

CHAPTER 10

Reporting and Analyzing Liabilities

Learning Objectives

1. Explain a current liability and identify the major types of current liabilities.
2. Describe the accounting for notes payable.
3. Explain the accounting for other current liabilities.
4. Identify the types of bonds.
5. Prepare the entries for the issuance of bonds and interest expense.
6. Describe the entries when bonds are redeemed.
7. Identify the requirements for the financial statement presentation and analysis of liabilities.
- *8. Apply the straight-line method of amortizing bond discount and bond premium.
- *9. Apply the effective-interest method of amortizing bond discount and bond premium.
- *10. Describe the accounting for long-term notes payable.

Summary of Questions by Learning Objectives and Bloom's Taxonomy

Item	LO	BT	Item	LO	BT	Item	LO	BT	Item	LO	BT	Item	LO	BT
Questions														
1.	1	C	7.	1	K	13.	4, 5	C	19.	7	K	25.	7	C
2.	2	C	8.	4	C	14.	5	C	20.	7	C	26.	8*	C
3.	3	AP	9.	4	AN	15.	5	AP	21.	7	C	27.	8*	AP
4.	3	AP	10.	4	C	16.	5	AP	22.	7	C	28.	9*	C
5.	3	K	11.	4	C	17.	6	AP	23.	7	C	29.	9*	C
6.	3	C	12.	4	K	18.	7	C	24.	7	C	30.	10*	C
												31.	10*	C
Brief Exercises														
1.	1	C	5.	3	AP	9.	5	AP	13.	7	AP	17.	8*	AP
2.	2	AP	6.	3	AP	10.	5	AP	14.	7	AP	18.	9*	AP
3.	3	AP	7.	3	AP	11.	6	AP	15.	7	AN	19.	10*	AP
4.	3	AP	8.	5	AP	12.	7	AP	16.	8*	AP			
Do It! Review Exercises														
1.	2, 3	C	2.	3	AP	3.	4	C	4.	5	AP	5.	6	AP
Exercises														
1.	2	AP	7.	3	AP	13.	5, 6,	AP	19.	7	C	23.	5, 9*	AP
2.	2	AP	8.	5	AP	14.	6	AP	20.	5, 6,		24.	10*	AP
3.	2	AP	9.	5	AP	15.	7	AP		8*	AP	25.	10*	AP
4.	3	AP	10.	5	AP	16.	7	AP	21.	5, 6,				
5.	3	AP	11.	5	AP	17.	7	AN		8*	AP			
6.	3	AP	12.	5	AN	18.	7	AN	22.	5, 9*	AP			
Problems: Set A														
1.	1, 2, 3, 7	AP	5.	5, 6, 7	AP	8.	5, 7, 8*	AP	11.	5, 7, 9*	AP			
2.	2, 7	AP	6.	7	AN	9.	5, 7, 8*	AP	12.	7, 10*	AP			
3.	5, 6	AP	7.	5, 6, 8*	AP	10.	5, 9*	AP	13.	7, 10*	AP			
4.	5, 6, 7	AP												

*Continuing Cookie Solutions for this chapter are available online.

Summary of Questions by Learning Objectives and Bloom's Taxonomy (Continued)

Item	LO	BT	Item	LO	BT	Item	LO	BT	Item	LO	BT	Item	LO	BT
Problems: Set B														
1.	1, 2, 3, 7	AP	5.	5, 6, 7	AP	8.	5, 7, 8*	AP	11.	5, 7, 9*	AP			
2.	2, 7	AP	6.	7	AN	9.	5, 7, 8*	AP	12.	7, 10*	AP			
3.	5, 6	AP	7.	5, 6, 8*	AP	10.	5, 9*	AP	13.	7, 10*	AP			
4.	5, 6, 7	AP												

ASSIGNMENT CHARACTERISTICS TABLE

Problem Number	Description	Difficulty Level	Time Allotted (min.)
1A	Prepare current liability entries, adjusting entries, and current liabilities section.	Moderate	30–40
2A	Journalize and post note transactions; show balance sheet presentation.	Moderate	30–40
3A	Prepare journal entries to record interest payments and redemption of bonds.	Moderate	30–40
4A	Prepare journal entries to record issuance of bonds, interest, balance sheet presentation, and bond redemption.	Moderate	30–40
5A	Prepare journal entries to record issuance of bonds, show balance sheet presentation, and record bond redemption.	Simple	30–40
6A	Calculate and comment on ratios.	Moderate	30–40
*7A	Prepare journal entries to record interest payments, straight-line discount amortization, and redemption of bonds.	Moderate	30–40
*8A	Prepare journal entries to record issuance of bonds, interest, straight-line amortization, and balance sheet presentation.	Simple	30–40
*9A	Prepare journal entries to record issuance of bonds, interest, straight-line amortization, and balance sheet presentation.	Moderate	30–40
*10A	Prepare journal entries to record issuance of bonds, payment of interest, and amortization of bond discount using effective-interest method.	Moderate	30–40
*11A	Prepare journal entries to record issuance of bonds, payment of interest, effective-interest amortization, and balance sheet presentation.	Moderate	30–40
*12A	Prepare installment payments schedule, journal entries, and balance sheet presentation for a mortgage note payable.	Moderate	30–40
*13A	Prepare journal entries to record payments for long-term note payable, and balance sheet presentation.	Moderate	30–40

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

Problem Number	Description	Difficulty Level	Time Allotted (min.)
1B	Prepare current liability entries, adjusting entries, and current liabilities section.	Moderate	30–40
2B	Journalize and post note transactions; show balance sheet presentation.	Moderate	30–40
3B	Prepare journal entries to record interest payments and redemption of bonds.	Moderate	30–40
4B	Prepare journal entries to record issuance of bonds, interest, balance sheet presentation, and bond redemption.	Moderate	30–40
5B	Prepare journal entries to record issuance of bonds, show balance sheet presentation, and record bond redemption.	Simple	30–40
6B	Calculate and comment on ratios.	Moderate	30–40
*7B	Prepare journal entries to record interest payments, straight-line premium amortization, and redemption of bonds.	Moderate	30–40
*8B	Prepare journal entries to record issuance of bonds, interest, straight-line amortization, and balance sheet presentation.	Simple	30–40
*9B	Prepare journal entries to record issuance of bonds, interest, straight-line amortization, and balance sheet presentation.	Moderate	30–40
*10B	Prepare journal entries to record issuance of bonds, payment of interest, and amortization of bond premium using effective-interest method.	Moderate	30–40
*11B	Prepare journal entries to record issuance of bonds, payment of interest, effective-interest amortization, and balance sheet presentation.	Moderate	30–40
*12B	Prepare installment payments schedule, journal entries, and balance sheet presentation for a mortgage note payable.	Moderate	30–40
*13B	Prepare journal entries to record payments for long-term note payable, and balance sheet presentation.	Moderate	30–40

ANSWERS TO QUESTIONS

1. While this is generally true, more precisely a current liability is a debt that can reasonably be expected to be paid: (a) from existing current assets or through the creation of other current liabilities and (2) within one year or the operating cycle, whichever is longer.
2. In the balance sheet, Notes Payable of \$20,000 and Interest Payable of \$450 ($\$20,000 \times 9\% \times 3/12$) should be reported as current liabilities. In the income statement, Interest Expense of \$450 should be reported under other expenses and losses.
3. (a) Disagree. The company only serves as a collection agent for the taxing authority. It does not report sales taxes as an expense; it merely forwards the amount paid by the customer to the government.
- (b) The entry to record the proceeds is:

Cash	8,550	
Sales Revenue		8,000
Sales Taxes Payable		550
4. (a) The entry when the tickets are sold is:

Cash	900,000	
Unearned Ticket Revenue		900,000
- (b) The entry after each game is:

Unearned Ticket Revenue	180,000	
Ticket Revenue		180,000
5. Three taxes commonly withheld by employers from employees' gross pay are (1) federal income taxes, (2) state income taxes, and (3) social security (FICA) taxes.
6. (a) Three taxes commonly paid by employers on employees' salaries and wages are (1) social security (FICA) taxes, (2) state unemployment taxes, and (3) federal unemployment taxes.
- (b) Taxes withheld from employees' gross pay and not yet remitted to the appropriate government agency are reported in the balance sheet as current liabilities.
7. The liabilities that Tootsie Roll identified as current are: Accounts payable, Dividends payable, and Accrued liabilities.
8. (a) Long-term liabilities are obligations that are expected to be paid after one year. Examples include bonds and long-term notes.
- (b) Bonds are a form of interest-bearing notes payable used by corporations, universities, and governmental agencies.
9. (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.
- (b) Convertible bonds permit bondholders to convert them into common stock at their option. In contrast, callable bonds are subject to call and redemption at a stated dollar amount prior to maturity at the option of the issuer.

Questions Chapter 10 (Continued)

10. (a) Face value is the amount of principal due at the maturity date.
- (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 certificate is a legal document that indicates the name of the issuer, the face value of the bonds, and such other information as the contractual interest rate and maturity date of the bonds.
11. (a) A convertible bond permits bondholders to convert it into common stock at the option of the bondholders.
- (b) For bondholders, the conversion option gives an opportunity to benefit if the market price of the common stock increases substantially. For the issuer, convertible bonds usually have: (1) a lower rate of interest than other debt securities, (2) a higher selling price.
12. 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.
13. Less than. Investors were required to pay more than the face value; therefore, the market interest rate is less than the contractual rate.
14. No, Jack is not right. The market price on 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.
15. \$48,000. $\$800,000 \times 6\% \times 1 \text{ year} = \$48,000$.
16. \$664,000. 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.
17. 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 (to balance entry).
18. Two issues need to be considered. First, by financing a major purchase such as this with short-term financing the company will reduce its liquidity. In the case of Mullins Inc., its current ratio will decrease from 2.2:1 to a less acceptable level of 1.5:1. However, of equal concern is that by financing a long-term project with short-term financing the company is exposing itself to interest rate risk. The company has the choice of locking in a long-term rate of 8%, or continually refinancing at whatever the short-term rate is when its short-term debt matures. If short-term rates increase substantially the increase in interest expense could significantly reduce the company's profitability.

Questions Chapter 10 (Continued)

19. (a) 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 financial statements. The notes should also indicate the interest rates, maturity dates, conversion privileges, and assets pledged as collateral.
- (b) To evaluate liquidity a company may compute working capital and the current ratio. To evaluate long-run solvency a company may compute a debt to assets ratio, and a times interest earned ratio.
20. No, Samuel is not correct. Liquidity involves measuring the short-term ability of a company to pay its maturing obligations and to meet unexpected needs for cash. Solvency involves measuring the ability of a company to survive over a long period of time.

21. When companies are trying to overcome customer skepticism about the quality of their product they often consider providing a more generous warranty. While this may be effective in increasing sales, it is not without costs. Clearly a longer warranty will usually result in more warranty claims.

Warranties are a contingent liability that must be accrued for each year. If the warranty period is extended, the size of this accrual could increase significantly. If the quality of the company's product is not improved at the same time that the warranty is extended, it is quite possible that the increase in the estimated warranty accrual could exceed the increase in net income from expanded sales from the more generous warranty.

22. One alternative to purchasing the assets is to lease them through an operating lease agreement. In an operating lease, the lease payments are recorded as an expense. This allows the lessee to keep the leased assets and, more importantly, lease liabilities off the balance sheet (referred to as off-balance-sheet financing). Keeping lease liabilities off the balance sheet will have a favorable impact on the lessee's liquidity and solvency ratios.

Another option is to lease the assets through a capital lease agreement. However, in a capital lease the lessee must record the asset and a related liability for the lease payments. This treatment would impact liquidity and solvency ratios the same way the purchase of assets would.

