = 0.412W = \underline{11.33 \text{ kN C}}$$

$$\sum F_x = 0: AB - 11.33 \cos 60^\circ = 0$$

$$AB = \underline{5.66 \text{ kN T}}$$

By symmetry,  $BC = AB = 5.66 \text{ kN T}$ ,  $DC = AE = 11.33 \text{ kN C}$



$$\sum F_y = 0: -\frac{3W}{14} + 11.33 \cos 30^\circ - BE \cos 30^\circ = 0$$

$$BE = \underline{4.53 \text{ kN T}}$$

By symmetry,  $BD = 4.53 \text{ kN T}$

$$\sum F_x = 0: 11.33 \sin 30^\circ + 4.53 \sin 30^\circ - ED = 0$$

$$ED = \underline{7.93 \text{ kN C}}$$

WILEY