# CHAPTER 15

Long-Term Liabilities

## ASSIGNMENT CLASSIFICATION TABLE

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<tr>
<th>Study Objectives</th>
<th>Questions</th>
<th>Brief Exercises</th>
<th>Exercises</th>
<th>A Problems</th>
<th>B Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Explain why bonds are issued.</td>
<td>1, 2, 3, 4, 5</td>
<td>1</td>
<td>1, 2</td>
<td>1A, 2A, 5A, 6A, 9A</td>
<td>1B, 2B, 5B, 6B, 9B</td>
</tr>
<tr>
<td>2. Prepare the entries for the issuance of bonds and interest expense.</td>
<td>6, 7, 8</td>
<td>2, 3, 4</td>
<td>3, 4, 5, 6, 7, 8</td>
<td>1A, 2A, 5A, 6A, 9A</td>
<td>1B, 2B, 5B, 6B, 9B</td>
</tr>
<tr>
<td>3. Describe the entries when bonds are redeemed or converted.</td>
<td>9, 10</td>
<td>5</td>
<td>5, 6, 8, 9, 18, 19</td>
<td>1A, 2A, 9A</td>
<td>1B, 2B, 9B</td>
</tr>
<tr>
<td>4. Describe the accounting for long-term notes payable.</td>
<td>11</td>
<td>6</td>
<td>10, 11</td>
<td>3A</td>
<td>3B</td>
</tr>
<tr>
<td>5. Contrast the accounting for operating and capital leases.</td>
<td>12, 13, 14</td>
<td>7</td>
<td>12</td>
<td>4A</td>
<td>4B</td>
</tr>
<tr>
<td>6. Identify the methods for the presentation and analysis of long-term liabilities.</td>
<td>15</td>
<td>8</td>
<td>13, 14</td>
<td>1A, 2A, 7A, 8A</td>
<td>1B, 2B, 7B, 8B</td>
</tr>
<tr>
<td>7. Compute the market price of a bond.</td>
<td>18</td>
<td>9</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Apply the effective-interest method of amortizing bond discount and bond premium.</td>
<td>16, 17</td>
<td>10</td>
<td>16, 17</td>
<td>5A, 6A</td>
<td>5B, 6B</td>
</tr>
<tr>
<td>9. Apply the straight-line method of amortizing bond discount and bond premium.</td>
<td>19, 20</td>
<td>11, 12</td>
<td>18, 19</td>
<td>7A, 8A, 9A</td>
<td>7B, 8B, 9B</td>
</tr>
</tbody>
</table>

*Note:* All asterisked Questions, Exercises, and Problems relate to material contained in the appendix to the chapter.
## ASSIGNMENT CHARACTERISTICS TABLE

<table>
<thead>
<tr>
<th>Problem Number</th>
<th>Description</th>
<th>Difficulty Level</th>
<th>Time Allotted (min.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>Prepare entries to record issuance of bonds, interest accrual, and bond redemption.</td>
<td>Moderate</td>
<td>20–30</td>
</tr>
<tr>
<td>2A</td>
<td>Prepare entries to record issuance of bonds, interest accrual, and bond redemption.</td>
<td>Moderate</td>
<td>15–20</td>
</tr>
<tr>
<td>3A</td>
<td>Prepare installment payments schedule and journal entries for a mortgage note payable.</td>
<td>Moderate</td>
<td>20–30</td>
</tr>
<tr>
<td>4A</td>
<td>Analyze three different lease situations and prepare journal entries.</td>
<td>Moderate</td>
<td>20–30</td>
</tr>
<tr>
<td><em>5A</em></td>
<td>Prepare entries to record issuance of bonds, payment of interest, and amortization of bond premium using effective-interest method.</td>
<td>Moderate</td>
<td>30–40</td>
</tr>
<tr>
<td><em>6A</em></td>
<td>Prepare entries to record issuance of bonds, payment of interest, and amortization of discount using effective-interest method. In addition, answer questions.</td>
<td>Moderate</td>
<td>30–40</td>
</tr>
<tr>
<td><em>7A</em></td>
<td>Prepare entries to record issuance of bonds, interest accrual, and straight-line amortization for two years.</td>
<td>Simple</td>
<td>30–40</td>
</tr>
<tr>
<td><em>8A</em></td>
<td>Prepare entries to record issuance of bonds, interest, and straight-line amortization of bond premium and discount.</td>
<td>Simple</td>
<td>30–40</td>
</tr>
<tr>
<td><em>9A</em></td>
<td>Prepare entries to record interest payments, straight-line premium amortization, and redemption of bonds.</td>
<td>Moderate</td>
<td>30–40</td>
</tr>
<tr>
<td>1B</td>
<td>Prepare entries to record issuance of bonds, interest accrual, and bond redemption.</td>
<td>Moderate</td>
<td>20–30</td>
</tr>
<tr>
<td>2B</td>
<td>Prepare entries to record issuance of bonds, interest accrual, and bond redemption.</td>
<td>Moderate</td>
<td>15–20</td>
</tr>
<tr>
<td>3B</td>
<td>Prepare installment payments schedule and journal entries for a mortgage note payable.</td>
<td>Moderate</td>
<td>20–30</td>
</tr>
<tr>
<td>4B</td>
<td>Analyze three different lease situations and prepare journal entries.</td>
<td>Moderate</td>
<td>20–30</td>
</tr>
<tr>
<td><em>5B</em></td>
<td>Prepare entries to record issuance of bonds, payment of interest, and amortization of bond discount using effective-interest method.</td>
<td>Moderate</td>
<td>30–40</td>
</tr>
<tr>
<td>Problem Number</td>
<td>Description</td>
<td>Difficulty Level</td>
<td>Time Allotted (min.)</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------</td>
<td>----------------------</td>
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<tr>
<td>*6B</td>
<td>Prepare entries to record issuance of bonds, payment of interest, and amortization of premium using effective-interest method. In addition, answer questions.</td>
<td>Moderate</td>
<td>30–40</td>
</tr>
<tr>
<td>*7B</td>
<td>Prepare entries to record issuance of bonds, interest accrual, and straight-line amortization for two years.</td>
<td>Simple</td>
<td>30–40</td>
</tr>
<tr>
<td>*8B</td>
<td>Prepare entries to record issuance of bonds, interest, and straight-line amortization of bond premium and discount.</td>
<td>Simple</td>
<td>30–40</td>
</tr>
<tr>
<td>*9B</td>
<td>Prepare entries to record interest payments, straight-line discount amortization, and redemption of bonds.</td>
<td>Moderate</td>
<td>30–40</td>
</tr>
<tr>
<td>Study Objective</td>
<td>Knowledge</td>
<td>Comprehension</td>
<td>Application</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------</td>
<td>-------------</td>
<td>---------------</td>
<td>-------------</td>
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<tr>
<td></td>
<td>Q15-2</td>
<td>Q15-7</td>
<td>E15-6</td>
</tr>
<tr>
<td></td>
<td>Q15-3</td>
<td>BE15-2</td>
<td>E15-7</td>
</tr>
<tr>
<td></td>
<td>Q15-8</td>
<td>BE15-4</td>
<td>P15-5B</td>
</tr>
<tr>
<td></td>
<td>BE15-6</td>
<td>E15-5</td>
<td>P15-1B</td>
</tr>
<tr>
<td>3. Describe the entries when bonds are redeemed or converted.</td>
<td>Q15-10</td>
<td>Q15-9</td>
<td>P15-9A</td>
</tr>
<tr>
<td></td>
<td>BE15-5</td>
<td>BE15-6</td>
<td>P15-9B</td>
</tr>
<tr>
<td></td>
<td>E15-5</td>
<td>E15-5</td>
<td>P15-1B</td>
</tr>
<tr>
<td></td>
<td>E15-6</td>
<td>E15-6</td>
<td>P15-2B</td>
</tr>
<tr>
<td></td>
<td>BE15-6</td>
<td>BE15-7</td>
<td>P15-4A</td>
</tr>
<tr>
<td></td>
<td>E15-8</td>
<td>E15-12</td>
<td>P15-4A</td>
</tr>
<tr>
<td></td>
<td>E15-13</td>
<td>E15-5</td>
<td>P15-7B</td>
</tr>
<tr>
<td></td>
<td>E15-14</td>
<td>E15-8</td>
<td>P15-5B</td>
</tr>
<tr>
<td></td>
<td>P15-1A</td>
<td>P15-1B</td>
<td>P15-5B</td>
</tr>
<tr>
<td>*7. Compute the market price of a bond.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Q15-17</td>
<td>BE15-16</td>
<td>P15-6A</td>
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<tr>
<td></td>
<td>BE15-17</td>
<td>E15-16</td>
<td>P15-5B</td>
</tr>
<tr>
<td></td>
<td>BE15-11</td>
<td>E15-5</td>
<td>P15-7B</td>
</tr>
<tr>
<td></td>
<td>BE15-12</td>
<td>P15-7A</td>
<td>P15-8B</td>
</tr>
<tr>
<td></td>
<td>P15-9A</td>
<td>P15-1A</td>
<td>P15-1B</td>
</tr>
<tr>
<td>Broadening Your Perspective</td>
<td>Communication</td>
<td>Exploring the Web</td>
<td>Comp. Analysis</td>
</tr>
</tbody>
</table>
1. (a) Long-term liabilities are obligations that are expected to be paid after one year. Examples include bonds, long-term notes, and lease obligations.
   (b) Bonds are a form of interest-bearing notes payable used by corporations, universities, and governmental agencies.