23. Tim is not correct. In order to reduce costs, many companies today keep low amounts of inventory on hand. Consequently, liquidity ratios are generally lower than they used to be. Companies that keep fewer liquid assets on hand frequently rely on a bank line of credit. A line of credit allows a company to borrow money on a short-term basis to meet any cash shortfalls caused by a low amount of liquid assets.
24. If a company has significant operating leases, most analysts would argue that its recorded assets and liabilities understate their true values. These analysts will increase the company's liabilities and assets for the unrecorded operating leases.
25. Two criteria must be met: (1) the contingency must be probable and (2) the company must be able to arrive at a reasonable estimate. If these criteria are not met, the company should disclose the major facts concerning the contingency in the notes to its financial statements.

Questions Chapter 10 (Continued)

- *26.** The straight-line method of amortization 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.
- *27.** The total amount of interest expense is \$10,800. Interest expense is the interest to be paid in cash less the premium amortization for the year. Cash to be paid equals $6\% \times \$200,000$ or \$12,000. Total premium equals 3% of \$200,000 or \$6,000. Since this is to be amortized over 5 years (the life of the bonds) in equal amounts, the amortization amount is $\$6,000 \div 5 = \$1,200$. Thus, $\$12,000 - \$1,200$ or \$10,800 is the interest expense for 2014.
- *28.** Glenda 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.
- *29.** Decrease. Under the effective-interest method the interest expense 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.
- *30.** The installment note requires equal payments. Each payment will pay any interest that has been incurred during the time that has past since the previous payment. The remaining amount of the payment will pay off part of the principal balance owed. Over time, as the principal is paid down, the amount of interest owed will decline, so that the principal paid off by each payment will increase.
- *31.** No, Roy is not right. Each payment by Roy 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.

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 10-1

- (a) A note payable due in two years is a long-term liability, not a current liability.
- (b) \$20,000 of the mortgage payable is a current maturity of long-term debt. This amount should be reported as a current liability.
- (c) Interest payable is a current liability because it will be paid out of current assets in the near future.
- (d) Accounts payable is a current liability because it will be paid out of current assets in the near future.

BRIEF EXERCISE 10-2

(a)	July 1	Cash.....	90,000	
		Notes Payable		90,000
(b)	Dec. 31	Interest Expense.....	3,150	
		Interest Payable		
		(\$90,000 X 7% X 6/12)		3,150

BRIEF EXERCISE 10-3

Sales tax payable

- (1) Sales = $(\$10,388 \div 1.06) = \$9,800$
- (2) Sales taxes payable = $(\$9,800 \times 6\%) = \588
or $\$10,388 - \$9,800 = \$588$

Mar. 16	Cash	10,388	
	Sales Revenue		9,800
	Sales Taxes Payable		588

BRIEF EXERCISE 10-4

(a) Cash (3,500 X \$80).....	280,000	
Unearned Ticket Revenue.....		280,000
(To record sale of 3,500 season tickets)		
(b) Unearned Ticket Revenue	28,000	
Ticket Revenue (\$280,000 ÷ 10).....		28,000
(To record basketball ticket revenue earned)		

BRIEF EXERCISE 10-5

Gross earnings:		
Regular pay (40 X \$16).....	\$640.00	
Overtime pay (7 X \$24).....	<u>168.00</u>	<u>\$808.00</u>
Gross earnings.....		\$808.00
Less: FICA taxes payable (\$808 X 7.65%).....	\$ 61.81	
Federal income taxes payable.....	<u>95.00</u>	<u>156.81</u>
Net pay		<u>\$651.19</u>

BRIEF EXERCISE 10-6

Jan. 15	Salaries and Wages Expense.....	808.00	
	FICA Taxes Payable (\$808 X 7.65%)		61.81
	Federal Income Taxes Payable.....		95.00
	Salaries and Wages Payable.....		651.19
Jan. 15	Salaries and Wages Payable.....	651.19	
	Cash		651.19

BRIEF EXERCISE 10-7

Jan. 15	Payroll Tax Expense	61.81	
	FICA Taxes Payable (\$808 X 7.65%)		61.81

BRIEF EXERCISE 10-8

Cash (\$300,000 X .98).....	294,000	
Discount on Bonds Payable.....	6,000	
Bonds Payable		300,000

BRIEF EXERCISE 10-9

Cash (\$400,000 X 1.01)	404,000	
Bonds Payable		400,000
Premium on Bonds Payable		4,000

BRIEF EXERCISE 10-10

2014		
(a) Jan. 1	Cash	3,000,000
	Bonds Payable	
	(3,000 X \$1,000)	3,000,000
 (b) Dec. 31		
	Interest Expense	210,000
	Interest Payable	
	(\$3,000,000 X 7%)	210,000
 2015		
(c) Jan. 1	Interest Payable	210,000
	Cash	210,000

BRIEF EXERCISE 10-11

Bonds Payable	2,000,000	
Loss on Bond Redemption		
(\$2,040,000 – \$1,955,000)	85,000	
Cash (\$2,000,000 X 1.02)		2,040,000
Discount on Bonds Payable		45,000

BRIEF EXERCISE 10-12

Long-term liabilities		
Bonds payable	\$700,000	
Less: Discount on bonds payable	<u>28,000</u>	\$672,000
Notes payable		<u>80,000</u>
Total long-term liabilities		<u>\$752,000</u>

BRIEF EXERCISE 10-13

DESMOND INC.
Balance Sheet (Partial)
December 31, 2014

Current liabilities		
Note payable.....	\$ 20,000	
Accounts payable	157,000	
Unearned rent revenue.....	240,000	
Interest payable.....	40,000	
FICA taxes payable	7,800	
Income taxes payable.....	3,500	
Sales taxes payable	<u>1,700</u>	
Total current liabilities		\$ 470,000
Long-term liabilities		
Bonds payable	900,000	
Less: Discount on bonds payable.....	<u>41,000</u>	859,000
Notes payable.....		<u>80,000</u>
Total long-term liabilities.....		<u>939,000</u>
Total liabilities		<u>\$1,409,000</u>

BRIEF EXERCISE 10-14

- (a) Working capital = \$4,485 – \$2,836 = \$1,649
(b) Current ratio = \$4,485 ÷ \$2,836 = 1.58:1
(c) Debt to assets = \$5,099 ÷ \$8,875 = 57%
(d) Times interest earned = (\$245 + \$113 + \$169) ÷ \$169 = 3.12 times

Working capital and the current ratio measure a company's ability to pay maturing obligations and meet cash needs. Adidas's current assets are 58% larger than the amount of its current liabilities which indicates a relatively high degree of liquidity.

Debt to assets and times interest earned measure a company's ability to survive over a long period of time. Adidas's debt to assets ratio indicates that approximately \$.57 of every dollar invested in assets was provided by creditors. Adidas's times interest earned ratio of 3.12 indicates that its earnings are adequate to make interest payments as they come due.

BRIEF EXERCISE 10-15

(a) Debt to assets:

$$\text{Without operating leases} \quad \frac{\$14,180}{\$24,004} = 59\%$$

$$\text{With operating leases} \quad \frac{\$14,180 + \$740}{\$24,004 + \$740} = 60\%$$

(b) CN does not have significant operating leases, therefore its assets and liabilities reflect its true financial position. By increasing its assets and liabilities for these operating leases we see that its debt to assets ratio increases only slightly from 59% to 60%.

*BRIEF EXERCISE 10-16

(a)	Jan. 1	Cash (99% X \$2,000,000)	1,980,000	
		Discount on Bonds Payable	20,000	
		Bonds Payable		2,000,000
(b)	Dec. 31	Interest Expense	142,000	
		Cash (\$2,000,000 X 7%)		140,000
		Discount on Bonds Payable (\$20,000 ÷ 10)		2,000

*BRIEF EXERCISE 10-17

(a)	Jan. 1	Cash (102% X \$4,000,000)	4,080,000	
		Bonds Payable		4,000,000
		Premium on Bonds Payable....		80,000
(b)	Dec. 31	Interest Expense	304,000	
		Premium on Bonds Payable (\$80,000 ÷ 5)	16,000	
		Interest Payable (\$4,000,000 X 8%)		320,000

***BRIEF EXERCISE 10-18**

(a)	Interest Expense	48,070	
	Discount on Bonds Payable		3,070
	Cash.....		45,000

(b) Interest expense is greater than interest paid because the bonds sold at a discount. The bonds sold at a discount because investors demanded a market interest rate higher than the contractual interest rate. Interest expense is calculated using the effective interest rate which is higher than the stated rate used to compute the cash payment.

(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 value, interest expense will increase.

BRIEF EXERCISE 10-19

Semiannual Interest Period		(A) Cash Payment	(B) Interest Expense (D) X 5%	(C) Reduction of Principal (A) – (B)	(D) Principal Balance (D) – (C)
<u>Issue Date</u>					<u>\$600,000</u>
1		\$48,145	\$30,000	\$18,145	581,855
Dec.	31	Cash		600,000	
		Mortgage Payable			600,000
June	30	Interest Expense		30,000	
		Mortgage Payable		18,145	
		Cash			48,145

SOLUTIONS TO DO IT! REVIEW EXERCISES

DO IT! 10-1

1. $\$60,000 \times 10\% \times 5/12 = \$2,500$
2. $\$42,000/1.05 = \$40,000$; $\$40,000 \times 5\% = \$2,000$
3. $\$42,000 \times 2/6 = \$14,000$

DO IT! 10-2

- (a) To determine wages payable, reduce wages expense by the withholdings for FICA, federal income tax, and state income tax.

Feb. 28 Salaries and Wages Expense.....	74,000	
FICA Taxes Payable		5,661
Federal Income Taxes Payable		7,100
State Income Taxes Payable		1,900
Salaries and Wages Payable.....		59,339

- (b) Payroll taxes would be for the company's share of FICA, as well as for federal and state unemployment tax.

Feb. 28 Payroll Tax Expense	5,931	
FICA Taxes Payable		5,661
Federal Unemployment Taxes Payable....		110
State Unemployment Taxes Payable.....		160

DO IT! 10-3

1. False. Convertible bonds can be converted into common stock at the bondholder's option; callable bonds can be redeemed by the issuer at a set amount prior to maturity.
2. True.
3. True.
4. True.

DO IT! 10-4

(a)	Cash.....	315,000	
	Bonds Payable		300,000
	Premium on Bonds Payable.....		15,000
	(To record sale of bonds at a premium)		
(b)	Long-term liabilities		
	Bonds payable.....		\$300,000
	Plus: Premium on bonds payable		<u>15,000</u>
			<u>\$315,000</u>

DO IT! 10-5

Bonds Payable.....	400,000	
Loss on Bond Redemption	8,000	
Cash (\$400,000 X 99%)		396,000
Discount on Bonds Payable.....		12,000
(To record redemption of bonds at 99)		

SOLUTIONS TO EXERCISES

EXERCISE 10-1

2014				
(a)	June 1	Cash	15,000	
		Notes Payable		15,000
(b)	June 30	Interest Expense		
		(\$15,000 X .08 X 1/12).....	100	
		Interest Payable		100
(c)	Interest payable accrued each month		\$100	
	Number of months from borrowing			
	to year end.....		<u>X 7</u>	
	Balance in interest payable account.....		<u>\$700</u>	
2015				
(d)	Jan. 1	Notes Payable	15,000	
		Interest Payable	700	
		Cash		15,700

EXERCISE 10-2

(a) Principal X .08 X 4/12 = \$480
Principal = \$480 ÷ (.08 X 4/12)
Principal = \$18,000

(b) \$18,500 X Interest Rate X 4/12 = \$555
Interest Rate = \$555 ÷ (\$18,500 X 4/12)
Interest Rate = 9 percent

(c) Initial Borrowing:

May 15	Cash	18,000	
	Notes Payable.....		18,000

Repayment:

Sept. 15	Notes Payable	18,000	
	Interest Expense	480	
	Cash.....		18,480

EXERCISE 10-3

(a)	June 1	Cash.....	60,000	
		Notes Payable		60,000
(b)	June 30	Interest Expense (\$60,000 X .08 X 1/12)....	400	
		Interest Payable		400
(c)	Dec. 1	Notes Payable	60,000	
		Interest Payable (\$60,000 X .08 X 6/12)....	2,400	
		Cash		62,400
(d)		Interest expense accrued each month	\$ 400	
		Number of months of loan.....	X 6	
		Total interest expense	<u>\$2,400</u>	

EXERCISE 10-4

FURCAL COMPANY

Apr. 10	Cash.....	23,100	
	Sales Revenue.....		22,000
	Sales Taxes Payable.....		1,100

CRYSTAL COMPANY

15	Cash.....	13,780	
	Sales Revenue (\$13,780 ÷ 1.06)		13,000
	Sales Taxes Payable (\$13,780 – \$13,000)....		780

EXERCISE 10-5

(a)	Mar. 31	Salaries and Wages Expense.....	64,000	
		FICA Taxes Payable		4,896
		Federal Income Taxes Payable		7,500
		State Income Taxes Payable		3,100
		Union Dues Payable		400
		Salaries and Wages Payable		48,104
(b)	Mar. 31	Payroll Tax Expense	5,596	
		FICA Taxes Payable		4,896
		State Unemployment Taxes Payable		700

EXERCISE 10-6

- (a) $\$1,728,000 \div \$320 = 5,400$ season tickets sold.
- (b) $\$1,728,000 \div 16$ home games = \$108,000 revenue recognized per home game.
- $\$1,188,000 \div \$108,000 = 11$ home games already played.

