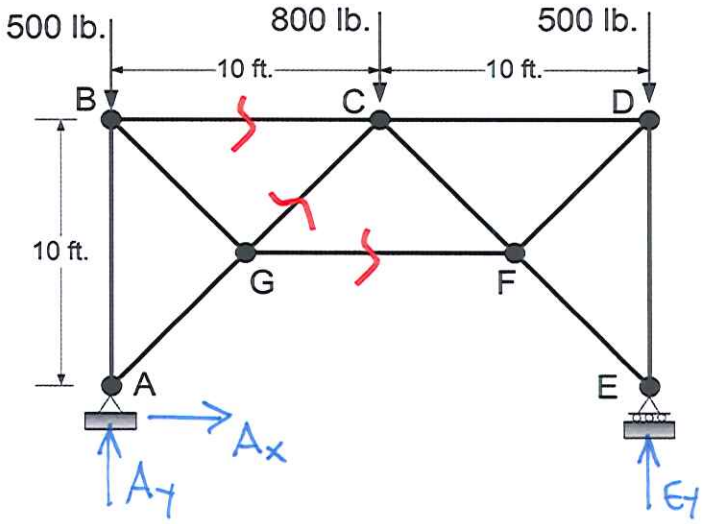
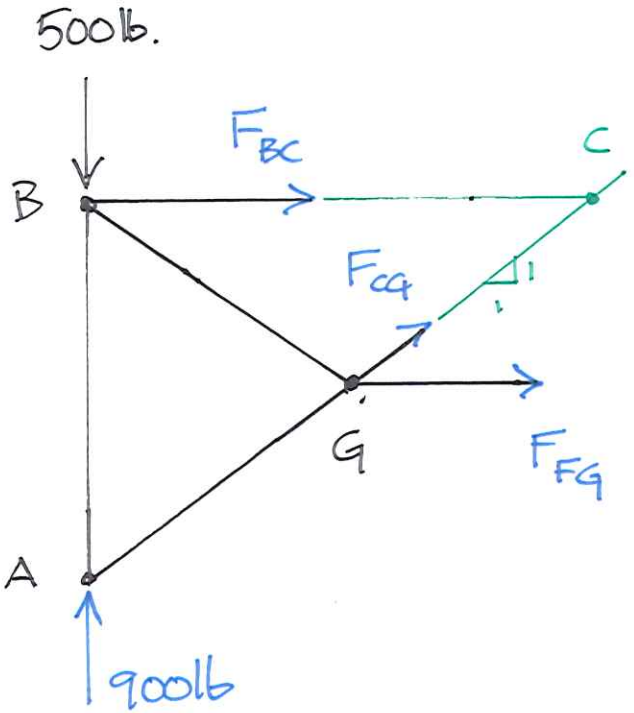
Example 3c-2: Determine the forces BC, CG, and GF in the following truss.



$$\circlearrowleft +\Sigma M_E = 0 = 800\text{lb.}(10') + 500\text{lb.}(20') - A_y(20')$$

$$A_y = 900\text{ lb.}$$

$$\rightarrow +\Sigma F_x = 0 = A_x$$



$$\circlearrowleft +\Sigma M_G = 0 = -F_{BC}(5') + 500\text{lb.}(5') - 900\text{lb}(5')$$

$$F_{BC} = -400\text{lb.}$$

$$\circlearrowleft +\Sigma M_C = 0 = F_{FG}(5') + 500\text{lb.}(10') - 900\text{lb.}(10')$$

$$F_{FG} = 800\text{lb.}$$

$$+\uparrow \Sigma F_y = 0 = \frac{1}{\sqrt{2}} F_{CG} - 500\text{lb.} + 900\text{lb.}$$

$$F_{CG} = -565.7\text{lb}$$