**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. $T = \dfrac{W}{2\sin(\theta)}$

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

4. a) $\left(\underset{\sim}{M}_A\right)_P = -2000\,\underset{\sim}{k}$ (ft-lb)

   b) $C = 100$ (lb)

   c) $\underset{\sim}{A} = -200\,\underset{\sim}{i} - 100\,\underset{\sim}{j}$ (lb)

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

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