(c)	Cash	1,728,000	
	Unearned Ticket Revenue		1,728,000
(d)	Unearned Ticket Revenue	108,000	
	Ticket Revenue		108,000

EXERCISE 10-7

(a)	Nov.	Cash (6,300 X \$28).....	176,400	
		Unearned Subscription Revenue.		176,400
(b)	Dec. 31	Unearned Subscription Revenue.....	14,700	
		Subscription Revenue (\$176,400 X 1/12).....		14,700

EXERCISE 10-7 (Continued)

(c)	Mar. 31	Unearned Subscription Revenue	44,100	
		Subscription Revenue		
		(\$176,400 X 3/12)		44,100

EXERCISE 10-8

2014				
(a)	Aug. 1	Cash	600,000	
		Bonds Payable		600,000
(b)	Dec. 31	Interest Expense	17,500	
		Interest Payable		
		(\$600,000 X 7% X 5/12)		17,500
2015				
(c)	Aug. 1	Interest Expense		
		(\$600,000 X 7% X 7/12)	24,500	
		Interest Payable	17,500	
		Cash (\$600,000 X 7% X 12/12)		42,000

EXERCISE 10-9

(a)	Jan. 1	Cash	300,000	
		Bonds Payable		300,000
(b)	Dec. 31	Interest Expense	24,000	
		Interest Payable		
		(\$300,000 X 8% X 12/12)		24,000
(c)	Jan. 1	Interest Payable	24,000	
		Cash		24,000

EXERCISE 10-10

(a)	Jan.	1	Cash ($\$600,000 \times 1.03$)	618,000	
			Bonds Payable		600,000
			Premium on Bonds Payable		18,000

(b) Long-term Liabilities

Bonds Payable, due 2024	\$600,000	
Add: Premium on Bonds Payable	<u>10,800</u>	\$610,800

- (c) The bonds sold for more than their face amount because the contract interest rate (6%) was higher than the market interest rate. When the contract rate is higher than the market rate, bonds will sell at a premium.

EXERCISE 10-11

(a)	Jan.	1	Cash ($\$500,000 \times .96$)	480,000	
			Discount on Bonds Payable)	26,000	
			Bonds Payable		500,000

(b) Long-term Liabilities

Bonds Payable, due 2029	\$500,000	
Less: Discount on Bonds Payable	<u>12,000</u>	\$488,000

- (c) The bonds sold for less than their face value because the contract interest rate (7%) was lower than the market interest rate. When the contract rate is lower than the market rate, the bonds will sell at a discount.

EXERCISE 10-12

- (a) The General Electric bonds were issued at a premium and the Boeing bonds were issued at a discount.
- (b) The prices of the two bonds differed because bond price is based on the market rate of interest not the stated rate of interest. Market interest rates must have been different when the two bonds were issued causing the selling prices to differ.

(c)	Cash (111.12% X \$800,000)	888,960	
	Bonds Payable		800,000
	Premium on Bonds Payable.....		88,960
	Cash (99.08% X \$800,000)	792,640	
	Discount on Bonds Payable.....	7,360	
	Bonds Payable		800,000

EXERCISE 10-13

2014			
(a)	Jan. 1	Cash	350,000
		Bonds Payable	350,000
(b)	Dec. 31	Interest Expense	28,000
		Interest Payable	
		(\$350,000 X 8% X 12/12).....	28,000
2015			
(c)	Jan. 1	Interest Payable	28,000
		Cash	28,000
2034			
(d)	Jan. 1	Bonds Payable	350,000
		Cash	350,000

EXERCISE 10-14

(a)	April 30	Bonds Payable.....	140,000	
		Loss on Bond Redemption.....	14,900*	
		Cash (\$140,000 X 101%).....		141,400
		Discount on Bonds Payable (\$140,000 – \$126,500)		13,500
(b)	June 30	Bonds Payable.....	170,000	
		Premium on Bonds Payable.....	14,000	
		Cash (\$170,000 X 98%).....		166,600
		Gain on Bond Redemption		17,400**

*\$126,500 – (101% X \$140,000)

**\$184,000 – (98% X \$170,000)

EXERCISE 10-15

(a)	<u>Account</u>	<u>Classification</u>	<u>Reason</u>
	Accounts payable	Current liability	Due within one year
	Accrued pension liability	Long-term liability	Relates to pensions. Not due within one year
	Unearned rent revenue	Current liability	Due within one year
	Bonds payable	Long-term liability	Not due within one year
	Current portion of mortgage payable	Current liability	Due within one year
	Income taxes payable	Current liability	Due within one year
	Mortgage payable	Long-term liability	Not due within one year
	Operating leases	N/A	Not a balance sheet item—may be disclosed in notes
	Notes payable (due in 2017)	Long-term liability	Not due within one year
	Salaries and wages payable	Current liability	Due within one year
	Notes payable (due in 2015)	Current liability	Due within one year
	Unused operating line of credit	N/A	Not a balance sheet item as unused—may be disclosed in notes
	Warranty liability—current	Current liability	Can be current and/or long-term depending on the length of the warranty. Given as current

EXERCISE 10-15 (Continued)

(b)

SANTANA INC.
Balance Sheet (Partial)
January 31, 2014
(in thousands)

Current liabilities		
Notes payable.....	\$2,563.6	
Accounts payable	4,263.9	
Current portion of mortgage payable	1,992.2	
Warranty liability	1,417.3	
Unearned rent revenue.....	1,058.1	
Salaries and wages payable	858.1	
Income taxes payable.....	<u>265.2</u>	
Total current liabilities		\$12,418.4
Long-term liabilities		
Mortgage payable	\$6,746.7	
Bonds payable	1,961.2	
Accrued pension liability	1,115.2	
Notes payable.....	<u>335.6</u>	
Total long-term liabilities.....		<u>10,158.7</u>
Total liabilities		<u><u>\$22,577.1</u></u>

EXERCISE 10-16

- (a)
1. Working capital = $\$3,416.3 - \$2,988.7 = \$427.6$
 2. Current ratio = $\$3,416.3 \div \$2,988.7 = 1.14:1$
 3. Debt to assets ratio = $\$16,191.0 \div \$30,224.9 = 54\%$
 4. Times interest earned = $(\$4,551.0 + \$1,936.0 + \$473.2) \div \$473.2 = 14.71$ times

A current ratio that is less than 1.30 indicates lower liquidity. The debt to assets ratio indicates that \$.54 of each dollar of asset have been financed by creditors. The times interest earned of over 14 times indicates that McDonald's income is large enough to make required interest payments as they come due.

EXERCISE 10-16 (Continued)

- (b) Debt to assets ratio, adjusted for off-balance-sheet lease obligations.

$$\frac{\$16,191.0 + \$8,800}{\$30,224.9 + \$8,800} = 64\%$$

By including these off-balance-sheet obligations the debt to assets ratio increases from 54% to 64%, suggesting that McDonald's is not as solvent as it first appears.

EXERCISE 10-17

- (a) Current ratio

$$\begin{array}{ll} 2014 & \$10,795 \div \$4,897 = 2.20:1 \\ 2013 & \$9,598 \div \$5,839 = 1.64:1 \end{array}$$

- (b) Current ratio

$$\$10,495 \div \$4,597 = 2.28$$

It would make its current ratio increase from 2.20 to 2.28.

EXERCISE 10-18

- (a) Current ratio

$$\begin{array}{ll} 2014 & \$6,244 \div \$4,503 = 1.39:1 \\ 2013 & \$3,798 \div \$2,619 = 1.45:1 \end{array}$$

- (b) Current ratio

$$(\$6,244 - \$1,500) \div (\$4,503 - \$1,500) = 1.58:1$$

It would make its current ratio increase (from 1.39:1 to 1.58:1).

- (c) The liquidity ratios would not change but having access to a line of credit means that cash is available on a short-term basis and therefore the assessment of the company's short-term liquidity would improve.

EXERCISE 10-19

- (a) The company does not have to record these contingent liabilities because they have determined that they are not likely to occur and the impact would be immaterial in any event.
- (b) For financial statement users it is important to understand the possible implications that the contingent liabilities could have on the financial results of the company. If the contingent liabilities result in material losses for the company it will negatively impact the company's financial results and affect the decisions made by the users of the financial statements.

*EXERCISE 10-20

2014			
(a)	Jan. 1	Cash (\$500,000 X 103%)	515,000
		Bonds Payable	500,000
		Premium on Bonds Payable.....	15,000
(b)	Dec. 31	Interest Expense	29,500
		Premium on Bonds Payable	
		(\$15,000 X 1/30)	500
		Interest Payable	
		(\$500,000 X 6%)	30,000
2015			
(c)	Jan. 1	Interest Payable	30,000
		Cash	30,000
2044			
(d)	Jan. 1	Bonds Payable	500,000
		Cash	500,000

***EXERCISE 10-21**

2013			
(a)	Dec. 31	Cash	288,000
		Discount on Bonds Payable	12,000
		Bonds Payable	300,000
2014			
(b)	Dec. 31	Interest Expense	24,800
		Cash (\$300,000 X 8%)	24,000
		Discount on Bonds Payable	
		(\$12,000 X 1/15)	800
2028			
(c)	Dec. 31	Bonds Payable	300,000
		Cash	300,000

***EXERCISE 10-22**

2014			
(a)	Jan. 1	Cash	360,727
		Discount on Bonds Payable	39,273
		Bonds Payable	400,000
2014			
(b)	Dec. 31	Interest Expense (360,727 X 8%)	28,858
		Interest Payable	
		(\$400,000 X 7%)	28,000
		Discount on Bonds Payable	858
2015			
(c)	Jan. 1	Interest Payable	28,000
		Cash	28,000

For explanation of calculations, see the following table.

***EXERCISE 10-22 (Continued)**

(b), (c)					
	(A)	(B)	(C)	(D)	(E)
	Interest to Be Paid (7% X \$400,000)	Interest Expense to Be Recorded (8% X Preceding Bond Carrying Value) [(E) X .08]	Discount Amortization (B) – (A)	Unamortized Discount (D) – (C)	Bond Carrying Value [\$400,000 – (D)]
Issue date					
1	28,000	28,858	858	39,273	360,727
2	28,000	28,927	927	38,415	361,585
				37,488	362,512

***EXERCISE 10-23**

2014				
(a)	Jan. 1	Cash.....	407,968	
		Bonds Payable.....		380,000
		Premium on Bonds Payable		27,968
(b)	Dec. 31	Interest Expense (\$407,968 X 6%).....	24,478	
		Premium on Bonds Payable.....	2,122	
		Interest Payable		
		(\$380,000 X 7%).....		26,600
2015				
(c)	Jan. 1	Interest Payable.....	26,600	
		Cash.....		26,600

For explanation of calculations, see the following table.