2. (a) The major advantages are:
   (1) Stockholder control is not affected—bondholders do not have voting rights, so current stockholders retain full control of the company.
   (2) Tax savings result—bond interest is deductible for tax purposes; dividends on stock are not.
   (3) Earnings per share may be higher—although bond interest expense will reduce net income, earnings per share on common stock will often be higher under bond financing because no additional shares of common stock are issued.
   (b) The major disadvantages in using bonds are that interest must be paid on a periodic basis and the principal (face value) of the bonds must be paid at maturity.

3. (a) Secured bonds have specific assets of the issuer pledged as collateral. In contrast, unsecured bonds are issued against the general credit of the borrower. These bonds are called debenture bonds.
   (b) Term bonds mature at a single specified future date. In contrast, serial bonds mature in installments.
   (c) Registered bonds are issued in the name of the owner. In contrast, bearer (coupon) bonds are issued to bearer and are unregistered. Holders of bearer bonds must send in coupons to receive interest payments.
   (d) Convertible bonds may be converted into common stock at the bondholders’ option. In contrast, callable bonds are subject to call and retirement at a stated dollar amount prior to maturity at the option of the issuer.

4. (a) Face value is the amount of principal due at the maturity date. (Face value is also called par value.)
   (b) The contractual interest rate is the rate used to determine the amount of cash interest the borrower pays and the investor receives. This rate is also called the stated interest rate because it is the rate stated on the bonds.
   (c) A bond indenture is a legal document that sets forth the terms of the bond issue.
   (d) A bond certificate is a legal document that indicates the name of the issuer, the face value of the bonds, and such other data as the contractual interest rate and maturity date of the bonds.

5. The two major obligations incurred by a company when bonds are issued are the interest payments due on a periodic basis and the principal which must be paid at maturity.

6. Less than. Investors are required to pay more than the face value; therefore, the market interest rate is less than the contractual rate.

7. $28,000. $800,000 X 7% X 1/2 year = $28,000.

8. $860,000. The balance of the Bonds Payable account minus the balance of the Discount on Bonds Payable account (or plus the balance of the Premium on Bonds Payable account) equals the carrying value of the bonds.
9. **Debits**: Bonds Payable (for the face value) and Premium on Bonds Payable (for the unamortized balance).
   **Credits**: Cash (for 97% of the face value) and Gain on Bond Redemption (for the difference between the cash paid and the bonds’ carrying value).

10. A convertible bond permits bondholders to convert it into common stock at the option of the bondholders.
   (a) For bondholders, the conversion option gives an opportunity to benefit if the market price of the common stock increases substantially.
   (b) For the issuer, convertible bonds usually have a higher selling price and a lower rate of interest than comparable debt securities without the conversion option.

11. No, Tim is not right. Each payment by Tim consists of: (1) interest on the unpaid balance of the loan and (2) a reduction of loan principal. The interest decreases each period while the portion applied to the loan principal increases each period.

12. (a) A lease agreement is a contract in which the lessor gives the lessee the right to use an asset for a specified period in return for one or more periodic rental payments. The lessor is the owner of the property and the lessee is the renter or tenant.
   (b) The two most common types of leases are operating leases and capital leases.
   (c) In an operating lease, the property is rented by the lessee and the lessor retains all ownership risks and responsibilities. A capital lease transfers substantially all the benefits and risks of ownership from the lessor to the lessee, so that the lease is in effect a purchase of the property.

13. This lease would be reported as an operating lease. In an operating lease, each payment is debited to Rent Expense. Neither a leased asset nor a lease liability is capitalized.

14. In a capital lease agreement, the lessee records the present value of the lease payments as an asset and a liability. Therefore, Rondelli Company would debit Leased Equipment for $186,300 and credit Lease Liability for the same amount.

15. The nature and the amount of each long-term liability should be presented in the balance sheet or in schedules in the accompanying notes to the statements. The notes should also indicate the interest rates, maturity dates, conversion privileges, and assets pledged as collateral.

*16. Laura is probably indicating that since the borrower has the use of the bond proceeds over the term of the bonds, the borrowing rate in each period should be the same. The effective-interest method results in a varying amount of interest expense but a constant rate of interest on the balance outstanding. Accordingly, it results in a better matching of expenses with revenues than the straight-line method.

*17. Decrease. Under the effective-interest method the interest charge per period is determined by multiplying the carrying value of the bonds by the effective-interest rate. When bonds are issued at a premium, the carrying value decreases over the life of the bonds. As a result, the interest expense will also decrease over the life of the bonds because it is determined by multiplying the decreasing carrying value of the bonds at the beginning of the period by the effective-interest rate.
*18. No, Tina is not right. The market price of any bond is a function of three factors: (1) The dollar amounts to be received by the investor (interest and principal), (2) The length of time until the amounts are received (interest payment dates and maturity date), and (3) The market interest rate.

*19. The straight-line method results in the same amortized amount being assigned to Interest Expense each interest period. This amount is determined by dividing the total bond discount or premium by the number of interest periods the bonds will be outstanding.

*20. $28,000. Interest expense is the interest to be paid in cash less the premium amortization for the year. Cash to be paid equals 8% X $400,000 or $32,000. Total premium equals 5% of $400,000 or $20,000. Since this is to be amortized over 5 years (the life of the bonds) in equal amounts, the amortization amount is $20,000 \div 5 = $4,000. Thus, $32,000 – $4,000 or $28,000 equals interest expense for 2008.
BRIEF EXERCISE 15-1

<table>
<thead>
<tr>
<th></th>
<th>Issue Stock</th>
<th>Issue Bond</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income before interest and taxes</td>
<td>$700,000</td>
<td>$700,000</td>
</tr>
<tr>
<td>Interest ($2,000,000 X 8%)</td>
<td>0</td>
<td>160,000</td>
</tr>
<tr>
<td>Income before income taxes</td>
<td>700,000</td>
<td>540,000</td>
</tr>
<tr>
<td>Income tax expense (30%)</td>
<td>210,000</td>
<td>162,000</td>
</tr>
<tr>
<td>Net income (a)</td>
<td>$490,000</td>
<td>$378,000</td>
</tr>
<tr>
<td>Outstanding shares (b)</td>
<td>700,000</td>
<td>500,000</td>
</tr>
<tr>
<td>Earnings per share (a) ÷ (b)</td>
<td>$0.70</td>
<td>$0.76</td>
</tr>
</tbody>
</table>

Net income is higher if stock is used. However, earnings per share is lower than earnings per share if bonds are used because of the additional shares of stock that are outstanding.

BRIEF EXERCISE 15-2

(a) Jan. 1 Cash ......................................................... 3,000,000
       Bonds Payable........................................ 3,000,000
              (3,000 X $1,000)

(b) July 1 Bond Interest Expense................. 120,000
       Cash................................................. 120,000
              ($3,000,000 X 8% X 1/2)

(c) Dec. 31 Bond Interest Expense................. 120,000
       Bond Interest Payable............. 120,000
              ($3,000,000 X 8% X 1/2)
BRIEF EXERCISE 15-3

(a) Jan. 1  Cash ($2,000,000 X .97) ....................... 1,940,000
   Discount on Bonds Payable ............. 60,000
   Bonds Payable.............................. 2,000,000

(b) Jan. 1  Cash ($2,000,000 X 1.04) .................... 2,080,000
   Bonds Payable.............................. 2,000,000
   Premium on Bonds Payable....... 80,000

BRIEF EXERCISE 15-4

1. Jan. 1  Cash (1,000 X $1,000) .......................... 1,000,000
   Bonds Payable.............................. 1,000,000

2. July 1  Cash ($800,000 X 1.02)....................... 816,000
   Bonds Payable.............................. 800,000
   Premium on Bonds Payable...... 16,000

3. Sept. 1 Cash ($200,000 X .98) ....................... 196,000
   Discount on Bonds Payable .......... 4,000
   Bonds Payable.............................. 200,000

BRIEF EXERCISE 15-5

Bonds Payable............................................................ 1,000,000
Loss on Bond Redemption............................... 70,000
($1,010,000 – $940,000)
   Discount on Bonds Payable................. 60,000
   Cash ($1,000,000 X 101%)............... 1,010,000
BRIEF EXERCISE 15-6

<table>
<thead>
<tr>
<th>Semiannual Interest Period</th>
<th>(A) Cash Payment</th>
<th>(B) Interest Expense (D) X 5%</th>
<th>(C) Reduction of Principal (A) – (B)</th>
<th>(D) Principal Balance (D) – (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue Date</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>$48,145</td>
<td>$30,000</td>
<td>$18,145</td>
<td>$600,000</td>
</tr>
</tbody>
</table>

Dec. 31

Cash................................................................. 600,000
Mortgage Notes Payable................................. 600,000

June 30

Interest Expense................................................. 30,000
Mortgage Notes Payable........................................ 18,145
Cash.............................................................. 48,145

BRIEF EXERCISE 15-7

1. Rent Expense .................................................... 80,000
   Cash............................................................ 80,000

2. Leased Asset—Building ........................................ 700,000
   Lease Liability ................................................ 700,000

BRIEF EXERCISE 15-8

Long-term liabilities

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds payable, due 2010</td>
<td>$500,000</td>
</tr>
<tr>
<td>Less: Discount on bonds payable</td>
<td>45,000</td>
</tr>
<tr>
<td>Notes payable, due 2013</td>
<td>80,000</td>
</tr>
<tr>
<td>Lease liability</td>
<td>70,000</td>
</tr>
<tr>
<td>Total long-term liabilities</td>
<td>$605,000</td>
</tr>
</tbody>
</table>
*BRIEF EXERCISE 15-9

(b) $10,000

Discount rate from Table 15 A-1 is 0.46651 (8 periods at 10%). Present value of $10,000 to be received in 8 periods discounted at 10% is therefore $4,665.10 ($10,000 X 0.46651).

