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First equilibrium of an overall free-body diagram gives

$$\rightarrow \Sigma F_x = 0: \quad A_x - 100 = 0$$

$$\uparrow \Sigma F_y = 0: \quad 200 - A_y = 0$$

$$\circlearrowleft \Sigma M_A = 0: \quad 12N_F - 24(100) = 0$$

$$A_x = 100 \text{ lb} \quad A_y = 200 \text{ lb}$$

$$N_F = 200 \text{ lb}$$

$$\mathbf{A = 224 \text{ lb} } \angle 63.4^\circ \text{ Ans.}$$

Then from a free-body diagram of the bar *ABCD*

$$\rightarrow \Sigma F_x = 0: \quad A_x + C_x - F_{BE} \cos 45^\circ - 100 = 0$$

$$\uparrow \Sigma F_y = 0: \quad C_y + F_E \sin 45^\circ - A_y = 0$$

$$\circlearrowleft \Sigma M_C = 0: \quad -18A_x + 6(F_{BE} \cos 45^\circ) - 6(100) = 0$$

$$C_x = 400 \text{ lb} \quad C_y = -200 \text{ lb}$$

$$\mathbf{F_{BE} = 565.685 \text{ lb} } \cong 566 \text{ lb} \angle 45^\circ \text{ Ans.}$$

$$\mathbf{C = 447 \text{ lb} } \angle 26.6^\circ \text{ Ans.}$$