***EXERCISE 10-23 (Continued)**

(b), (c)					
	(A)	(B)	(C)	(D)	(E)
	Interest to Be Paid (7% X \$380,000)	Interest Expense to Be Recorded (6% X Preceding Bond Carrying Value) [(E) X .06]	Premium Amortization (A) – (B)	Unamortized Premium (D) – (C)	Bond Carrying Value [\$380,000 + (D)]
Interest Periods					
Issue date					
1	26,600	24,478	2,122	27,968	407,968
2	26,600	24,351	2,249	23,597	405,846
					403,597

***EXERCISE 10-24**

Issuance of Note				
2014	Dec. 31	Cash	280,000	
		Mortgage Payable		280,000

First Installment Payment				
2015	June 30	Interest Expense		
		(\$280,000 X 6% X 6/12).....	8,400	
		Mortgage Payable	5,885	
		Cash		14,285

Second Installment Payment				
	Dec. 31	Interest Expense		
		[(280,000 – 5,885) X 6% X 6/12] ...	8,223	
		Mortgage Payable	6,062	
		Cash		14,285

Semiannual Interest Period	(A) Cash Payment	(B) Interest Expense (D X 3%)	(C) Reduction of Principal (A) – (B)	(D) Principal Balance (D) – (C)
<u>Issue date</u>				<u>\$280,000</u>
6/30/15	\$14,285	\$8,400	\$5,885	274,115
12/31/15	14,285	8,223	6,062	268,053

***EXERCISE 10-25**

Annual Interest Period	(A) Cash Payment	(B) Interest Expense (D) X 10%	(C) Reduction of Principal (A) – (B)	(D) Principal Balance (D) – (C)
1/1/2014				\$50,000
1/1/2015	\$8,137	\$5,000	\$3,137	46,863

GOINS CORPORATION
Balance Sheet (Partial)
December 31, 2014

Current liabilities

Notes payable.....	\$3,137
Interest payable.....	5,000

Long-term liabilities

Notes payable.....	46,863
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SOLUTIONS TO PROBLEMS

PROBLEM 10-1A

(a)	Jan. 1	Cash.....	18,000	
		Notes Payable		18,000
	5	Cash.....	6,254	
		Sales Revenue (\$6,254 ÷ 1.06)		5,900
		Sales Taxes Payable		
		(\$6,254 – \$5,900).....		354
	12	Unearned Service Revenue	10,000	
		Service Revenue		10,000
	14	Sales Taxes Payable	6,600	
		Cash		6,600
	20	Accounts Receivable	25,440	
		Sales Revenue.....		24,000
		Sales Taxes Payable		
		(500 X \$48 X 6%).....		1,440
(b)	Jan. 31	Interest Expense.....	75	
		Interest Payable		
		(\$18,000 X 5% X 1/12).....		75
	31	Salaries and Wages Expense	70,000	
		FICA Taxes Payable.....		5,355
		Federal Income Taxes Payable.....		5,000
		State Income Taxes Payable.....		1,500
		Salaries and Wages Payable.....		58,145
	31	Payroll Tax Expense.....	5,355	
		FICA Taxes Payable.....		5,355

PROBLEM 10-1A (Continued)

(c) Current liabilities

Notes payable	\$ 18,000
Accounts payable.....	42,500
Salaries and wages payable	58,145
FICA taxes payable (\$5,355 X 2).....	10,710
Unearned service revenue (\$19,000 – \$10,000)	9,000
Federal income taxes payable.....	5,000
Sales taxes payable.....	1,794*
State income taxes payable.....	1,500
Interest payable	<u>75</u>
Total current liabilities.....	<u>\$146,724</u>

*($\$6,600 + \$354 - \$6,600 + \$1,440$)

PROBLEM 10-2A

(a)	Sept. 1	Inventory	12,000	
		Notes Payable		12,000
	30	Interest Expense (\$12,000 X .06 X 1/12)	60	
		Interest Payable		60
Oct. 1		Equipment	16,500	
		Notes Payable		16,500
	31	Interest Expense [(\$16,500 X .08 X 1/12) + \$60]	170	
		Interest Payable		170
Nov. 1		Equipment	34,000	
		Notes Payable		26,000
		Cash		8,000
	30	Interest Expense [(\$26,000 X .06 X 1/12) + \$110 + \$60] ...	300	
		Interest Payable		300
Dec. 1		Notes Payable	12,000	
		Interest Payable	180	
		Cash		12,180
	31	Interest Expense (\$110 + \$130)	240	
		Interest Payable		240

(b)

Notes Payable				Interest Payable			
12/1	12,000	9/1	12,000	12/1	180	9/30	60
		10/1	16,500			10/31	170
		11/1	26,000			11/30	300
						12/31	240
		12/31 Bal.	42,500			12/31 Bal.	590

PROBLEM 10-2A (Continued)

Interest Expense	
9/30	60
10/31	170
11/30	300
12/31	240
12/31 Bal.	770

(c) Current liabilities		
Notes payable		42,500
Interest payable		590

(d) Total interest expense is \$770. See (b) above.

PROBLEM 10-3A

(a)	Jan. 1	Interest Payable.....	40,000	
		Cash.....		40,000
(b)	Jan. 1	Bonds Payable.....	200,000	
		Loss on Bond Redemption.....	6,000	
		Cash (\$200,000 X 103%).....		206,000
(c)	Dec. 31	Interest Expense.....	24,000	
		Interest Payable		
		(\$300,000 X 8%).....		24,000

PROBLEM 10-4A

2013			
(a)	Oct. 1	Cash	700,000
		Bonds Payable	700,000
(b) Dec. 31			
		Interest Expense	8,750
		Interest Payable	
		(\$700,000 X 5% X 3/12).....	8,750
(c) Current Liabilities			
		Interest Payable.....	8,750
Long-term Liabilities			
		Bonds Payable	700,000
2014			
(d)	Oct. 1	Interest Expense	
		(\$700,000 X 5% X 9/12)	26,250
		Interest Payable	8,750
		Cash (\$700,000 X 5%)	35,000
(e) Dec. 31			
		Interest Expense	8,750
		Interest Payable.....	8,750
2015			
(f)	Jan. 1	Interest Payable	8,750
		Cash	8,750
		Bonds Payable	700,000
		Loss on Bond Redemption	28,000
		Cash (\$700,000 X 104%)	728,000

PROBLEM 10-5A

2014				
(a)	Jan. 1	Cash (\$6,000,000 X 98%).....	5,880,000	
		Discount on Bonds Payable.....	120,000	
		Bonds Payable		6,000,000
(b) Long-term Liabilities				
		Bonds Payable, due 2029	\$6,000,000	
		Less: Discount on bonds payable.....	<u>112,000</u>	\$5,888,000
2016				
(c)	Jan. 1	Bonds Payable.....	6,000,000	
		Loss on Bond Redemption		
		(\$6,120,000 – \$5,896,000)	224,000	
		Cash (\$6,000,000 X 102%)		6,120,000
		Discount on Bonds		
		Payable		104,000*
*\$6,000,000 – \$5,896,000				

PROBLEM 10-6A

(a)

	2014	2013
1. Current ratio	$\$2,893 \div \$2,806$ = 1.03:1	$\$4,443 \div \$4,836$ = .92:1
2. Free cash flow	$(\$1,521) - \$923 - \$13 =$ $(\$2,457)$	$\$2,845 - \$1,331 - \$14 =$ $\$1,500$
3. Debt to assets ratio	$\$9,355 \div \$14,308$ = 65%	$\$9,831 \div \$16,772$ = 59%
4. Times interest earned	$\$408^1 \div \130 = 3.14 times	$\$1,177^2 \div \119 = 9.89 times

$$^1\$178 + \$100 + \$130 = \$408$$

$$^2\$645 + \$413 + \$119 = \$1,177$$

- (b) The company's position as measured through all ratios except the current ratio has deteriorated. Southwest appears to be much less liquid and solvent when comparing 2014 to 2013.
- (c) Southwest's use of operating leases (vs. capital leases) would reduce its solvency. If the leases were capital rather than operating, the balance sheet would include higher total assets and higher liabilities. Using the \$1,600 as an estimate of the increase in liabilities and assets that would result if the operating leases were capital leases, the revised debt to assets ratio would be $[(\$9,355 + \$1,600) \div (\$14,308 + \$1,600)] = 69\%$.

*PROBLEM 10-7A

2014				
(a)	Jan. 1	Interest Payable.....	96,000	
		Cash.....		96,000
(b)	Dec. 31	Interest Expense.....	98,400	
		Interest Payable		
		(\$2,400,000 X 4%).....		96,000
		Discount on Bonds Payable		
		(\$24,000 ÷ 10)		2,400
2015				
(c)	Jan. 1	Bonds Payable.....	400,000	
		Loss on Bond Redemption.....	11,600	
		Cash (\$400,000 X 102%)		408,000
		Discount on Bonds Payable		3,600*
		*(\$24,000 – \$2,400) X \$400,000/ \$2,400,000 = \$3,600		
(d)	Dec. 31	Interest Expense.....	82,000	
		Interest Payable		80,000**
		Discount on Bonds Payable		2,000*
		*\$24,000 – \$2,400 – \$3,600 = \$18,000; \$18,000 ÷ 9 = \$2,000 or \$2,400 X \$2,000,000/\$2,400,000 = \$2,000		
		**(\$2,400,000 – \$400,000 = \$2,000,000; \$2,000,000 X 4% = \$80,000)		

*PROBLEM 10-8A

(a)	Jan. 1	Cash (\$2,000,000 X 102%)	2,040,000	
		Bonds Payable		2,000,000
		Premium on Bonds Payable....		40,000
Dec. 31		Interest Expense	132,000	
		Premium on Bonds Payable		
		(\$40,000 ÷ 5)	8,000	
		Interest Payable		
		(\$2,000,000 X 7%)		140,000
(b)	Jan. 1	Cash (\$2,000,000 X 97%)	1,940,000	
		Discount on Bonds Payable	60,000	
		Bonds Payable		2,000,000
Dec. 31		Interest Expense	152,000	
		Interest Payable.....		140,000
		Discount on Bonds		
		Payable (\$60,000 ÷ 5)		12,000

(c) Premium

Current Liabilities

Interest payable		\$ 140,000
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Long-term Liabilities

Bonds payable, due 2019.....	\$2,000,000	
Add: Premium on bonds payable	<u>32,000</u>	2,032,000

Discount

Current Liabilities

Interest payable		\$ 140,000
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Long-term Liabilities

Bonds payable, due 2019.....	\$2,000,000	
Less: Discount on bonds payable	<u>48,000</u>	1,952,000

*PROBLEM 10-9A

(a)	1.	1/1/14	Cash (\$3,000,000 X 103%)	3,090,000	
			Bonds Payable.....		3,000,000
			Premium on Bonds Payable.....		90,000
	2.	1/1/14	Cash (\$3,000,000 X 98%)	2,940,000	
			Discount on Bonds Payable.....	60,000	
			Bonds Payable.....		3,000,000
(b) See amortization tables on following page.					
(c)	1.	12/31/14	Interest Expense	231,000	
			Premium on Bonds Payable.....	9,000	
			Interest Payable		240,000
	2.	12/31/14	Interest Expense	246,000	
			Interest Payable		240,000
			Discount on Bonds Payable.....		6,000
(d)	1.	Long-term Liabilities:			
			Bonds Payable.....	\$3,000,000	
			Plus: Unamortized Bond Premium.....	<u>81,000</u>	\$3,081,000
	2.	Long-term Liabilities:			
			Bonds Payable.....	\$3,000,000	
			Less: Unamortized Bond Discount	<u>54,000</u>	\$2,946,000