(b) $20,000

Discount rate from Table 15 A-2 is 4.62288 (6 periods at 8%). Present value of 6 payments of $20,000 each discounted at 8% is therefore $92,457.60 ($20,000 X 4.62288).

*BRIEF EXERCISE 15-10

(a) Interest Expense ............................................................. 46,884

Discount on Bonds Payable ............................................... 1,884

Cash ........................................................................... 45,000

(b) Interest expense is greater than interest paid because the bonds sold at a discount which must be amortized over the life of the bonds. The bonds sold at a discount because investors demanded a market interest rate higher than the contractual interest rate.

(c) Interest expense increases each period because the bond carrying value increases each period. As the market interest rate is applied to this bond carrying amount, interest expense will increase.
*BRIEF EXERCISE 15-11

(a) Jan. 1 Cash (.96 X $5,000,000) ....................... 4,800,000
    Discount on Bonds Payable ..................... 200,000
    Bonds Payable .................................. 5,000,000

(b) July 1 Bond Interest Expense ...................... 235,000
    Discount on Bonds Payable .............. 10,000
    ($200,000 ÷ 20)
    Cash ............................................. 225,000
    ($5,000,000 X 9% X 1/2)

*BRIEF EXERCISE 15-12

(a) Cash (1.02 X $3,000,000) .......................... 3,060,000
    Bonds Payable .................................. 3,000,000
    Premium on Bonds Payable ................. 60,000

(b) Bond Interest Expense ......................... 144,000
    Premium on Bonds Payable ................. 6,000
    ($60,000 ÷ 10)
    Cash ($3,000,000 X 10% X 1/2) .............. 150,000
SOLUTIONS TO EXERCISES

EXERCISE 15-1

1. True.
2. True.
3. False. When seeking long-term financing, an advantage of issuing **bonds** over issuing **common stock** is that tax savings result.
4. True.
5. False. **Unsecured** bonds are also known as debenture bonds.
6. False. Bonds that mature in installments are called **serial** bonds.
7. True.
8. True.
10. True.

EXERCISE 15-2

<table>
<thead>
<tr>
<th></th>
<th>Plan One</th>
<th>Plan Two</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issue Stock</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income before interest and taxes</td>
<td>$800,000</td>
<td>$800,000</td>
</tr>
<tr>
<td>Interest ($2,700,000 X 10%)</td>
<td>—</td>
<td>270,000</td>
</tr>
<tr>
<td>Income before taxes</td>
<td>800,000</td>
<td>530,000</td>
</tr>
<tr>
<td>Income tax expense (30%)</td>
<td>240,000</td>
<td>159,000</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>$560,000</td>
<td>$371,000</td>
</tr>
<tr>
<td>Outstanding shares</td>
<td>150,000</td>
<td>90,000</td>
</tr>
<tr>
<td><strong>Earnings per share</strong></td>
<td>$3.73</td>
<td>$4.12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Plan Two</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Issue Bonds</strong></td>
<td></td>
</tr>
<tr>
<td>Income before interest and taxes</td>
<td>$800,000</td>
</tr>
<tr>
<td>Interest ($2,700,000 X 10%)</td>
<td>270,000</td>
</tr>
<tr>
<td>Income before taxes</td>
<td>530,000</td>
</tr>
<tr>
<td>Income tax expense (30%)</td>
<td>159,000</td>
</tr>
<tr>
<td><strong>Net income</strong></td>
<td>$371,000</td>
</tr>
<tr>
<td>Outstanding shares</td>
<td>90,000</td>
</tr>
<tr>
<td><strong>Earnings per share</strong></td>
<td>$4.12</td>
</tr>
</tbody>
</table>

EXERCISE 15-3

(a) Jan. 1  Cash................................................................. 500,000
           Bonds Payable................................................. 500,000

(b) July 1  Bond Interest Expense ......................... 25,000
           Cash ($500,000 X 10% X 1/2).............. 25,000

(c) Dec. 31 Bond Interest Expense ......................... 25,000
     Bond Interest Payable......................... 25,000
EXERCISE 15-4

(a) Jan. 1  Cash ................................................................. 300,000
     Bonds Payable .............................................. 300,000

(b) July 1  Bond Interest Expense ......................... 12,000
     Cash ($300,000 X 8% X 1/2) .................. 12,000

(c) Dec. 31 Bond Interest Expense ......................... 12,000
     Bond Interest Payable ............................. 12,000

EXERCISE 15-5

(a) 2008

Jan. 1  Cash ................................................................. 400,000
     Bonds Payable .............................................. 400,000

(b) July 1  Bond Interest Expense ......................... 18,000
     Cash ($400,000 X 9% X 1/2) .................. 18,000

(c) Dec. 31 Bond Interest Expense ......................... 18,000
     Bond Interest Payable ............................. 18,000

(d) 2018

Jan. 1  Bonds Payable .............................................. 400,000
     Cash ................................................................. 400,000
EXERCISE 15-6

At 100
(a) (1) Cash.............................................................. 1,000,000
        Bonds Payable........................................ 1,000,000

At 98
(2) Cash............................................................... 980,000
        Discount on Bonds Payable...................... 20,000
        Bonds Payable........................................ 1,000,000

At 103
(3) Cash............................................................... 1,030,000
        Bonds Payable........................................ 1,000,000
        Premium on Bonds Payable..................... 30,000

Retirement of bonds at maturity
(b) Bonds Payable .............................................. 1,000,000
        Cash .......................................................... 1,000,000

Retirement of bonds before maturity at 98
(c) Bonds Payable .............................................. 1,000,000
        Premium on Bonds Payable..................... 9,000
        Cash .......................................................... 980,000
        Gain on Bond Redemption....................... 29,000

Conversion of bonds into common stock
(d) Bonds Payable .............................................. 1,000,000
        Common Stock.......................................... 300,000
        Paid-in Capital in Excess of Par Value..... 700,000
EXERCISE 15-7

(a) (1) Cash................................................................. 485,000
Discount on Bonds Payable.......................... 15,000
Bonds Payable................................. 500,000

(2) Semiannual interest payments ................. $200,000
($20,000* X 10)  
Plus: Bond discount .................................... 15,000
Total cost of borrowing............................ $215,000

*(500,000 X .08 X 6/12)

OR

Principal at maturity................................. $500,000
Semiannual interest payments .................. 200,000
($20,000 X 10)  
Cash to be paid to bondholders................... 700,000
Cash received from bondholders............... 485,000
Total cost of borrowing.......................... $215,000

(b) (1) Cash................................................................. 525,000
Bonds Payable................................. 500,000
Premium on Bonds Payable............... 25,000

(2) Semiannual interest payments ................. $200,000
($20,000 X 10)  
Less: Bond Premium ............................... 25,000
Total cost of borrowing........................ $175,000

OR

Principal at maturity................................. $500,000
Semiannual interest payments .................. 200,000
($20,000 X 10)  
Cash to be paid to bondholders................... 700,000
Cash received from bondholders............... 525,000
Total cost of borrowing........................ $175,000
EXERCISE 15-8

(a) Jan. 1  Bond Interest Payable ...................... 72,000
  Cash .................................................. 72,000

(b) Jan 1  Bonds Payable ................................ 600,000
  Loss on Bond Redemption .................. 24,000
  Cash ($600,000 X 1.04) .................. 624,000

(c) July 1  Bond Interest Expense .................... 45,000
  Cash ($1,000,000 X 9% X 1/2) .......... 45,000

EXERCISE 15-9

1. June 30  Bonds Payable .............................. 130,000
  Loss on Bond Redemption ................ 15,100
  ($132,600 – $117,500)
  Discount on Bonds Payable .......... 12,500
  ($130,000 – $117,500)
  Cash ($130,000 X 102%) ............ 132,600

2. June 30  Bonds Payable .............................. 150,000
  Premium on Bonds Payable .......... 1,000
  Gain on Bond Redemption ........... 4,000
  ($151,000 – $147,000)
  Cash ($150,000 X 98%) .............. 147,000

3. Dec. 31  Bonds Payable .............................. 20,000
  Common Stock ............................. 3,000
  ($5 X 20 X 30)
  Paid-in Capital in Excess of Par Value ......... 17,000

  *(20,000 ÷ 1,000)

Note: As per the textbook, the market value of the stock is ignored in the conversion.
EXERCISE 15-10

2008
Issuance of Note

Dec. 31  Cash ................................................................. 240,000
         Mortgage Notes Payable .......................... 240,000

2009
First Installment Payment

June 30  Interest Expense ........................................... 12,000
         ($240,000 X 10% X 6/12)
         Mortgage Notes Payable .......................... 8,000
         Cash ............................................................... 20,000

Second Installment Payment

Dec. 31  Interest Expense ........................................... 11,600
         [($240,000 – $8,000) X 10% X 6/12]
         Mortgage Notes Payable .......................... 8,400
         Cash ............................................................... 20,000

EXERCISE 15-11

January 1, 2008
(a)  Cash ................................................................. 300,000
         Mortgage Notes Payable ......................... 300,000

June 30, 2008

Interest Expense .................................................. 12,000
         ($300,000 X 8% X 6/12)
         Mortgage Notes Payable .......................... 8,000
         Cash ............................................................... 20,000

December 31, 2008

Interest Expense .................................................. 11,680
         ($292,000 X 8% X 6/12)
         Mortgage Notes Payable .......................... 8,320
         Cash ............................................................... 20,000
EXERCISE 15-11 (Continued)

