Chapter 11 Solutions to Problems

3. a. 3/10, net 60: \[\frac{0.03}{1 - 0.03}\] x \(\frac{365}{50} = 0.226\), or 22.6%
   
b. 3/10, net 70: \[\frac{0.03}{1 - 0.03}\] x \(\frac{365}{60} = 0.188\), or 18.8%
   
c. 4/20, net 60: \[\frac{0.04}{1 - 0.04}\] x \(\frac{365}{40} = 0.380\), or 38.0%
   
d. 4/20, net 70: \[\frac{0.04}{1 - 0.04}\] x \(\frac{365}{50} = 0.304\), or 30.4%

4. a. A/R turnover = \(\frac{($2,500,000 \times 0.80)}{125,000} = 16\)
   
b. Average collection period = \(\frac{125,000}{($2,500,000 \times 0.80)/365} = 22.8\) days
   
   Average collection period = \(\frac{365}{16} = 22.8\) days
   
c. Accounts receivable turnover will be overstated and the ACP will be understated.

6. a. Inventory turnover = \(\frac{$560,000}{$80,000} = 7.0\)
   
b. Warden Company’s inventory turnover ratio, 7.0, is low compared with the industry average of 10. Warden Company carries more inventory than is typical for its industry.
   
c. Warden Company’s low inventory turnover may reduce profitability as a result of the cost of carrying extra inventory. These costs might include spoilage and obsolescence of inventory items, as well as taxes, insurance, and storage expenses. Warden Company also bears the opportunity cost of the cash tied up in the extra inventory.

7. a. Sales = 80 \times 12 = 960 cases per year
   
   Ordering costs = \(\frac{($7.80/6)}{0.08} = $1.38\) per order
   
   EOQ = \(\left[\frac{2 \times 960 \times $1.38}{(0.50 \times $12)}\right]^{1/2} = 21\) cases
   
   b. Days between orders = \(\frac{21}{960/365} = 8.0\) days
   
   c. Carrying costs = \((0.50 \times $12) \times (21/2) = $63\)
      
      Ordering costs = \$1.38 \times (960/21) = $63
      
      Total costs = $63 + $63 = $126
8. a. *Founders Trust*:

\[
850,000 = \text{Principal} - (0.09 \times \text{Principal})
\]

\[
850,000 = \text{Principal} \times (1.0 - 0.09)
\]

\[
850,000 = \text{Principal} \times 0.91
\]

\[
\text{Principal} = \frac{850,000}{0.91} = 934,066
\]

*Security Bank*: Proceeds = Principal = $850,000

b. *Founders Trust*:

Interest = $934,066 \times 0.09 = $84,066

Usable loan proceeds = $934,066 - $84,066 = $850,000

Effective annual rate = $84,066/$850,000 = 0.099, or 9.9%

*Security Bank*:

Interest = $850,000 \times 0.10 = $85,000

Effective annual rate = $85,000/$850,000 = 0.100, or 10.0%

Hoffman should borrow from Founders because it offers a lower effective annual rate.