***PROBLEM 10-9A (Continued)**

(b), (1)		(A)	(B)	(C)	(D)	(E)
Annual Interest Periods	Interest to Be Paid (8% X \$3,000,000)	Interest Expense to Be Recorded (A) – (C)	Premium Amortization (\$90,000 ÷ 10)	Unamortized Premium (D) – (C)	Bond Carrying Value [\$3,000,000 + (D)]	
Issue date						
1	\$240,000	\$231,000	\$9,000	\$90,000	\$3,090,000	
2	240,000	231,000	9,000	81,000	3,081,000	
3	240,000	231,000	9,000	72,000	3,072,000	
				63,000	3,063,000	
(2)						
Annual Interest Periods	(A)	(B)	(C)	(D)	(E)	
Interest to Be Paid (8% X \$3,000,000)	Interest Expense to Be Recorded (A) + (C)	Discount Amortization (\$60,000 ÷ 10)	Unamortized Discount (D) – (C)	Bond Carrying Value [\$3,000,000 – (D)]		
Issue date						
1	\$240,000	\$246,000	\$6,000	\$60,000	\$2,940,000	
2	240,000	246,000	6,000	54,000	2,946,000	
3	240,000	246,000	6,000	48,000	2,952,000	
				42,000	2,958,000	

***PROBLEM 10-10A**

2014					
(a)	Jan. 1	Cash.....	1,667,518		
		Discount on Bonds Payable.....	132,482		
		Bonds Payable			1,800,000

(b) **LOCK CORP.**
Bond Discount Amortization
Effective-Interest Method—Annual Interest Payments
5% Bonds Issued at 6%

	(A)	(B)	(C)	(D)	(E)
Annual Interest Periods	Interest to Be Paid	Interest Expense to Be Recorded	Discount Amortization (B) – (A)	Unamortized Discount (D) – (C)	Bond Carrying Value (\$1,800,000 – D)
Issue date				\$132,482	\$1,667,518
1	\$90,000	\$100,051	\$10,051	122,431	1,677,569
2	90,000	100,654	10,654	111,777	1,688,223
3	90,000	101,293	11,293	100,484	1,699,516

(c)	Dec. 31	Interest Expense		
		(\$1,667,518 X 6%)	100,051	
		Interest Payable		
		(\$1,800,000 X 5%).....		90,000
		Discount on Bonds Payable		10,051

2015					
(d)	Jan. 1	Interest Payable.....	90,000		
		Cash.....			90,000

(e)	Dec. 31	Interest Expense		
		[(\$1,667,518 + \$10,051) X 6%].....	100,654	
		Interest Payable		90,000
		Discount on Bonds Payable		10,654

***PROBLEM 10-11A**

				2014			
(a)	1.	Jan.	1	Cash	2,147,202		
				Bonds Payable		2,000,000	
				Premium on Bonds Payable.....		147,202	
	2.	Dec.	31	Interest Expense			
				(\$2,147,202 X 6%)	128,832		
				Premium on Bonds Payable	11,168		
				Interest Payable			
				(\$2,000,000 X 7%)		140,000	
					2015		
	3.	Jan.	1	Interest Payable	140,000		
			Cash		140,000		
4.	Dec.	31	Interest Expense	128,162			
			[(\$2,147,202 – \$11,168) X 6%]				
			Premium on Bonds Payable	11,838			
			Interest Payable.....		140,000		
(b)	Bonds payable.....				2,000,000		
	Add: Premium on bonds payable				<u>124,196*</u>	2,124,196	
*(\$147,202 – \$11,168 – \$11,838)							

- (c) 1. Total bond interest expense—2015, \$128,162.
2. The effective-interest method will result in more interest expense reported than the straight-line method in 2015 when the bonds are sold at a premium. Straight-line interest expense for 2015 is \$125,280 [$\$140,000 - (\$147,202 \div 10)$].

***PROBLEM 10-12A**

(a)	(A)	(B)	(C)	(D)
Quarterly Interest Period	Cash Payment	Interest Expense (D) X 2%	Reduction of Principal (A) – (B)	Principal Balance (D) – (C)
Issue Date				\$320,000
1	\$30,259	\$6,400	\$23,859	296,141
2	30,259	5,923	24,336	271,805
3	30,259	5,436	24,823	246,982
4	30,259	4,940	25,319	221,663
5	30,259	4,433	25,826	195,837

(b)	Dec. 31	Mortgage Payable	23,859	
		Interest Expense	6,400	
		Cash		30,259

(c)	Current liabilities	
	Mortgage payable.....	\$100,304*
	Long-term liabilities	
	Mortgage payable.....	<u>195,837**</u>
	Total liabilities.....	<u>\$296,141</u>

*(\$24,336 + \$24,823 + \$25,319 + \$25,826)

**(\$296,141 – \$100,304)

***PROBLEM 10-13A**

(a)

Period	Cash Payment (A)	Interest Expense (B) = (D) X 7%	Principal Reduction (C) = (A) – (B)	Balance (D) = (D) – (C)
July 1, 2013				\$150,000
June 30, 2014	\$ 36,584	\$10,500	\$ 26,084	123,916
June 30, 2015	36,584	8,674	27,910	96,006
June 30, 2016	36,584	6,720	29,864	66,142
June 30, 2017	36,584	4,630	31,954	34,188
June 30, 2018	36,584	2,396*	34,188	0
Total	\$182,920	\$32,920	\$150,000	

*Rounded to make principal element equal to balance.

(b)	July 1/13	Cash	150,000	
		Notes Payable		150,000
	June 30/14	Notes Payable	26,084	
		Interest Expense	10,500	
		Cash		36,584
	June 30/15	Notes Payable	27,910	
		Interest Expense	8,674	
		Cash		36,584

(c) 2015

Current liabilities

Notes payable..... \$29,864

Long-term liabilities

Note payable (\$96,006 – \$29,864)..... \$66,142

PROBLEM 10-1B

(a)	Jan. 1	Cash.....	18,000	
		Notes Payable		18,000
	5	Cash.....	18,480	
		Sales Revenue		
		(\$18,480 ÷ 106.25%)		17,393*
		Sales Taxes Payable		
		(\$18,480 – \$17,393).....		1,087
	12	Unearned Service Revenue	8,000	
		Service Revenue		8,000
	14	Sales Taxes Payable	8,200	
		Cash		8,200
	20	Accounts Receivable	26,563	
		Sales Revenue.....		25,000
		Sales Taxes Payable		
		(500 X \$50 X 6.25%).....		1,563*
(b)	Jan. 31	Interest Expense.....	120	
		Interest Payable		
		(\$18,000 X 8% X 1/12 = \$120)		120
	31	Salaries and Wages Expense	54,000	
		FICA Taxes Payable.....		4,131
		Federal Income Taxes Payable.....		3,900
		State Income Taxes Payable.....		1,200
		Salaries and Wages Payable.....		44,769
	31	Payroll Tax Expense.....	4,131	
		FICA Taxes Payable.....		4,131

*Rounded to nearest dollar

PROBLEM 10-1B (Continued)

(c) Current liabilities

Notes payable	\$ 18,000
Accounts payable	52,000
Salaries and wages payable	44,769
FICA taxes payable (\$4,131 X 2)	8,262
Federal income taxes payable	3,900
Unearned service revenue (\$11,000 – \$8,000)	3,000
Sales taxes payable	2,650*
State income taxes payable	1,200
Interest payable	120
Total current liabilities	<u>\$133,901</u>

*\$8,200 + \$1,087 – \$8,200 + \$1,563

PROBLEM 10-2B

(a)	Aug.	1	Inventory or Purchases	6,000	
			Notes Payable		6,000
		31	Interest Expense		
			(\$6,000 X .09 X 1/12)	45	
			Interest Payable		45
	Sept.	1	Equipment	15,000	
			Notes Payable		15,000
		30	Interest Expense		
			[(15,000 X .08 X 1/12) + 45]	145	
			Interest Payable		145
	Oct.	1	Buildings	50,000	
			Notes Payable		40,000
			Cash		10,000
		31	Interest Expense		
			[(40,000 X .08 X 1/12) + 100 + 45]	412	
			Interest Payable		412
	Nov.	1	Notes Payable	6,000	
			Interest Payable	135	
			Cash		6,135
		30	Interest Expense (\$100 + 267)	367	
			Interest Payable		367
	Dec.	31	Interest Expense (\$100 + 267)	367	
			Interest Payable		367

PROBLEM 10-2B (Continued)

(b)

Notes Payable			
11/1	6,000	8/1	6,000
		9/1	15,000
		10/1	40,000
		12/31 Bal.	55,000

Interest Payable			
11/1	135	8/31	45
		9/30	145
		10/31	412
		11/30	367
		12/31	367
		12/31 Bal.	1,201

Interest Expense	
8/31	45
9/30	145
10/31	412
11/30	367
12/31	367
12/31 Bal.	1,336

(c) Current liabilities

Notes payable.....	55,000
Interest payable.....	1,201

(d) Total interest expense is \$1,336. See (b) above.

PROBLEM 10-3B

(a)	Jan.	1	Interest Payable	96,000	
			Cash.....		96,000
(b)	Jan.	1	Bonds Payable	300,000	
			Loss on Bond Redemption	24,000	
			Cash (\$300,000 X 108%).....		324,000
(c)	Dec.	31	Interest Expense	72,000	
			Interest Payable		
			(\$900,000 X 8%)		72,000

PROBLEM 10-4B

(a)	2013 April 1	Cash.....	600,000	
		Bonds Payable		600,000
(b)	Dec. 31	Interest Expense.....	22,500	
		Interest Payable		
		(\$600,000 X 5% X 9/12)		22,500
(c)		Current Liabilities		
		Interest Payable.....	22,500	
		Long-term Liabilities		
		Bonds Payable	600,000	
(d)	2014 April 1	Interest Payable	22,500	
		Interest Expense		
		(\$600,000 X 5% X 3/12)	7,500	
		Cash (\$600,000 X 5%)		30,000
(e)	Dec. 31	Interest Expense.....	22,500	
		Interest Payable		22,500
(f)	2015 Jan. 1	Interest Payable	22,500	
		Cash		22,500
		Bonds Payable.....	600,000	
		Loss on Bond Redemption.....	15,000	
		Cash (\$600,000 X 102.5%)		615,000

PROBLEM 10-5B

(a)		2014		
Jan. 1	Cash (\$5,000,000 X 103%).....	5,150,000		
	Bonds Payable.....		5,000,000	
	Premium on Bonds Payable		150,000	

(b) Long-term Liabilities				
	Bonds payable, due 2024	\$5,000,000		
	Add: Premium on bonds payable	<u>135,000</u>	\$5,135,000	

(c)		2015		
Jan. 1	Bonds Payable.....	5,000,000		
	Premium on Bonds Payable.....	120,000*		
	Loss on Bond Redemption			
	(\$5,120,000 – \$5,200,000)	80,000		
	Cash (\$5,000,000 X 104%)		5,200,000	

*\$5,120,000 – \$5,000,000

PROBLEM 10-6B

(a)

	2014	2013
1. Current ratio	$\$2,717 \div \$4,044$ $= .67:1$	$\$2,427 \div \$4,020$ $= .60:1$
2. Free cash flow	$\$1,503 - \$472 - \$475$ $= \$556$	$\$1,410 - \$453 - \$450$ $= \$507$
3. Debt to assets ratio	$\$8,871 \div \$11,397$ $= 78\%$	$\$8,645 \div \$10,714$ $= 81\%$
4. Times interest earned	$\$1,866^1 \div \319 $= 5.85 \text{ times}$	$\$1,778^2 \div \307 $= 5.79 \text{ times}$

1 $\$1,103 + \$444 + \$319 = \$1,866$

2 $\$1,004 + \$467 + \$307 = \$1,778$

(b) The company's liquidity position as measured through the current ratio and free cash flow has improved. The debt to assets ratio decreased, and the times interest earned increased in 2014. Kellogg appears to be more liquid and solvent when comparing 2014 to 2013.