(b) Current: $17,652
   \[\text{[$20,000} – (\text{$_{283,680} \times 8\% \times 6/12}$) + \text{[$20,000} – (\text{$_{275,027} \times 8\% \times 6/12}$)]\]
   
   Long-term: $266,028 [(\text{$_{300,000} – 8,000 – 8,320$}) – \text{$_{17,652}$}] 

EXERCISE 15-12

(a) Car Rental Expense ....................................     500  
     Cash ........................................................     500

(b) Jan. 1 Leased Equipment ...................................... 74,606  
     Lease Liability...................................... 74,606

EXERCISE 15-13

Long-term liabilities
   Bonds payable, due 2013 ..................................... $180,000
   Add: Premium on bonds payable ..................... 32,000 $212,000
   Lease liability ........................................................... 89,500
   Total long-term liabilities ...................................... $301,500

EXERCISE 15-14

(a) Total assets ............................................................. $1,000,000
    Less: Total liabilities ..................................................... 620,000
    Total stockholders’ equity ............................................ $ 380,000

(b) Debt to total assets ratio = \(\frac{\text{Total liabilities}}{\text{Total assets}} = \frac{\text{$_{620,000}$}}{\text{$_{1,000,000}$}} = 62\%\)

(c) Times interest earned ratio = \(\frac{\text{Net income} + \text{Income tax expense} + \text{Interest expense}}{\text{Interest expense}} = \frac{\text{$_{150,000} + 100,000 + 7,000$}}{\text{$_{7,000}$}} = 36.7 \text{ times}\)
**EXERCISE 15-15**

Present value of principal ($200,000 X .61391) .......... $122,782
Present value of interest ($8,000 X 7.72173) ........... 61,774
Market price of bonds .......................................... $184,556

**EXERCISE 15-16**

(a) Jan. 1 Cash .................................................. 562,613
    Discount on Bonds Payable .................. 37,387
    Bonds Payable ..................................... 600,000

(b) July 1 Bond Interest Expense .................... 28,131
    ($562,613 X 5%)
    Discount on Bonds Payable ........... 1,131
    Cash ($600,000 X 9% X 1/2) .......... 27,000

(c) Dec. 31 Bond Interest Expense ................. 28,187
    [($562,613 + $1,131) X 5%]
    Discount on Bonds Payable ........... 1,187
    Bond Interest Payable ..................... 27,000
(b), (c)

<table>
<thead>
<tr>
<th>Semiannual Interest Periods</th>
<th>(A) Interest to Be Paid (4.5% X $600,000)</th>
<th>(B) Interest Expense to Be Recorded (5% X Preceding Bond Carrying Value) (E X .05)</th>
<th>(C) Discount Amortization (B) – (A)</th>
<th>(D) Unamortized Discount (D) – (C)</th>
<th>(E) Bond Carrying Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue date</td>
<td>1</td>
<td>27,000</td>
<td>28,131</td>
<td>1,131</td>
<td>37,387</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>27,000</td>
<td>28,187</td>
<td>1,187</td>
<td>35,069</td>
</tr>
</tbody>
</table>
EXERCISE 15-17

(a) Jan. 1  
Cash ................................................................. 318,694  
  Premium on Bonds Payable ................ 18,694  
  Bonds Payable ........................................ 300,000

(b) July 1  
Bond Interest Expense ......................... 15,935  
  (318,694 \times 5\%)  
  Premium on Bonds Payable ............. 565  
  Cash .......................................................... 16,500  
  (300,000 \times 11\% \times 1/2)

(c) Dec. 31  
Bond Interest Expense ......................... 15,906  
  [(318,694 – 565) \times 5\%]  
  Premium on Bonds Payable ............. 594  
  Bond Interest Payable ..................... 16,500
<table>
<thead>
<tr>
<th>(b), (c)</th>
<th>Semiannual Interest Periods</th>
<th>Issue date</th>
</tr>
</thead>
<tbody>
<tr>
<td>(A)</td>
<td>Interest to Be Paid (5.5% X $300,000)</td>
<td>16,500</td>
</tr>
<tr>
<td>(B)</td>
<td>Interest Expense to Be Recorded (5.0% X Preceding Bond Carrying Value)</td>
<td>18,694</td>
</tr>
<tr>
<td>(C)</td>
<td>Unamortized Premium Amortization (A) – (B)</td>
<td>565</td>
</tr>
<tr>
<td>(D)</td>
<td>Premium Amortization (E X .05)</td>
<td>594</td>
</tr>
<tr>
<td>(E)</td>
<td>Bond Carrying Value</td>
<td>318,694</td>
</tr>
<tr>
<td></td>
<td></td>
<td>318,129</td>
</tr>
<tr>
<td></td>
<td></td>
<td>317,535</td>
</tr>
</tbody>
</table>

**A** = Interest to Be Paid (5.5% X $300,000)

**B** = Interest Expense to Be Recorded (5.0% X Preceding Bond Carrying Value)

**C** = Unamortized Premium Amortization (A) – (B)

**D** = Premium Amortization (E X .05)

**E** = Bond Carrying Value
*EXERCISE 15-18

(a) Jan. 1 Cash ($400,000 X 103%) ......................... 412,000
   Premium on Bonds Payable .................. 12,000
   Bonds Payable ................................... 400,000

(b) July 1 Bond Interest Expense .................. 17,700
   Premium on Bonds Payable ................. 300
   ($12,000 X 1/40)
   Cash ($400,000 X 9% X 1/2) .............. 18,000

(c) Dec. 31 Bond Interest Expense ............ 17,700
   Premium on Bonds Payable ............... 300
   Bond Interest Payable .................. 18,000

(d) Jan. 1 Bonds Payable .................. 400,000
   Cash ................. 400,000

*EXERCISE 15-19

(a) 2007
   Dec. 31 Cash ........................................ 730,000
   Discount on Bonds Payable .............. 70,000
   Bonds Payable ................................ 800,000

(b) 2008
   June 30 Bond Interest Expense .......... 47,500
   Discount on Bonds Payable ............... 3,500
   ($70,000 ÷ 20)
   Cash ($800,000 X 11% X 1/2) ........... 44,000

(c) 2008
   Dec. 31 Bond Interest Expense .......... 47,500
   Discount on Bonds Payable ............... 3,500
   Cash ($800,000 X 11% X 1/2) ........... 44,000

(d) 2017
   Dec. 31 Bonds Payable .................. 800,000
   Cash ......... 800,000
### SOLUTIONS TO PROBLEMS

#### PROBLEM 15-1A

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction描述</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1</td>
<td>Cash</td>
<td>600,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bonds Payable</td>
<td>600,000</td>
<td></td>
</tr>
<tr>
<td>Dec. 31</td>
<td>Bond Interest Expense</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bond Interest Payable</td>
<td>9,000</td>
<td>(600,000 X 9% X 2/12)</td>
</tr>
<tr>
<td>(c) Current Liabilities</td>
<td>Bonds Interest Payable</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bonds Payable, due 2013</td>
<td>600,000</td>
<td></td>
</tr>
<tr>
<td>(d) May 1</td>
<td>Bond Interest Payable</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bond Interest Expense</td>
<td>18,000</td>
<td>(600,000 X 9% X 4/12)</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>27,000</td>
<td></td>
</tr>
<tr>
<td>Nov. 1</td>
<td>Bond Interest Expense</td>
<td>27,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>27,000</td>
<td>(600,000 X 9% X 1/2)</td>
</tr>
<tr>
<td>(f) Nov. 1</td>
<td>Bonds Payable</td>
<td>600,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Loss on Bond Redemption</td>
<td>12,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>612,000</td>
<td>(600,000 X 1.02)</td>
</tr>
</tbody>
</table>
PROBLEM 15-2A

(a) 2008
Jan. 1  Cash ($500,000 X 1.04) ....................... 520,000
Bonds Payable .......................... 500,000
Premium on Bonds Payable ........ 20,000

(b) Current Liabilities
Bond interest payable ......................... $ 25,000
($500,000 X 10% X 1/2)

Long-term Liabilities
Bonds payable, due 2018 ................. $500,000
Add: Premium on bonds payable .......... 18,000* $518,000

*[$20,000 – ($20,000 X 1/10)]

(c) 2010
Jan. 1  Bonds Payable ......................... 500,000
Premium on Bonds Payable .............. 16,000
Loss on Bond Redemption ............... 9,000*
Cash ($500,000 X 1.05) ................. 525,000

*($525,000 – $516,000)
(a) Semiannual Interest Period

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>Cash Payment</th>
<th>Interest Expense</th>
<th>Reduction of Principal</th>
<th>Principal Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$29,433</td>
<td>$16,000</td>
<td>$13,433</td>
<td>$386,567</td>
</tr>
<tr>
<td>2</td>
<td>29,433</td>
<td>15,463</td>
<td>13,970</td>
<td>372,597</td>
</tr>
<tr>
<td>3</td>
<td>29,433</td>
<td>14,904</td>
<td>14,529</td>
<td>358,068</td>
</tr>
<tr>
<td>4</td>
<td>29,433</td>
<td>14,323</td>
<td>15,110</td>
<td>342,958</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$57,042</td>
</tr>
</tbody>
</table>

(b) 2007

Dec. 31
Cash ................................................................. 400,000
Mortgage Notes Payable .................. 400,000

2008

June 30
Interest Expense .......................................... 16,000
Mortgage Notes Payable .................. 13,433
Cash ........................................................ 29,433

Dec. 31
Interest Expense .......................................... 15,463
Mortgage Notes Payable .................. 13,970
Cash ........................................................ 29,433

(c) 12/31/08

Current Liabilities
Current portion of mortgage notes payable $ 29,639*

Long-term Liabilities
Mortgage notes payable, due 2017 $342,958**

*($14,529 + $15,110)
**($372,597 – $14,529 – $15,110)
(a) Kear Inc. should record the Jansen Delivery lease as a capital lease because: (1) the lease term is greater than 75% of the estimated economic life of the leased property and (2) the present value of the lease payments is 90% or more of the fair market value of the computer. It should be noted that only one condition needs to be met to require capitalization.

