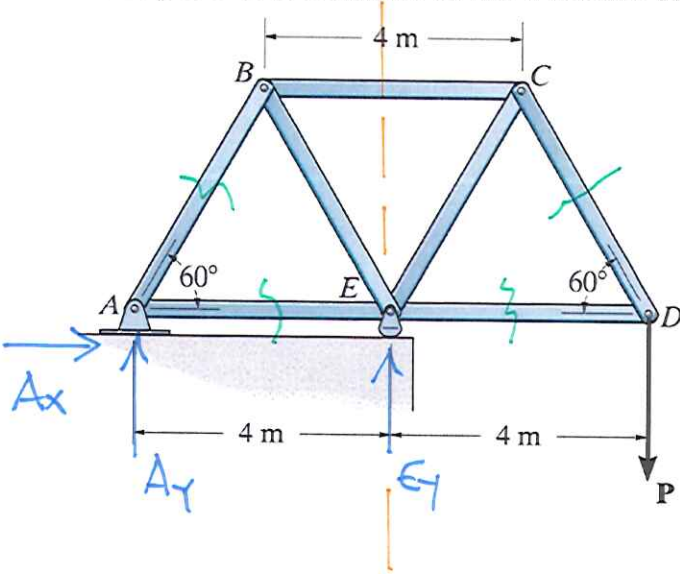


Example 3-2. Determine all the forces in the following truss.

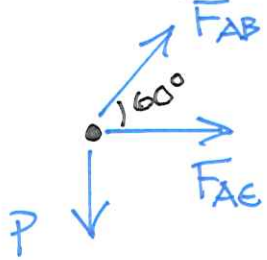


$$\sum M_A = 0 = -P(8m) + E_y(4m) \quad \underline{E_y = 2P}$$

$$\sum F_y = 0 = A_y + E_y - P \quad \underline{A_y = -P}$$

$$\sum F_x = 0 = A_x$$

JOINT A



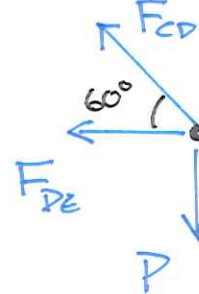
$$\sum F_y = 0 = F_{AB} \sin 60^\circ - P$$

$$\underline{F_{AB} = 1.15P}$$

$$\sum F_x = 0 = F_{AE} + F_{AB} \cos 60^\circ$$

$$\underline{F_{AE} = -0.577P}$$

JOINT D



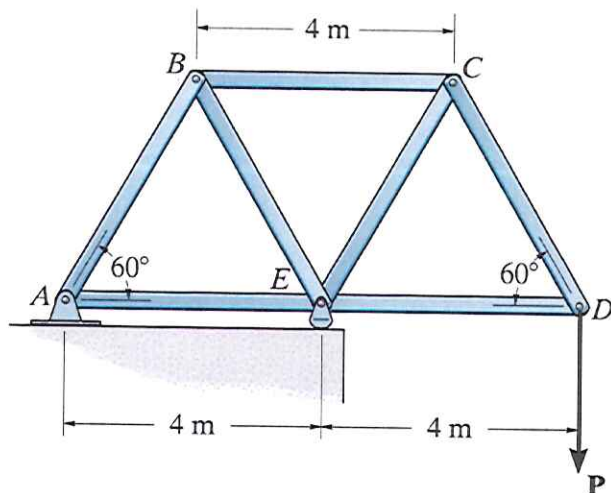
$$\sum F_y = 0 = F_{CD} \sin 60^\circ - P$$

$$\underline{F_{CD} = 1.15P}$$

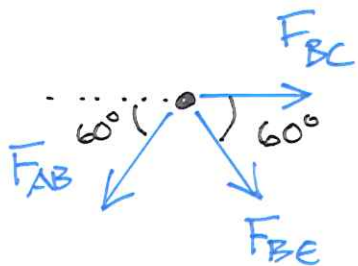
$$\sum F_x = 0 = -F_{DE} - F_{CD} \cos 60^\circ$$

$$\underline{F_{DE} = -0.577P}$$

Example 3-2. Determine all the forces in the following truss.



JOINT B



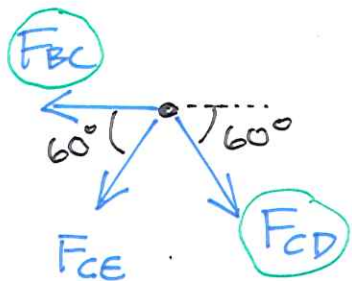
$$+\uparrow \sum F_y = 0 = -F_{AB} \sin 60^\circ - F_{BE} \sin 60^\circ$$

$$\underline{\underline{F_{BE} = -F_{AB} = -1.15P}}$$

$$+\rightarrow \sum F_x = 0 = -F_{AB} \cos 60^\circ + F_{BE} \cos 60^\circ + F_{BC}$$

$$\underline{\underline{F_{BC} = 1.15P}}$$

JOINT C



$$+\uparrow \sum F_y = 0 = -F_{CE} \sin 60^\circ - F_{CD} \sin 60^\circ$$

$$\underline{\underline{F_{CE} = -F_{CD} = -1.15P}}$$