

## CHAPTER 6

6.5:  $F_{AB} = 671$  T,  $F_{BC} = 600$  C,  $F_{AC} = 1000$  C =  $F_{AD}$ ,  $F_{CD} = 200$  T

**6.10**  $F_{AB} = F_{FH} = 1500$  lb C;  
 $F_{AC} = F_{CE} = F_{EG} = F_{GH} = 1200$  lb T;  
 $F_{BC} = F_{FG} = 0$ ;  $F_{BD} = F_{DF} = 1200$  lb C;  
 $F_{BE} = F_{EF} = 60.0$  lb C;  $F_{DE} = 72.0$  lb T.

**6.15**  $F_{AB} = F_{FH} = 7.50$  kips C;  $F_{AC} = F_{GH} = 4.50$  kips T;  
 $F_{BC} = F_{FG} = 4.00$  kips T;  $F_{BD} = F_{DF} = 6.00$  kips C;  
 $F_{BE} = F_{EF} = 2.50$  kips T;  $F_{CE} = F_{EG} = 4.50$  kips T;  
 $F_{DE} = 0$ .

**6.23**  $F_{AB} = F_{DF} = 2.29$  kN T;  $F_{AC} = F_{EF} = 2.29$  kN C;  
 $F_{BC} = F_{DE} = 0.600$  kN C;  $F_{BD} = 2.21$  kN T;  
 $F_{BE} = F_{EH} = 0$ ;  $F_{CE} = 2.21$  kN C;  
 $F_{CH} = F_{EJ} = 1.200$  kN C.

**6.43**  $F_{DF} = 5.45$  kN C;  $F_{DG} = 1.00$  kN T;  
 $F_{EG} = 4.65$  kN T.

**6.49**  $F_{DF} = 10.48$  kips C;  $F_{DC} = 3.35$  kips C;  
 $F_{EC} = 13.02$  kips T.

**6.52**  $F_{EG} = 3.46$  kN T;  $F_{GH} = 3.78$  kN C;  
 $F_{HJ} = 3.55$  kN C.

**6.79**  $A_x = 18$  kN $\leftarrow$ ,  $A_y = 20$  kN $\downarrow$ ;  $B = 9$  kN $\rightarrow$ ;  
 $C_x = 9$  kN $\rightarrow$ ,  $C_y = 20$  kN $\uparrow$ .

6.85 a)  $A_x = -90 \text{ N}$ ,  $A_y = -45 \text{ N}$ ,  $E_x = -90 \text{ N}$ ,  $E_y = -45 \text{ N}$ ; b)  $A_x = 90 \text{ N}$ ,  $A_y = -30 \text{ N}$ ,  $E_x = 90 \text{ N}$ ,  $E_y = -30 \text{ N}$

**6.95** (a)  $\mathbf{A} = 982 \text{ lb}\uparrow$ ;  $\mathbf{B} = 935 \text{ lb}\uparrow$ ;  $\mathbf{C} = 733 \text{ lb}\uparrow$ .  
(b)  $\Delta B = +291 \text{ lb}$ ;  $\Delta C = -72.7 \text{ lb}$ .

6.103:  $D_x = 22$ ,  $D_y = 13.75$ ,  $B_x = 10$ ,  $B_y = 13.75 \text{ kN}$

**6.123**  $564 \text{ lb}\rightarrow$ .

**6.133**  $832 \text{ lb}\cdot\text{in.}\uparrow$ .

**6.145**  $44.8 \text{ kN}$ .

6.153:  $T = 9283 \text{ N}$ ,  $A_x = 6628 \text{ N}$ ,  $A_y = -4538 \text{ N}$