Both the Flood Co. and Louis Auto leases should be reported as operating leases because none of the four conditions is met to require treatment as a capital lease.

(b) The Flood Co. lease is an operating lease. The entry to record the lease payment in 2008 therefore is as follows:

Rent Expense .................................................................  4,200
Cash .................................................................................  4,200

(c) The Jansen Delivery lease is a capital lease. The entry to record the capital lease on January 1, 2008 therefore is as follows:

Leased Asset—Computer ..............................................  31,000
Lease Liability .............................................................  31,000
**PROBLEM 15-5A**

(a) 2008

July 1  Cash .......................................................... 2,271,813  
Bonds Payable ............................................ 2,000,000  
Premium on Bonds Payable .................................. 271,813

(b) ATWATER CORPORATION

Bond Premium Amortization
Effective-Interest Method—Semiannual Interest Payments
10% Bonds Issued at 8%

<table>
<thead>
<tr>
<th>Semi-annual Interest Periods</th>
<th>(A) Interest to Be Paid</th>
<th>(B) Interest Expense</th>
<th>(C) Premium Amortization (A) – (B)</th>
<th>(D) Unamortized Premium</th>
<th>(E) Bond Carrying Value ($2,000,000 + D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue date</td>
<td>$271,813</td>
<td>$2,271,813</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>$100,000</td>
<td>$90,873</td>
<td>$9,127</td>
<td>262,686</td>
<td>2,262,686</td>
</tr>
<tr>
<td>2</td>
<td>100,000</td>
<td>90,507</td>
<td>9,493</td>
<td>253,193</td>
<td>2,253,193</td>
</tr>
<tr>
<td>3</td>
<td>100,000</td>
<td>90,128</td>
<td>9,872</td>
<td>243,321</td>
<td>2,243,321</td>
</tr>
</tbody>
</table>

(c) Dec. 31

Bond Interest Expense ...................... 90,873  
($2,271,813 X 4%)

Premium on Bonds Payable .................. 9,127
Bond Interest Payable ..................... 100,000  
($2,000,000 X 5%)

(d) 2009

July 1  Bond Interest Expense ...................... 90,507  
[(($2,271,813 – $9,127) X 4%)]

Premium on Bonds Payable .................. 9,493
Cash .................................................. 100,000

(e) Dec. 31

Bond Interest Expense ...................... 90,128  
[(($2,262,686 – $9,493) X 4%)]

Premium on Bonds Payable .................. 9,872
Bond Interest Payable ..................... 100,000
**PROBLEM 15-6A**

(a) (1))

<table>
<thead>
<tr>
<th>Date</th>
<th>Account Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cash</td>
<td>3,516,591</td>
</tr>
<tr>
<td></td>
<td>Discount on Bonds Payable</td>
<td>15,830</td>
</tr>
<tr>
<td></td>
<td>Bond Interest Payable</td>
<td>160,000</td>
</tr>
<tr>
<td>2009</td>
<td>Bond Interest Expense</td>
<td>176,621</td>
</tr>
<tr>
<td>July 1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(b) Bonds payable ........................................................... $4,000,000
Less: Discount on bonds payable ................................ 3,549,041

*$498,486 – $15,076 – $15,830 – $16,621$
Thank you for asking me to clarify some points about the bonds issued by Rossillon Company.

(1) The amount of interest expense reported for 2009 related to these bonds is $352,451 ($175,830 + $176,621).

(2) When the bonds are sold at a discount, the effective-interest method will result in less interest expense reported than the straight-line method in 2009. Straight-line interest expense for 2008 is $369,848 [$160,000 + $160,000 + ($24,924 + $24,924)].

(3) The total cost of borrowing is $3,698,486 as shown below:

<table>
<thead>
<tr>
<th>Semiannual interest payments</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>($4,000,000 X 4%) = $160,000; $160,000 X 20......... $3,200,000</td>
<td></td>
</tr>
<tr>
<td>Add: Bond discount ($4,000,000 – $3,501,514)......... 498,486</td>
<td></td>
</tr>
<tr>
<td>Total cost of borrowing......................... $3,698,486</td>
<td></td>
</tr>
</tbody>
</table>

(4) The total bond interest expense over the life of the bonds is the same under either method of amortization.

If you have other questions, please contact me.

Sincerely,
*PROBLEM 15-7A*

(a) 2008

Jan. 1  Cash ($3,000,000 X 1.04) ...................... 3,120,000  
       Bonds Payable............................... 3,000,000  
       Premium on Bonds Payable ........   120,000

(b) See page 15-33.

(c) 2008

July 1  Bond Interest Expense ......................... 144,000  
       Premium on Bonds Payable ........     6,000  
       ($120,000 ÷ 20)
       Cash................................................... 150,000

Dec. 31  Bond Interest Expense ......................... 144,000  
       Premium on Bonds Payable ........     6,000  
       Bond Interest Payable .................   150,000

2009

Jan. 1  Bond Interest Payable ..........................   150,000  
       Cash................................................... 150,000

July 1  Bond Interest Expense ......................... 144,000  
       Premium on Bonds Payable ........     6,000  
       Cash................................................... 150,000

Dec. 31  Bond Interest Expense ......................... 144,000  
       Premium on Bonds Payable ........     6,000  
       Bond Interest Payable .................   150,000

(d) Current Liabilities

Bond interest payable........................................ $ 150,000

Long-term Liabilities

Bonds payable, due 2018 ......................... $3,000,000

Add:  Premium on bonds payable ..............  96,000 $3,096,000
### (b)

<table>
<thead>
<tr>
<th>Semiannual Interest Periods</th>
<th>(A) Interest to Be Paid (5% X $3,000,000)</th>
<th>(B) Interest Expense to Be Recorded (A) – (C)</th>
<th>(C) Premium Amortization ($120,000 ÷ 20)</th>
<th>(D) Unamortized Premium (D) – (C)</th>
<th>(E) Bond Carrying Value [$3,000,000 + (D)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$150,000</td>
<td>$144,000</td>
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<td>114,000</td>
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<td>108,000</td>
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<tr>
<td>4</td>
<td>150,000</td>
<td>144,000</td>
<td>6,000</td>
<td>102,000</td>
<td>3,102,000</td>
</tr>
</tbody>
</table>

*PROBLEM 15-7A (Continued)*
(a) 2008
July 1 Cash ($2,500,000 X 104%) ............... 2,600,000
  Premium on Bonds Payable ....................... 100,000
  Bonds Payable .................................. 2,500,000
Dec. 31 Bond Interest Expense ..................... 95,000
  Premium on Bonds Payable ................. 5,000
    ($100,000 ÷ 20)
  Bond Interest Payable .................. 100,000
    ($2,500,000 X 8% X 1/2)
(b) 2008
July 1 Cash ($2,500,000 X 98%) ............. 2,450,000
  Discount on Bonds Payable .............. 50,000
  Bonds Payable .................................. 2,500,000
Dec. 31 Bond Interest Expense ..................... 102,500
  Discount on Bonds Payable .............. 2,500
    ($50,000 ÷ 20)
  Bond Interest Payable ................ 100,000
    ($2,500,000 X 8% X 1/2)
(c) Premium

Long-term Liabilities
  Bonds payable, due 2018 ....................... $2,500,000
  Add: Premium on bonds payable ........... 95,000 $2,595,000

Discount

Long-term Liabilities
  Bonds payable, due 2018 ....................... $2,500,000
  Less: Discount on bonds payable .......... 47,500 $2,452,500
(a) 2009

Jan.  1  Bond Interest Payable .................  105,000
       Cash ...........................................  105,000

(b) July  1  Bond Interest Expense ...............  95,000
       Premium on Bonds Payable ..........  10,000
       ($200,000 ÷ 20)
       Cash ...........................................  105,000

(c) July  1  Bonds Payable .............................  1,200,000
       Premium on Bonds Payable ..........  76,000*
       Gain on Bond Redemption .........  64,000
       ($1,276,000 – $1,212,000)
       Cash ($1,200,000 X 101%) .........  1,212,000

*($200,000 – $10,000) X .40 = $76,000

(d) Dec. 31  Bond Interest Expense ...............  57,000
       Premium on Bonds Payable ..........  6,000**
       Bond Interest Payable ...............  63,000
       ($1,800,000 X 7% X 1/2)

**$200,000 – $10,000 – $76,000 = $114,000; \frac{114,000}{19} = $6,000 or $10,000 X .60.
PROBLEM 15-1B

(a) 2008

June 1 Cash ........................................................... 1,500,000
       Bonds Payable .............................................. 1,500,000

(b) Dec. 31 Bond Interest Expense ......................... 10,000
       Bond Interest Payable ........................... 10,000
       ($1,500,000 X 8% X 1/12)

(c) Current Liabilities
       Bond Interest Payable .................................... 10,000

       Long-term Liabilities
       Bonds Payable .................................................. 1,500,000

(d) 2009

June 1 Bond Interest Payable .......................... 10,000
       Bond Interest Expense ......................... 50,000
       ($1,500,000 X 8% X 5/12)
       Cash................................................... 60,000

(e) Dec. 1 Bond Interest Expense ......................... 60,000
       Cash................................................... 60,000
       ($1,500,000 X 8% X 1/2)

