

**Elementary Engineering Mathematics**  
**Exercises #6 Answers**

1.  $\begin{Bmatrix} I_1 \\ I_2 \end{Bmatrix} \approx \begin{Bmatrix} 0.353 \\ 1.48 \end{Bmatrix}$  (amps)

2.  $F_{AB} \approx 600$  (lb),  $F_{AC} \approx 820$  (lb)

3.  $T = \frac{W}{2 \sin(\theta)}$

As angle  $\theta$  changes from  $90 \rightarrow 0$  (deg), tension  $T$  increases from  $W/2 \rightarrow \infty$ .

4. a)  $(\underline{M}_A)_P = -2000 \underline{k}$  (ft-lb)

b)  $C = 100$  (lb)

c)  $\underline{A} = -200 \underline{i} - 100 \underline{j}$  (lb)

d)  $F_{AB} \approx 112$  (lb) (positive sign indicates tension)

$F_{BC} \approx -180$  (lb) (negative sign indicates compression)