(c) Kellogg's use of operating leases (vs. capital leases) would reduce its solvency. If the leases were capital rather than operating, the balance sheet would include higher total assets and higher liabilities. Using the \$584 as an estimate of the increase in liabilities and assets that would result if the operating leases were capital leases, the revised debt to assets ratio would be $[(\$8,871 + \$584) \div (\$11,397 + \$584)] = 79\%$.

*PROBLEM 10-7B

2014			
(a)	Jan. 1	Interest Payable.....	144,000
		Cash.....	144,000
(b)	Dec. 31	Interest Expense.....	116,000
		Premium on Bonds Payable	
		(\$280,000 ÷ 10).....	28,000
		Interest Payable	144,000
2015			
(c)	Jan. 1	Bonds Payable.....	1,800,000
		Premium on Bonds Payable.....	126,000*
		Cash (\$1,800,000 X 102%).....	1,836,000
		Gain on Bond Redemption	
		(\$1,926,000 – \$1,836,000) ...	90,000
*(\$280,000 – \$28,000) X 1/2 = \$126,000			
(d)	Dec. 31	Interest Expense.....	58,000
		Premium on Bonds Payable.....	14,000**
		Interest Payable	
		(\$1,800,000 X 4%).....	72,000
**\$280,000 – \$28,000 – \$126,000 = \$126,000; $\frac{\$126,000}{9} = \$14,000$ or \$28,000 X 1/2.			

*PROBLEM 10-8B

(a)	Jan. 1	Cash (\$2,200,000 X 102%)	2,244,000	
		Premium on Bonds Payable....		44,000
		Bonds Payable		2,200,000
Dec. 31		Interest Expense	167,200	
		Premium on Bonds Payable		
		(\$44,000 ÷ 5).....	8,800	
		Interest Payable		
		(\$2,200,000 X 8%)		176,000
(b)	Jan. 1	Cash (\$2,200,000 X 98%)	2,156,000	
		Discount on Bonds Payable	44,000	
		Bonds Payable		2,200,000
Dec. 31		Interest Expense	184,800	
		Discount on Bonds		
		Payable (\$44,000 ÷ 5)		8,800
		Interest Payable.....		176,000

(c) Premium

Current Liabilities		
Interest payable		\$ 176,000

Long-term Liabilities		
Bonds payable, due 2019	\$2,200,000	
Add: Premium on bonds payable	<u>35,200</u>	2,235,200

Discount

Current Liabilities		
Interest payable		\$ 176,000

Long-term Liabilities		
Bonds payable, due 2019	\$2,200,000	
Less: Discount on bonds payable	<u>35,200</u>	2,164,800

*PROBLEM 10-9B

(a)	(1)	1/1/14	Cash (\$3,000,000 X 103%)	3,090,000	
			Bonds Payable.....		3,000,000
			Premium on Bonds Payable.....		90,000
	(2)	1/1/14	Cash (\$3,000,000 X 99%)	2,970,000	
			Discount on Bonds Payable.....	30,000	
			Bonds Payable.....		3,000,000
(b)	See amortization tables on following page.				
(c)	(1)	12/31/14	Interest Expense	198,750	
			Premium on Bonds Payable.....	11,250	
			Interest Payable		210,000
	(2)	12/31/14	Interest Expense	213,750	
			Discount on Bonds Payable.....		3,750
			Interest Payable		210,000
(d)	(1)	Long-term Liabilities:			
		Bonds Payable		\$3,000,000	
		Plus: Bond Premium		<u>78,750</u>	\$3,078,750
	(2)	Long-term Liabilities:			
		Bonds Payable		\$3,000,000	
		Less: Bond Discount		26,250	\$2,973,750

***PROBLEM 10-9B (Continued)**

(b), (1)					
	(A) Interest to Be Paid (7% X \$3,000,000)	(B) Interest Expense to Be Recorded (A) – (C)	(C) Premium Amortization (\$90,000 ÷ 8)	(D) Unamortized Premium (D) – (C)	(E) Bond Carrying Value [\$3,000,000 + (D)]
Annual Interest Periods					
Issue date					
1	\$210,000	\$198,750	\$11,250	\$90,000	\$3,090,000
2	210,000	198,750	11,250	78,750	3,078,750
3	210,000	198,750	11,250	67,500	3,067,500
				56,250	3,056,250

(2)					
	(A) Interest to Be Paid (7% X \$3,000,000)	(B) Interest Expense to Be Recorded (A) + (C)	(C) Discount Amortization (\$60,000 ÷ 8)	(D) Unamortized Discount (D) – (C)	(E) Bond Carrying Value [\$3,000,000 – (D)]
Annual Interest Periods					
Issue date					
1	\$210,000	\$213,750	\$3,750	\$30,000	\$2,970,000
2	210,000	213,750	3,750	26,250	2,973,750
3	210,000	213,750	3,750	22,500	2,977,500
				18,750	2,981,250

***PROBLEM 10-10B**

2014		
(a) Jan. 1	Cash.....	2,154,434
	Bonds Payable.....	2,000,000
	Premium on Bonds Payable ...	154,434

(b) **IMELDA CORPORATION**
Bond Premium Amortization
Effective-Interest Method—Annual Interest Payments
6% Bonds Issued at 5%

	(A)	(B)	(C)	(D)	(E)
Annual Interest Periods	Interest to Be Paid	Interest Expense	Premium Amortization (A) – (B)	Unamortized Premium (D) – (C)	Bond Carrying Value (\$2,000,000 + D)
Issue date				\$154,434	\$2,154,434
1	\$120,000	\$107,722	\$12,278	\$142,156	\$2,142,156
2	120,000	\$107,108	\$12,892	\$129,264	\$2,129,264
3	120,000	\$106,463	\$13,537	\$115,727	\$2,115,727

(c) Dec. 31	Interest Expense	
	(\$2,154,434 X 5%)	107,722
	Premium on Bonds Payable.....	12,278
	Interest Payable	
	(\$2,000,000 X 6%).....	120,000

2015		
(d) Jan. 1	Interest Payable.....	120,000
	Cash.....	120,000

(e) Dec. 31	Interest Expense	
	[(\$2,154,434 – \$12,278) X 5%]	107,108
	Premium on Bonds Payable.....	12,892
	Interest Payable	120,000

***PROBLEM 10-11B**

2014			
(a)	(1)	Jan. 1	Cash 1,717,761
			Bonds Payable 1,600,000
			Premium on Bonds Payable..... 117,761
	(2)	Dec. 31	Interest Expense (\$1,717,761 X 6%)..... 103,066
			Premium on Bonds Payable 8,934
			Interest Payable (\$1,600,000 X 7%) 112,000
2015			
	(3)	Jan. 1	Interest Payable 112,000
			Cash 112,000
	(4)	Dec. 31	Interest Expense 102,530
			[((\$1,717,761 – \$8,934) X 6%]
			Premium on Bonds Payable 9,470
			Interest Payable..... 112,000
(b)	Bonds payable.....		1,600,000
	Add: Premium on bonds payable		<u>99,357*</u> 1,699,357
*(\$117,761 – \$8,934 – \$9,470)			

(c) (1) Total bond interest expense—2015, \$102,530.

(2) The effective-interest method will result in more interest expense reported than the straight-line method in 2015 when the bonds are sold at a premium. Straight-line interest expense for 2015 is \$100,224 [$\$112,000 - (\$117,761 \div 10)$].

***PROBLEM 10-12B**

(a)	(A)	(B)	(C)	(D)
Quarterly Interest Period	Cash Payment	Interest Expense (D) X 2%	Reduction of Principal (A) – (B)	Principal Balance (D) – (C)
Issue Date				\$340,000
1	\$20,792	\$6,800	\$13,992	326,008
2	20,792	6,520	14,272	311,736
3	20,792	6,235	14,557	297,179
4	20,792	5,944	14,848	282,331
5	20,792	5,647	15,145	267,186

(b)	Dec. 31	Interest Expense	6,800	
		Mortgage Payable	13,992	
		Cash		20,792

(c)	Current liabilities	
	Mortgage payable	\$ 58,822*
	Long-term liabilities	
	Mortgage payable	<u>267,186**</u>
	Total liabilities	<u>\$326,008</u>

*(\$14,272 + \$14,557 + \$14,848 + \$15,145)

**(\$326,008 – \$58,822)

***PROBLEM 10-13B**

(a)

Period	Cash Payment (A)	Interest Expense (B) = (D) X 8%	Principal Reduction (C) = (A) – (B)	Balance (D) = (D) – (C)
July 1, 2013				\$140,000
June 30, 2014	\$35,064	\$11,200	\$ 23,864	116,136
June 30, 2015	35,064	9,291	25,773	90,363
June 30, 2016	35,064	7,229	27,835	62,528
June 30, 2017	35,064	5,002	30,062	32,466
June 30, 2018	35,064	2,598*	32,466	0
Total	175,320	35,320	140,000	

*Rounded to make principal element equal to balance.

(b)	July 1/13	Cash	140,000	
		Notes Payable		140,000
	June 30/14	Notes Payable	23,864	
		Interest Expense	11,200	
		Cash		35,064
	June 30/15	Notes Payable	25,773	
		Interest Expense	9,291	
		Cash		35,064

(c) 2015

Current liabilities

Notes payable..... \$27,835

Long-term liabilities

Notes payable (\$90,363 – \$27,835)..... \$62,528

COMPREHENSIVE PROBLEM SOLUTION

(a)	1. Interest Payable	2,500	
	 Cash		2,500
	2. Inventory	241,100	
	 Accounts Payable		241,100
	3. Cash.....	508,800	
	 Sales Revenue.....		480,000
	 Sales Taxes Payable.....		28,800
	 Cost of Goods Sold	265,000	
	 Inventory.....		265,000
	4. Account Payable.....	230,000	
	 Cash		230,000
	5. Interest Expense.....	2,500	
	 Cash		2,500
	6. Insurance Expense	5,600	
	 Prepaid Insurance.....		5,600
	7. Prepaid Insurance	10,200	
	 Cash		10,200
	8. Sales Taxes Payable	17,000	
	 Cash		17,000
	9. Other Operating Expenses	91,000	
	 Cash		91,000
	10. Interest Expense.....	2,500	
	 Cash		2,500
	 Bonds Payable.....	50,000	
	 Cash		48,000
	 Gain on Bond Redemption.....		2,000

COMPREHENSIVE PROBLEM SOLUTION (Continued)

11. Cash (90,000 X 103%)	92,700	
Bonds Payable.....		90,000
Premium on Bonds Payable.....		2,700

Adjusting Entries

12. Insurance Expense (\$10,200 X 5/12).....	4,250	
Prepaid Insurance		4,250
13. Depreciation Expense (\$38,000 – \$3,000) ÷ 5	7,000	
Accumulated Depreciation— Equipment.....		7,000
14. Income Tax Expense	31,245	
Income Taxes Payable		31,245

(b) **TREVOR CORPORATION**
Trial Balance
12/31/2014

<u>Account</u>	<u>Debit</u>	<u>Credit</u>
Cash.....	\$227,800	
Inventory	6,850	
Prepaid Insurance	5,950	
Equipment.....	38,000	
Accumulated Depreciation—Equipment..		\$ 7,000
Accounts Payable		24,850
Sales Taxes Payable		11,800
Income Taxes Payable		31,245
Bonds Payable.....		90,000
Premium on Bonds Payable.....		2,700
Common Stock		25,000
Retained Earnings.....		13,100
Sales Revenue		480,000
Cost of Goods Sold	265,000	
Depreciation Expense	7,000	
Insurance Expense.....	9,850	
Other Operating Expenses	91,000	
Interest Expense.....	5,000	
Gain on Bond Redemption		2,000
Income Tax Expense	31,245	
	<u>\$687,695</u>	<u>\$687,695</u>