(f) Dec. 1 Bonds Payable ..................................... 1,500,000
       Loss on Bond Redemption ......................... 30,000
       Cash ($1,500,000 X 1.02) .................. 1,530,000
(a) 2008
Jan. 1  Cash ($600,000 X 1.05) ......................... 630,000
      Bonds Payable ................................. 600,000
      Premium on Bonds Payable .............. 30,000

(b) Current Liabilities
Bond Interest Payable ($600,000 X 9% X 1/2) .... $27,000

Long-term Liabilities
   Bond Payable, due 2018 ....................... $600,000
      Add: Premium on Bonds Payable .......... 27,000* $627,000

   *$30,000 − ($30,000 ÷ 10)

(c) 2010
Jan. 1  Bonds Payable ................................. $600,000
      Premium on Bonds Payable ............ 24,000
      Loss on Bond Redemption ............... 6,000*  
      Cash ($600,000 X 1.05) ............... 630,000

   *($630,000 − $624,000)
### PROBLEM 15-3B

#### (a)

<table>
<thead>
<tr>
<th>Semiannual Interest Period</th>
<th>Cash Payment</th>
<th>Interest Expense</th>
<th>Reduction of Principal</th>
<th>Principal Balance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue Date</td>
<td></td>
<td></td>
<td></td>
<td>$500,000</td>
</tr>
<tr>
<td>1</td>
<td>$36,791</td>
<td>$20,000</td>
<td>$16,791</td>
<td>483,209</td>
</tr>
<tr>
<td>2</td>
<td>36,791</td>
<td>19,328</td>
<td>17,463</td>
<td>465,746</td>
</tr>
<tr>
<td>3</td>
<td>36,791</td>
<td>18,630</td>
<td>18,161</td>
<td>447,585</td>
</tr>
<tr>
<td>4</td>
<td>36,791</td>
<td>17,903</td>
<td>18,888</td>
<td>428,697</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$71,303</td>
</tr>
</tbody>
</table>

#### (b)

**2008**

- **Dec. 31**
  - Cash ............................................................... 500,000
  - Mortgage Notes Payable .......... 500,000

**2009**

- **June 30**
  - Interest Expense .................... 20,000
  - Mortgage Notes Payable .......... 16,791
  - Cash ............................................................... 36,791

- **Dec. 31**
  - Interest Expense .................... 19,328
  - Mortgage Notes Payable .......... 17,463
  - Cash ............................................................... 36,791

#### (c)

- **12/31/09**
  - Current Liabilities
    - Current portion of mortgage notes payable $37,049*
  - Long-term Liabilities
    - Mortgage notes payable $428,697**

*($18,161 + $18,888)
**($465,746 – $37,049)
(a) Gomez Enterprises should record the Didde Co. lease as a capital lease because the lease term is greater than 75% of the estimated economic life of the leased property.

Both the Krumme Inc. and Schoen Co. leases should be reported as operating leases because none of the four conditions is met to require treatment as a capital lease.

(b) The Didde Co. lease is a capital lease. The entry to record the capital lease on January 1, 2008 therefore is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leased Asset—Truck</td>
<td>74,000</td>
</tr>
<tr>
<td>Lease Liability</td>
<td>74,000</td>
</tr>
</tbody>
</table>

(c) The Krumme Inc. lease is an operating lease. The entry to record the lease payment in 2008 therefore is as follows:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rent Expense</td>
<td>4,000</td>
</tr>
<tr>
<td>Cash</td>
<td>4,000</td>
</tr>
</tbody>
</table>
(a) 2008
July 1 Cash ......................................................... 2,531,760
Discount on Bonds Payable.............   168,240
Bonds Payable............................. 2,700,000

(b) MATLOCK SATELLITES
Bond Discount Amortization
Effective-Interest Method—Semiannual Interest Payments
9% Bonds Issued at 10%

<table>
<thead>
<tr>
<th>Semiannual Interest Periods</th>
<th>(A) Interest to Be Paid</th>
<th>(B) Interest Expense to Be Recorded</th>
<th>(C) Discount Amortization (B) – (A)</th>
<th>(D) Unamortized Discount (D) – (C)</th>
<th>(E) Bond Carrying Value ($2,700,000 – D)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue date</td>
<td>$168,240</td>
<td>$2,531,760</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>$121,500</td>
<td>$126,588</td>
<td>$5,088</td>
<td>163,152</td>
<td>2,536,848</td>
</tr>
<tr>
<td>2</td>
<td>121,500</td>
<td>126,842</td>
<td>5,342</td>
<td>157,810</td>
<td>2,542,190</td>
</tr>
<tr>
<td>3</td>
<td>121,500</td>
<td>127,110</td>
<td>5,610</td>
<td>152,200</td>
<td>2,547,800</td>
</tr>
</tbody>
</table>

(c) Dec. 31 Bond Interest Expense...................... 126,588
($2,531,760 X 5%)
Discount on Bonds Payable............. 5,088
Bond Interest Payable.................. 121,500
($2,700,000 X 9% X 1/2)

(d) 2009
July 1 Bond Interest Expense...................... 126,842
[($2,531,760 + $5,088) X 5%]
Discount on Bonds Payable............. 5,342
Cash................................................. 121,500

(e) Dec. 31 Bond Interest Expense................... 127,110
[($2,536,848 + $5,342) X 5%]
Discount on Bonds Payable............. 5,610
Bond Interest Payable.................. 121,500
*PROBLEM 15-6B

(a) (1) 2008

July 1  Cash ................................................... 3,407,720
       Bonds Payable ........................................ 3,000,000
       Premium on Bonds Payable ............................... 407,720

(2) Dec. 31  Bond Interest Expense .................. 136,309
            ($3,407,720 X 4%)
            Premium on Bonds Payable ...... 13,691
            Bond Interest Payable .......... 150,000
            ($3,000,000 X 5%)

(3) 2009

July 1  Bond Interest Expense .................. 135,761
            [($3,407,720 – $13,691) X 4%]
            Premium on Bonds Payable ...... 14,239
            Cash ........................................... 150,000

(4) Dec. 31  Bond Interest Expense .................. 135,192
            [($3,394,029 – $14,239) X 4%]
            Premium on Bonds Payable ...... 14,808
            Bond Interest Payable .......... 150,000

(b) Bonds payable .................................................. 3,000,000
    Add: Premium on bonds payable .......................... 364,982*

*($407,720 – $13,691 – $14,239 – $14,808)
(c) Dear __________:

Thank you for asking me to clarify some points about the bonds issued by Posadas Chemical Company.

(1) The amount of interest expense reported for 2009 related to these bonds is $270,953 ($135,761 + $135,192).

(2) When the bonds are sold at a premium, the effective-interest method will result in more interest expense reported than the straight-line method in 2009. Straight-line interest expense for 2009 is $259,228 [$150,000 + $150,000 – ($20,386 + $20,386)].

(3) The total cost of borrowing is as shown below:

| Semiannual interest payments |  |  |  |
|------------------------------|  |  |  |
| ($3,000,000 X 10% X 1/2) = $150,000 X 20 | $3,000,000 |
| Less: Bond premium ($3,407,720 – $3,000,000) | 407,720 |
| Total cost of borrowing | $2,592,280 |

(4) The total bond interest expense over the life of the bonds is the same under either method of amortization.

If you have other questions, please contact me.

Sincerely,
*(PROBLEM 15-7B)*

(a)  

2008

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1</td>
<td>Cash ($4,000,000 X 96%)</td>
<td>3,840,000</td>
</tr>
<tr>
<td></td>
<td>Discount on Bonds Payable</td>
<td>160,000</td>
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<tr>
<td></td>
<td>Bonds Payable</td>
<td>4,000,000</td>
</tr>
</tbody>
</table>

(b) See page 15-45.

(c)  

2008

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1</td>
<td>Bond Interest Expense</td>
<td>184,000</td>
</tr>
<tr>
<td></td>
<td>Discount on Bonds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Payable ($160,000 ÷ 40)</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>180,000</td>
</tr>
<tr>
<td></td>
<td>($4,000,000 X 9% X 1/2)</td>
<td></td>
</tr>
<tr>
<td>Dec. 31</td>
<td>Bond Interest Expense</td>
<td>184,000</td>
</tr>
<tr>
<td></td>
<td>Discount on Bonds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Payable</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>Bond Interest Payable</td>
<td>180,000</td>
</tr>
</tbody>
</table>

2009

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan. 1</td>
<td>Bond Interest Payable</td>
<td>180,000</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>180,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>July 1</td>
<td>Bond Interest Expense</td>
<td>184,000</td>
</tr>
<tr>
<td></td>
<td>Discount on Bonds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Payable</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>Cash</td>
<td>180,000</td>
</tr>
<tr>
<td></td>
<td>($4,000,000 X 9% X 1/2)</td>
<td></td>
</tr>
<tr>
<td>Dec. 31</td>
<td>Bond Interest Expense</td>
<td>184,000</td>
</tr>
<tr>
<td></td>
<td>Discount on Bonds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Payable</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>Bond Interest Payable</td>
<td>180,000</td>
</tr>
</tbody>
</table>
(d) Current Liabilities
   Bond interest payable........................................ $ 180,000

   Long-term Liabilities
   Bonds payable .................................................. $4,000,000
   Less: Discount on bonds payable.................. 144,000 $3,856,000
PROBLEM 15-7B (Continued)

(b)  

<table>
<thead>
<tr>
<th>Semiannual Interest Periods</th>
<th>(A) Interest to Be Paid (4.5% X $4,000,000)</th>
<th>(B) Interest Expense to Be Recorded (A) + (C)</th>
<th>(C) Discount Amortization ($160,000 ÷ 40)</th>
<th>(D) Unamortized Discount (D) – (C)</th>
<th>(E) Bond Carrying Value [$4,000,000 – (D)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue date</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>$180,000</td>
<td>$184,000</td>
<td>$4,000</td>
<td>$160,000</td>
<td>$3,840,000</td>
</tr>
<tr>
<td>2</td>
<td>180,000</td>
<td>184,000</td>
<td>4,000</td>
<td>156,000</td>
<td>3,844,000</td>
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<td>184,000</td>
<td>4,000</td>
<td>152,000</td>
<td>3,848,000</td>
</tr>
<tr>
<td>4</td>
<td>180,000</td>
<td>184,000</td>
<td>4,000</td>
<td>148,000</td>
<td>3,852,000</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### PROBLEM 15-8B

(a) **Jan. 1** Cash ($5,000,000 X 103%) .................... 5,150,000  
Premium on Bonds Payable...... 150,000  
Bonds Payable........................ 5,000,000  

**July 1** Bond Interest Expense .................. 192,500  
Premium on Bonds Payable........ 7,500  
($150,000 ÷ 20)  
Cash.................................................... 200,000  
($5,000,000 X 8% X 1/2)  

**Dec. 31** Bond Interest Expense .................. 192,500  
Premium on Bonds Payable........ 7,500  
Bond Interest Payable .......... 200,000  

(b) **Jan. 1** Cash ($5,000,000 X 96%) ....................... 4,800,000  
Discount on Bonds Payable....... 200,000  
Bonds Payable......................... 5,000,000  

**July 1** Bond Interest Expense .................. 210,000  
Discount on Bonds Payable ($200,000 ÷ 20) .... 10,000  
Cash.................................................... 200,000  

**Dec. 31** Bond Interest Expense .................. 210,000  
Discount on Bonds Payable..... 10,000  
Bond Interest Payable ............. 200,000
(c) Premium

Current Liabilities
   Bond interest payable .................................. $ 200,000

Long-term Liabilities
   Bonds payable, due 2018 ............................ $5,000,000
   Add: Premium on bonds payable ................ 135,000  $5,135,000

Discount

Current Liabilities
   Bond interest payable .................................. $ 200,000

Long-term Liabilities
   Bonds payable, due 2018 ............................ $5,000,000
   Less: Discount on bonds payable .......... 180,000  $4,820,000
(a) Jan. 1 Bond Interest Payable ......................... 84,000
       Cash .................................................... 84,000

(b) July 1 Bond Interest Expense ....................... 88,500
       Discount on Bonds
       Payable ($90,000 ÷ 20) .................... 4,500
       Cash ($2,400,000 X .035) .................. 84,000

(c) July 1 Bonds Payable .................................. 800,000
       Loss on Bond Redemption .................. 36,500
       Discount on Bonds Payable ............. 28,500*
       Cash ($800,000 X 101%) ................. 808,000

   *($90,000 – $4,500) X 1/3 = $28,500

(d) Dec. 31 Bond Interest Expense ..................... 59,000
       Discount on Bonds Payable .............. 3,000*
       Bond Interest Payable ..................... 56,000**

   *($90,000 – $4,500) X 2/3 = $57,000;
   $57,000 ÷ 19 = $3,000 or
   $4,500 X 2/3 = $3,000

   **($2,400,000 – $800,000 = $1,600,000;
   $1,600,000 X 3.5% = $56,000)
### COMPREHENSIVE PROBLEM: CHAPTERS 13 TO 15

(a)  
1. **Cash** ................................................................. 22,000  
   Preferred Stock (1,000 X $20) .................. 20,000  
   Paid-in Capital in Excess of Par—PS ............... 2,000  

2. **Cash** ................................................................. 23,000  
   Common Stock (1,000 X $10) .................... 10,000  
   Paid-in Capital in Excess of Par—CS ............ 13,000  

3. Treasury Stock (300 X $49) ......................... 14,700  
   Cash ............................................................... 14,700  

4. **Dividends** .......................................................... 6,750*  
   Dividends Payable ........................................... 6,750  

   *$20,000 X .06 + [(3,000 + 1,000 – 300) X $1.50]  

5. **Bad Debts Expense** .............................................. 4,650  
   Allowance for Doubtful Accounts ($5,100 – $450) .... 4,650  

6. **Depreciation Expense—Building** .................. 3,000  
   Accumulated Depreciation—Building [(95,000 – 5,000) ÷ 30] ....... 3,000  

7. **Depreciation Expense—Equipment** ............... 3,600  
   Accumulated Depreciation—Equipment [(40,000 – 4,000 ÷ 10] ....... 3,600  

8. Unearned Rent ($8,000 X 3/4) ......................... 6,000  
   Rent Revenue ..................................................... 6,000  

9. **Bond Interest Expense** ($50,000 X .05 X 1/2) ... 2,500  
   Bond Interest Payable ....................................... 2,500
**NORDHAM CORPORATION**

**Trial Balance**

**December 31, 2008**

<table>
<thead>
<tr>
<th>Debit</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$53,300</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>51,000</td>
</tr>
<tr>
<td>Merchandise Inventory</td>
<td>22,700</td>
</tr>
<tr>
<td>Land</td>
<td>65,000</td>
</tr>
<tr>
<td>Building</td>
<td>95,000</td>
</tr>
<tr>
<td>Equipment</td>
<td>40,000</td>
</tr>
<tr>
<td>Allowance for Doubtful Accounts</td>
<td>$5,100</td>
</tr>
<tr>
<td>Accumulated Depreciation—Building</td>
<td>33,000</td>
</tr>
<tr>
<td>Accumulated Depreciation—Equipment</td>
<td>18,000</td>
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<tr>
<td>Accounts Payable</td>
<td>19,300</td>
</tr>
<tr>
<td>Bond Interest Payable</td>
<td>2,500</td>
</tr>
<tr>
<td>Dividends Payable</td>
<td>6,750</td>
</tr>
<tr>
<td>Unearned Rent Revenue</td>
<td>2,000</td>
</tr>
<tr>
<td>Bonds Payable (10%)</td>
<td>50,000</td>
</tr>
<tr>
<td>Common Stock ($10 par)</td>
<td>40,000</td>
</tr>
<tr>
<td>Paid-in Capital in Excess of Par—CS</td>
<td>19,000</td>
</tr>
<tr>
<td>Preferred Stock ($20 par)</td>
<td>20,000</td>
</tr>
<tr>
<td>Paid-in Capital in Excess of Par—PS</td>
<td>2,000</td>
</tr>
<tr>
<td>Retained Earnings</td>
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<tr>
<td>Treasury Stock</td>
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<tr>
<td>Dividends</td>
<td>6,750</td>
</tr>
<tr>
<td>Sales</td>
<td>570,000</td>
</tr>
<tr>
<td>Rent Revenue</td>
<td>6,000</td>
</tr>
<tr>
<td>Bad Debts Expense</td>
<td>4,650</td>
</tr>
<tr>
<td>Bond Interest Expense</td>
<td>5,000</td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
<td>400,000</td>
</tr>
<tr>
<td>Depreciation Expense—Buildings</td>
<td>3,000</td>
</tr>
<tr>
<td>Depreciation Expense—Equipment</td>
<td>3,600</td>
</tr>
<tr>
<td>Other Operating Expenses</td>
<td>39,000</td>
</tr>
<tr>
<td>Salaries Expense</td>
<td>65,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$868,700</td>
</tr>
</tbody>
</table>
### COMPREHENSIVE PROBLEM (Continued)

#### (c) NORDHAM CORPORATION

**Income Statement**

For the Year Ended December 31, 2008

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>$570,000</td>
</tr>
<tr>
<td>Cost of Goods Sold</td>
<td>400,000</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>170,000</td>
</tr>
<tr>
<td>Operating Expenses</td>
<td></td>
</tr>
<tr>
<td>Salaries Expense</td>
<td>39,000</td>
</tr>
<tr>
<td>Other Operating Expenses</td>
<td>4,650</td>
</tr>
<tr>
<td>Bad Debts Expense</td>
<td>3,600</td>
</tr>
<tr>
<td>Depr. Expense—Equipment</td>
<td>3,000</td>
</tr>
<tr>
<td>Depr. Expense—Building</td>
<td></td>
</tr>
<tr>
<td>Total Operating Expense</td>
<td>115,250</td>
</tr>
<tr>
<td>Income From Operations</td>
<td>54,750</td>
</tr>
<tr>
<td>Other Revenues and Gains</td>
<td></td>
</tr>
<tr>
<td>Rent Revenue</td>
<td>6,000</td>
</tr>
<tr>
<td>Other Expenses and Losses</td>
<td></td>
</tr>
<tr>
<td>Bond Interest Expense</td>
<td>(5,000)</td>
</tr>
<tr>
<td>Net Income</td>
<td>$55,750</td>
</tr>
</tbody>
</table>

#### (d) NORDHAM CORPORATION

**Retained Earnings Statement**

For the Year Ended December 31, 2008

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance, January 1</td>
<td>$75,050</td>
</tr>
<tr>
<td>Add: Net income</td>
<td>55,750</td>
</tr>
<tr>
<td></td>
<td>130,800</td>
</tr>
<tr>
<td>Less: Cash dividends</td>
<td>6,750</td>
</tr>
<tr>
<td>Balance, December 31</td>
<td>$124,050</td>
</tr>
</tbody>
</table>
### NORDHAM CORPORATION
#### Balance Sheet
#### December 31, 2008