COMPREHENSIVE PROBLEM SOLUTION (Continued)

(a) and (b) Optional T accounts

Cash	
Bal.	30,000
	508,800
	92,700
	2,500
	10,200
	17,000
	91,000
	2,500
	48,000
Bal.	227,800

Inventory	
Bal.	30,750
	241,100
Bal.	6,850

Prepaid Insurance	
Bal.	5,600
	10,200
Bal.	5,950

Equipment	
Bal.	38,000

Accumulated Depreciation—Equipment	
	7,000

Accounts Payable	
230,000	Bal.
	13,750
	241,100
	Bal.
	24,850

Interest Payable	
2,500	Bal.
	2,500
	Bal.
	0

Sales Taxes Payable	
17,000	
	28,800
	Bal.
	11,800

Income Taxes Payable	
	31,245

Bonds Payable	
50,000	Bal.
	50,000
	90,000
	Bal.
	90,000

Premium on Bonds Payable	
	2,700

Common Stock	
	Bal.
	25,000

Retained Earnings	
	Bal.
	13,100

Sales Revenue	
	480,000

COMPREHENSIVE PROBLEM SOLUTION (Continued)

(a) and (b) (Continued)

Cost of Goods Sold

265,000	
---------	--

Interest Expense

2,500	
-------	--

2,500	
-------	--

Bal.	5,000
------	-------

Depreciation Expense

7,000	
-------	--

Income Tax Expense

31,245	
--------	--

Insurance Expense

5,600	
-------	--

4,250	
-------	--

Bal.	9,850
------	-------

Gain on Bond Redemption

	2,000
--	-------

Other Operating Expenses

91,000	
--------	--

(c) **TREVOR CORPORATION**
Income Statement
For the Year Ending 12/31/14

Sales revenue		\$480,000
Cost of goods sold		<u>265,000</u>
Gross profit		215,000
Operating expenses		
Insurance expense	\$9,850	
Depreciation expense	7,000	
Other operating expenses	<u>91,000</u>	
Total operating expenses		<u>107,850</u>
Income from operations		107,150
Other revenues and expenses		
Gain on bond redemption		2,000
Interest expense		<u>5,000</u>
Income before taxes		104,150
Income tax expense		<u>31,245</u>
Net income		<u><u>\$ 72,905</u></u>

COMPREHENSIVE PROBLEM SOLUTION (Continued)

TREVOR CORPORATION Retained Earnings Statement For the Year Ending 12/31/14

Retained earnings, 1/1/14.....	\$13,100
Add: Net income	<u>72,905</u>
Retained earnings, 12/31/14.....	<u>\$86,005</u>

TREVOR CORPORATION Balance Sheet 12/31/2014

Current Assets		
Cash.....	\$227,800	
Inventory	6,850	
Prepaid insurance	<u>5,950</u>	
Total current assets.....		\$240,600
Property, Plant, and Equipment		
Equipment.....	38,000	
Accumulated depreciation— equipment	<u>7,000</u>	
Total plant assets		<u>31,000</u>
Total assets		<u>\$271,600</u>
Current Liabilities		
Accounts payable.....	\$24,850	
Income taxes payable	31,245	
Sales taxes payable	<u>11,800</u>	
Total current liabilities		\$ 67,895
Long-term liabilities		
Bonds payable.....	90,000	
Premium on bonds payable.....	<u>2,700</u>	
Total long-term liabilities		<u>92,700</u>
Total liabilities.....		160,595
Stockholders' Equity		
Common stock	25,000	
Retained earnings	<u>86,005</u>	
Total stockholders' equity		<u>111,005</u>
Total liabilities and stockholders' equity		<u>\$271,600</u>

- (a) Total current liabilities at December 31, 2011, \$58,355,000. Tootsie Roll's total current liabilities decreased by \$150,000 (\$58,505,000 – \$58,355,000) relative to the prior year.
- (b) Tootsie Roll's accounts payable at December 31, 2011, \$10,683,000.
- (c) The other components of current liabilities are:

Dividends payable.....	\$ 4,603,000
Accrued liabilities	43,069,000

	Hershey	Tootsie Roll
(1) Current ratio	$\frac{\$2,046,558}{\$1,173,775} = 1.74:1$	$\frac{\$212,201}{\$58,355} = 3.64:1$

Based on the current ratio, Tootsie Roll is more liquid than Hershey. Tootsie Roll's current ratio is 209% larger than Hershey's. Tootsie Roll appears much more able to meet its current obligations.

	Hershey	Tootsie Roll
(1) Debt to assets	$\frac{\$3,539,551}{\$4,412,199} = 80.2\%$	$\frac{\$191,921^{**}}{\$857,856} = 22.4\%$
(2) Times interest earned	$\frac{\$628,962 + \$333,883 + \$94,780}{\$94,780} = 11.2 \text{ times}$	$\frac{\$43,938 + \$16,974 + \$121^{***}}{\$121} = 504.4 \text{ times}$

**\$58,355 + \$133,566

***See note 6

The higher the percentage of debt to assets, the greater the risk that a company may be unable to meet its maturing obligations. Tootsie Roll's 2011 debt to assets ratio was considerably less than Hershey's; thus, Tootsie Roll would be considered significantly better able to meet its obligations. The times interest earned provides an indication of a company's ability to meet interest payments. Since Tootsie Roll's times interest earned is approximately 44 times as large as Hershey's, Tootsie Roll had a much greater ability to meet its interest payments in 2011 than Hershey. Tootsie Roll appears to be significantly more solvent.

- (a) If a company can determine a reasonable estimate of the expected loss and if it is probable it will lose the suit, then the company should accrue for the loss. It should debit a loss account and credit a liability account. If it cannot arrive at a reasonable estimate, or if the loss is only possible (not probable) then it should disclose the item in the notes to the financial statements.
- (b) The article suggests that many of these companies are paying out amounts each year, but that their liability account remains roughly the same. This would suggest that rather than accruing for the full amount of their expected costs in the year that these costs become evident, they are simply expensing costs as they pay for them. This is not consistent with the approach described in part (a) because they are not accruing for the estimated costs up front.
- (c) The articles suggests that if a company cannot come up with a reasonable estimate of costs, but instead can only estimate a range of possible costs, then financial reporting rules say that they should accrue for the low end of the range. For example, if you thought you would lose between \$1,000 and \$10,000, you would accrue for \$1,000. However, for insurance purposes they often report the higher number. The problem for the perspective of investors is that if they rely on the numbers reported in the financial statements they may not be well informed about the potential loss that the company may well incur.
- (d) International accounting rules differ from U.S. rules with regard to dealing with estimated ranges. They require in a situation where a company estimates a range of possible losses, the company should accrue for the midpoint.

(a)	Hechinger	Home Depot
Working capital	$\$1,153 - \$938 = \$215$	$\$4,933 - \$2,857 = \$2,076$
Current ratio	$\$1,153 \div \$938 = 1.23:1$	$\$4,933 \div \$2,857 = 1.73:1$

On both dimensions Hechinger's liquidity is low and Home Depot's is strong.

(b) Debt to assets ratio	$\frac{\$1,339}{\$1,577} = 85\%$	$\frac{\$4,716}{\$13,465} = 35\%$
Times interest earned	$\frac{-\$93 + \$67 + \$3}{\$67} = -.34 \text{ times}$	$\frac{\$1,614 + \$37 + \$1,040}{\$37} = 72.7 \text{ times}$

Hechinger relied heavily on debt financing—85% of every dollar of assets was financed with debt versus only 35% by Home Depot. Hechinger's times interest earned ratio was negative, suggesting it did not have the ability to service its debt. In contrast, Home Depot's times interest earned ratio is exceptionally high, suggesting it could handle even more debt.

(c) Return on assets	$\frac{-\$93}{(\$1,577 + \$1,668) \div 2} = -5.7\%$	$\frac{\$1,614}{(\$13,465 + \$11,229) \div 2} = 13.1\%$
Profit margin	$\frac{-\$93}{\$3,444} = -2.7\%$	$\frac{\$1,614}{\$30,219} = 5.3\%$

Hechinger reported negative profitability ratios because it reported a loss for the year. If you combine its low liquidity and low solvency with its inability to generate a profit, it was clearly headed for trouble.

BYP 10-4 (Continued)

(d)	<u>Original</u>	<u>Restated</u>
Debt to assets	$\frac{\$4,716}{\$13,465} = 35\%$	$\frac{\$4,716 + \$2,347}{\$13,465 + \$2,347} = 45\%$

After treating Home Depot's operating leases as purchases, its debt to assets ratio increases from 35% to 45%. While this suggests that its reliance on debt is actually higher than the balance sheet indicates, its reliance on debt is still quite reasonable and not cause for concern.

- | | <u>Borders</u> | <u>Barnes and Noble</u> |
|--------------------------|---|---|
| (a) Current ratio | $\$978.7 \div \$918.1 = 1.07 : 1$ | $\$1,719.5 \div \$1,724.4 = 1.00 : 1$ |
| (b) Debt to assets ratio | $\$1,257.3 \div \$1,415.6 = 89\%$ | $\$2802.3 \div \$3,705.7 = 76\%$ |
| Times interest earned | $\frac{\$(109.4) + \$24.1 + \$(31.3)}{\$24.1} = (4.84)\text{times}$ | $\frac{\$36.7 + \$28.2 + \$8.4}{\$28.2} = 2.60\text{times}$ |
- (c) Neither Borders nor Barnes and Noble were very liquid since their respective current ratio were only 1.07:1 and 1.0:1. Both companies had very high debt to assets ratios and their times interest earned were negative or relatively low.

The bankruptcy of Borders did seem likely considering they had a very high debt to assets ratio and a negative times interest earned. In addition, its current ratio was fairly low.

- (a) An 'A' rating means that the company has a strong capacity to meet financial commitments, but is somewhat susceptible to adverse economic conditions and changes in circumstances. A 'C' rating means that a company is currently highly vulnerable due to obligations and other defined circumstances.**
- (b) Some factors that can change a company's credit rating are new competition, changes in technology, increases or decreases in debt burdens, changes in the economy or business environment, or in the case of states or municipalities, shifts in populations or changes in taxpayer incomes.**
- (c) To determine whether an investment has merit really depends on particular issues of importance to an individual. For example, a risky investment might have merit to a wealthy investor that can afford to take a chance in order to have the chance of a large gain. That same investment might not have merit to somebody with limited wealth who cannot afford to take large risks. Therefore, credit ratings provide important inputs in determining whether an investment would be of interest to an investor. But a high (or low) credit rating does not necessary mean that a particular investment would be a good or bad investment.**

(a)	1.	Bonds Payable	3,000,000	
		Cash		2,500,000
		Discount on Bonds Payable.....		54,000*
		Gain on Bond Redemption		
		(\$2,946,000 – \$2,500,000).....		446,000
		(To record redemption of 8% bonds)		
		*(\$3,000,000 – \$2,946,000)		
	2.	Cash	2,500,000	
		Bonds Payable		2,500,000
		(To record sale of 10-year, 12% bonds at par)		

(b) Dear President Garner:

The early redemption of the 8%, 5-year bonds results in recognizing a gain of \$446,000 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 redemption 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	
(\$2,500,000 X .12)	\$300,000
Annual interest payments on the 5-year bonds	
(\$3,000,000 X .08)	240,000
Additional cash outflows per year	<u>\$ 60,000</u>

BYP 10-7 (Continued)

- 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.....		\$300,000
Annual interest expense on 8% bonds:		
Interest payment.....	\$240,000	
Discount amortization (\$54,000 ÷ 3 yrs.) ...	<u>18,000</u>	<u>258,000</u>
Additional interest expense per year		<u><u>\$ 42,000</u></u>

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, 2017, or refinancing of that issue at that time and consider what interest rates will be in 2017 in evaluating a redemption and issuance in 2014.

Sincerely,

To: Harry Jackman
From: I. M. Student
Subject: Bond Financing

The advantages of bond financing over common stock financing include:

- 1. Stockholder control is not affected.**
- 2. Tax savings result.**
- 3. Income to common stockholders may increase.**
- 4. Earnings per share of common stock may be higher.**

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 while unsecured bonds do not.**
- 2. Convertible bonds, which can be converted by the bondholder into common stock.**
- 3. Callable bonds, which are subject to early redemption by the issuer at a stated amount.**

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 this situation include:

**Stockholders
Creditors
Employees
Government inspectors
Customers flying in airplanes**

(b) The possible courses of action and their consequences include:

- 1. The CEO could inform the auditors. The auditors would then require that this information be disclosed in the annual report. When the lenders learn about this potential problem, they may decide to call their loans, and the company's suppliers may decide to quit sending it goods. This could result in the bankruptcy of the company, even if the company was not at fault for the engine failures. However, this would be in compliance with the accounting requirement to disclose all material facts. By not disclosing, the CEO is misinforming a large number of important stakeholders.**
- 2. The CEO could conceal the information from the auditors. If the company is not ultimately found at fault, then the company will not have sustained any financial hardship. However, if the company is found to be at fault for the engine failures, then not only is it likely the company will go bankrupt, but the CEO could face prosecution for failing to disclose the existence of this problem to auditors.**

(c) Answer will vary according to student.

(d) If the CEO conceals the information, and the company is subsequently found to be at fault, a number of stakeholders will suffer. First, the company's creditors will lose money because it is likely the company won't be able to repay its loans in full. The stockholders will lose because the value of their shares will plummet. The employees may well lose their jobs because the company is likely to go bankrupt. Also, it is possible that other engines might fail in the interim, possibly resulting in a crash. Answers as to whether the CEO should be punished for concealing this information will vary by student.

- (a) The stakeholders include:**
 - 1. Enron management**
 - 2. Citigroup management**
 - 3. Enron investors**
 - 4. Enron creditors**
- (b) Yes. Although the primary responsibility for proper accounting rests with company management, other knowledgeable parties have secondary responsibilities. Auditors are expected to attest to full disclosure. Lenders, with access to information that is generally unavailable to others, are expected to provide full and accurate disclosure of transactions with borrowers.**
- (c) The auditor may have been unable to detect the inappropriate accounting treatment because “secret” agreements between Enron and Citigroup were not made available for review.**
- (d) A company may wish to conceal financing arrangements in order to appear more solvent to investors and creditors. GAAP requires full disclosure of all information that would make a difference to financial statement users. Intentionally understating liabilities is a violation of GAAP and thus inappropriate. It is unethical for lenders to market deals that circumvent GAAP.**
- (e) The Citigroup deal was more harmful than other off-balance-sheet transactions because it was not fully explained in the financial statement notes. (The auditors didn’t even know the details.) This lack of explanation made it impossible for users of Enron's financial statements to incorporate such off-balance-sheet information into their evaluation of Enron’s performance.**

The answer to these questions depends on the state in which the student resides. It also will depend on the year chosen, although we expect that the results will be much the same whether they pick any rates between 2012 and 2014. We provide a solution for this problem using the state of Wisconsin as an example. It should be pointed out that certain taxes can be deducted for computing federal income tax but are ignored in our computation.

- (a) Wisconsin state income tax for a single person with a taxable income of \$60,000 is \$3,710.80. The tax rate between \$17,680 and \$132,580 is \$950.30 plus 6.5 percent over \$17,680. Therefore the computation is as follows:

$$\begin{array}{rcl} (\$60,000 - \$17,680) \times 6.5\% & = & \$2,751 \\ \text{Base rate} & & \underline{950} \\ \text{Total state income tax} & & \underline{\underline{\$3,701}} \end{array}$$

- (b) The property tax on a \$200,000 home at 2.1% is \$4,200.
- (c) The state gasoline tax in Wisconsin is 32.9 cents per gallon and the federal gasoline tax is 18.4 cents per gallon. Your total taxes on gasoline are computed as follows:
- $$400 \text{ gallons} \times (\$0.329 + \$0.184) = \underline{\underline{\$205}}$$
- (d) In Wisconsin the state sales tax rate is 5% and excludes food and prescription drug purchases. Therefore the sales tax is \$200 (\$4,000 X 5%).
- (e) The social security rate is 7.65% on income of \$60,000 or \$4,590.
- (f) Federal income tax for a single person with a taxable income of \$60,000 is \$11,538. The tax rate between \$30,650 and \$74,200 is \$4,220 plus 25% over \$30,650. Therefore the computation is as follows:

$$\begin{array}{rcl} (\$60,000 - \$30,650) \times 25\% & = & \$ 7,338 \\ \text{Base amount} & & \underline{4,220} \\ \text{Total tax} & & \underline{\underline{\$11,558}} \end{array}$$

BYP 10-11 (Continued)

The total taxes paid therefore are computed as follows, based on a \$60,000 income amount:

State income tax	\$ 3,701
Property tax on home.....	4,200
Gasoline tax	205
Sales tax	200
Social security tax	4,590
Federal income tax	<u>11,558</u>
Total tax.....	<u>\$24,454</u>

The percentage of total taxes to income is therefore 41% (\$24,454/\$60,000), given the information above.

A company's insurance premiums would be substantially lower if its employees did not smoke and if they were in better shape. Some argue that employees with unhealthy habits increase the share of insurance premiums that all employees have to pay. Also unhealthy employees miss more days of work and thus burden healthy employees. On the other hand, some argue that this approach discriminates in favor of "healthy" people. Also, it is not illegal to smoke or to be overweight. Should an employer really be able to dictate against non-illegal behavior that employees do on their own time? The cost of health care is a huge problem in the U.S., with no easy answers.

- (a) **Current liabilities** is used principally to designate obligations whose liquidation is reasonably expected to require the use of existing resources properly classifiable as current assets, or the creation of other current liabilities. See paragraphs 210-10-45-5 through 45-12.
- (b) **Long-term obligations** are those scheduled to mature beyond one year (or the operating cycle, if applicable) from the date of an entity's balance sheet.
- (c) The Codification provides the following guidance for disclosure of long-term obligations:

Bonds, mortgages and other long-term debt, including capitalized leases.

- (1) State separately, in the balance sheet or in a note thereto, each issue or type of obligation and such information as will indicate (see §210.4-06):
 - (i) The general character of each type of debt including the rate of interest;
 - (ii) the date of maturity, or, if maturing serially, a brief indication of the serial maturities, such as "maturing serially from 1980 to 1990";
 - (iii) if the payment of principal or interest is contingent, an appropriate indication of such contingency;
 - (iv) a brief indication of priority; and
 - (v) if convertible, the basis.
- (2) The amount and terms (including commitment fees and the conditions under which commitments may be withdrawn) of unused commitments for long-term financing arrangements that would be disclosed under this rule if used shall be disclosed in the notes to the financial statements if significant.

- (a) The monthly rates paid by borrowers on loans from these microfinance organizations is 5% to 10%. This would convert to roughly 60% ($5\% \times 12$) to 120% ($10\% \times 12$) per year.
- (b) These rates are incredibly high. Under most circumstances they would be considered usurious. However, the borrowers benefit because they also receive very high interest on their savings at the institution. The structure helps to smooth the ups and downs of a families cash inflows and outflows during the course of a year so that they can weather financial disruptions.
- (c) The organizations are structured as savings and loans. (Savings and loans used to be quite common in the U.S. until a financial crisis in the 1980s caused many of them to go bankrupt.) The organizations in the article typically only involve a small group of people (15 to 30) who pool their savings. Each buys a share in a fund from which they can borrow. All must also contribute a small sum to a social fund, which acts as micro-insurance for misfortunes suffered by members. The organizations have a limited life cycle – typically one year. At the end of the cycle all of the money accumulated by the fund is shared out to members based on their contributions. Then a new cycle begins.

IFRS 10-1

Under IFRS a provision is defined as a liability of uncertain timing or amount. Examples include warranties, employee vacation pay, and anticipated losses.

IFRS 10-2

Under IFRS a contingent liability is defined as a possible obligation that is not recognized in the financial statements but may be disclosed if certain criteria are met. Under IAS 37 contingent liabilities are defined as being:

- A possible obligation that arises from past events whose existence will be confirmed only by the occurrence or nonoccurrence of one or more uncertain future events not wholly within the control of the entity; or
- A present obligation that arises from past events but is not recognized because:
 1. It is not probable that an outflow of resources embodying economic benefits will be required to settle the obligation; or
 2. The amount of the obligation cannot be measured with sufficient reliability.

IFRS 10-3

The similarities between GAAP and IFRS include: (1) the basic definition of a liability, (2) liabilities are normally reported in the order of their liquidity, and (3) preferred stock that is required to be redeemed at a specific point in time in the future must be reported as debt.

Differences between GAAP and IFRS include: (1) GAAP allows straight line amortization of bond discounts and premiums, but IFRS requires the effective-interest method in all cases, (2) IFRS does not isolate unamortized bond discount or premium in a separate account, (3) IFRS splits the proceeds from convertible bonds into debt and equity components, and (4) GAAP uses a “rules-based” approach to account for leases while IFRS is more conceptual in its approach.

IFRS 10-4

(a)	Jan.	1	Cash (€2,000,000 X .97)	1,940,000	
			Bonds Payable		1,940,000
(b)	Jan.	1	Cash (€2,000,000 X 1.04)	2,080,000	
			Bonds Payable		2,080,000

IFRS 10-5

- (a) In the 1870s, a securities system was introduced in Japan and public bond negotiation began. This resulted in the request for a public trading institution and the “Stock Exchange Ordinance” was enacted in May of 1878. Based on this ordinance, the “Tokyo Stock Exchange Co., Ltd.” was established on May 15, 1878 and trading began on June 1st. Japan now has five stock exchanges.
- (b) In March of 1943, the “Japan Securities Exchange Law” was enacted to reorganize the Stock Exchange as a wartime-controlled institution. With worsening war conditions and air raids on the main island of Japan, the securities market was forced to suspend trading sessions on all securities markets on August 10, 1945. Trading was restarted by unofficial group transactions in December of 1945.
- (c) The following are major items with respect to decisions by the company that need to be disclosed to the public:
- Issuance of stocks, convertible bonds, and bonds with warrants
 - Reduction of capital
 - Stock split or stock consolidation
 - Merger
 - Dissolution
 - Purchase or sale of stocks or equity interest in a subsidiary
 - Change of representative
 - Change of the trade name

IFRS 10-5 (Continued)

(d) The following are major items with respect to “occurrence of material fact” that need to be disclosed to the public:

- **Damage incurred by natural disaster or business operations**
- **Change in major shareholders**
- **Commencement of litigation or rendering of a court judgment**
- **Commencement of bankruptcy or reorganization proceedings**
- **Dishonor of notes**
- **Change of laws and the like in the home country that have a material effect on the company or its shareholders, such as restriction on transfer of stocks, nationalization of the company**
- **Tender offer for the company’s stocks**
- **Occurrence of facts causing the delisting from the foreign stock exchange or the like**

- (a) Trade payables represent amounts payable for goods and services received. It took Zetar an average of 48 days to pay its trade payables.**
- (b) Provisions relate to amounts potentially payable to the vendors of companies and businesses acquired by Zetar. The estimates are based on management's judgment and assessment of future budgets, revenues, margins, and cash flows. These estimates are subject to change as a result of changing economic and competitive conditions.**
- (c) The weighted average interest rate on bank loans and overdrafts was 3.2% in 2011 and 4.0% in 2010.**