#### Assets

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current assets</td>
<td>Cash</td>
<td>$53,300</td>
</tr>
<tr>
<td></td>
<td>Accounts receivable</td>
<td>$51,000</td>
</tr>
<tr>
<td></td>
<td>Less: Allowance for doubtful accounts</td>
<td>5,100</td>
</tr>
<tr>
<td></td>
<td>Merchandise inventory</td>
<td>45,900</td>
</tr>
<tr>
<td></td>
<td>Total current assets</td>
<td>$121,900</td>
</tr>
<tr>
<td>Property, Plant, and Equipment</td>
<td>Land</td>
<td>65,000</td>
</tr>
<tr>
<td></td>
<td>Building</td>
<td>95,000</td>
</tr>
<tr>
<td></td>
<td>Less: Accumulated Depreciation</td>
<td>33,000</td>
</tr>
<tr>
<td></td>
<td>Equipment</td>
<td>40,000</td>
</tr>
<tr>
<td></td>
<td>Less: Accumulated Depreciation</td>
<td>18,000</td>
</tr>
<tr>
<td></td>
<td>Total property, plant, and equipment</td>
<td>$149,000</td>
</tr>
<tr>
<td>Total assets</td>
<td></td>
<td>$270,900</td>
</tr>
</tbody>
</table>

#### Liabilities and Stockholders’ Equity

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current liabilities</td>
<td>Accounts payable</td>
<td>$19,300</td>
</tr>
<tr>
<td></td>
<td>Dividends payable</td>
<td>6,750</td>
</tr>
<tr>
<td></td>
<td>Bond interest payable</td>
<td>2,500</td>
</tr>
<tr>
<td></td>
<td>Unearned rent revenue</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>Total current liabilities</td>
<td>30,550</td>
</tr>
<tr>
<td>Long-term liabilities</td>
<td>Bond payable (10%)</td>
<td>50,000</td>
</tr>
<tr>
<td></td>
<td>Total Liabilities</td>
<td>$80,550</td>
</tr>
</tbody>
</table>
### Stockholders’ Equity

#### Paid-in Capital

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>6% Preferred stock, $20 par, 1,000 shares issued</td>
<td>$20,000</td>
</tr>
<tr>
<td>Common stock $10 par, 4,000 shares issued,</td>
<td>$40,000</td>
</tr>
<tr>
<td>3,700 shares outstanding</td>
<td></td>
</tr>
<tr>
<td>Total capital stock</td>
<td>$60,000</td>
</tr>
</tbody>
</table>

#### Additional paid-in capital

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>In excess of par—preferred stock</td>
<td>$2,000</td>
</tr>
<tr>
<td>In excess of par—common stock</td>
<td>$19,000</td>
</tr>
<tr>
<td>Total additional paid-in capital</td>
<td>$21,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total paid-in capital</td>
<td>$81,000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retained earnings</td>
<td>$124,050</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total paid-in capital and retained earnings</td>
<td>$205,050</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less: Treasury stock—common (300 shares)</td>
<td>($14,700)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total stockholders’ equity</td>
<td>$190,350</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total liabilities and stockholders’ equity</td>
<td>$270,900</td>
</tr>
</tbody>
</table>
(a) At December 31, 2005, PepsiCo’s long-term debt was $8,070 million. There was a $358 million increase ($7,712 – $8,070) in long-term debt during the year. Note 9 indicates that long-term debt obligations consist of notes due in 2006–2026 of $1,161 million, reclassified short-term borrowings of $750 million, zero coupon notes due in 2006–2012 of $312 million, and other long-term debt of $233 million. This note also states that $143 million of current maturates of long-term debt obligations are excluded.

(b) All of PepsiCo’s leases are accounted for as operating leases rather than capital leases. Consequently, no amount of leases are reported as long-term debt on PepsiCo’s financial statements.

(c) PepsiCo reported $9,201 million of long-term contractual commitments as of December 31, 2005.
(a) Debt to total assets

<table>
<thead>
<tr>
<th></th>
<th>PepsiCo</th>
<th>Coca-Cola</th>
</tr>
</thead>
<tbody>
<tr>
<td>$17,476</td>
<td>$31,727</td>
<td>$13,072</td>
</tr>
<tr>
<td>= 55.1%</td>
<td>= 44.4%</td>
<td></td>
</tr>
</tbody>
</table>

(b) The higher the percentage of debt to total assets, the greater the risk that a company may be unable to meet its maturing obligations. PepsiCo’s 2005 debt to total assets ratio was approximately 24% more than Coca-Cola’s and it would be considered less able to meet its obligations. The times interest earned ratio provides an indication of a company’s ability to meet interest payments. Since Coca-Cola’s times interest earned ratio is higher than PepsiCo’s, Coca-Cola has more ability to meet its interest payments than PepsiCo. However, both times interest earned ratios are excellent and therefore both companies will have no difficulty meeting these payments.

(c) Since PepsiCo reported $7,351 million ($9,201 – $1,850) of future long-term commitments for the five succeeding years (see Note 9 in the Notes to the Consolidated Financial Statements), it has a significantly greater amount of long-term commitments than Coca-Cola ($1,154—see Note 8).
(a) In 1909, Moody’s introduced the first bond ratings as part of Moody’s Analyses of Railroad Investments.

(b) Moody’s tracks more than $35 trillion worth of debt securities.

(c) The ultimate value of a rating agency’s contribution to that market efficiency depends on its ability to provide ratings that are clear, credible, accurate risk opinions based on a fundamental understanding of credit risk. To provide a reliable frame of reference for investment decisions, the agency’s ratings should offer broad coverage and also be based on a globally consistent rating process, supported by rating committees with a multi-national perspective.
(a)  Face value of bonds.................................................. $2,400,000
Proceeds from sale of bonds ($2,400,000 X .95).............. 2,280,000
Discount on bonds payable ............................................ $ 120,000

Bond discount amortization per year:
$120,000 ÷ 5 = $24,000

Face value of bonds.................................................. $2,400,000
Amount of original discount ................................. $120,000
Less:  Amortization through January 1, 2008
(2-year)..................................................................... 48,000 72,000
Carrying value of bonds, January 1, 2008....... $2,328,000

(b) 1.  Bonds Payable............................. 2,400,000
Discount on Bonds Payable....................... 72,000
Gain on Bond Redemption ...................... 328,000*
Cash ............................................................. 2,000,000
(To record redemption of 8% bonds)

*$2,328,000 – $2,000,000

2.  Cash ............................................................. 2,000,000
Bonds Payable........................................ 2,000,000
(To record sale of 10-year, 11% bonds at par)

(c)  Dear President Carlin:

The early redemption of the 8%, 5-year bonds results in recognizing a
gain of $328,000 that increases current year net income by the after-tax
effect of the gain. The amount of the liabilities on the balance sheet will
be lowered by the issuance of the new bonds and retirement of the
5-year bonds.
1. The cash flow of the company as it relates to bonds payable will be adversely affected as follows:

   Annual interest payments on the new issue......................... $220,000
   ($2,000,000 X .11)
   Annual interest payments on the 5-year bonds.................... 192,000
   ($2,400,000 X .08)
   Additional cash outflows per year ...................................... $ 28,000

2. The amount of interest expense shown on the income statement will be higher as a result of the decision to issue new bonds:

   Annual interest expense on new bonds............ $220,000
   Annual interest expense on 8% bonds:
   Interest payment........................................ $192,000
   Discount amortization ................................. 24,000 216,000
   Additional interest expense per year ............ $   4,000

These comparisons hold for only the 3-year remaining life of the 8%, 5-year bonds. The company must acknowledge either redemption of the 8% bonds at maturity, January 1, 2011, or refinancing of that issue at that time and consider what interest rates will be in 2011 in evaluating a redemption and issuance in 2008.

Sincerely,
To: Joe Penner
From: I. M. Student
Subject: Bond Financing

(1) The advantages of bond financing over common stock financing include:

1. Stockholder control is not affected.
2. Tax savings result.
3. Earnings per share of common stock may be higher.

(2) The types of bonds that may be issued are:

1. Secured or unsecured bonds. Secured bonds have specific assets of the issuer pledged as collateral. Unsecured bonds are issued against the general credit of the borrower.
2. Term or serial bonds. Term bonds mature at a single specified date, while serial bonds mature in installments.
3. Registered or bearer bonds. Registered bonds are issued in the name of the owner, while bearer bonds are not.
4. Convertible bonds, which can be converted by the bondholder into common stock.
5. Callable bonds, which are subject to early retirement by the issuer at a stated amount.

(3) State laws grant corporations the power to issue bonds after formal approval by the board of directors and stockholders. The terms of the bond issue are set forth in a legal document called a bond indenture. After the bond indenture is prepared, bond certificates are printed.
(a) The stakeholders in the Galena case are:

- Sam Farr, president, founder, and majority stockholder.
- Jill Hutton, minority stockholder.
- Other minority stockholders.
- Existing creditors (debt holders).
- Future bondholders.
- Employees, suppliers, and customers.

(b) The ethical issues:

The desires of the majority stockholder (Sam Farr) versus the desires of the minority stockholders (Jill Hutton and others).

Doing what is right for the company and others versus doing what is best for oneself.

Questions:

Is what Sam wants to do legal? Is it unethical? Is Sam’s action brash and irresponsible? Who may benefit/suffer if Sam arranges a high-risk bond issue? Who may benefit/suffer if Jill Hutton gains control of Galena?

(c) The rationale provided by the student will be more important than the specific position because this is a borderline case with no right answer.
Results will vary depending on article chose by the student. Some common signals identified in articles are: bills more than two months in arrears; must make decisions about who to pay; you have a debt judgment filed against you; spending exceeds income; all credit cards are at their maximum.