CHAPTER 9

Current Liabilities, Contingencies, and the Time Value of Money

OVERVIEW OF EXERCISES, PROBLEMS, AND CASES

Learning Objectives	Exercises	Estimated Time in Minutes	Level
Module 1			
1. Identify the components of the Current Liability category of the balance sheet.	1	10	Easy
	2	10	Easy
	3	10	Easy
2. Examine how accruals affect the Current Liability category.	4	20	Mod
	5	15	Mod
	6	10	Mod
	7	15	Mod
	8	15	Mod
Module 2			
3. Explain how changes in current liabilities affect the statement of cash flows.	9	5	Easy
	10	5	Mod
Module 3			
4. Determine when contingent liabilities should be presented on the balance sheet or disclosed in notes and how to calculate their amounts.	11	15	Mod
Module 4			
5. Explain the difference between simple and compound interest.	12	20	Mod
6. Calculate amounts using the future value and present value concepts.	13	6	Easy
	14	5	Mod
	15	10	Mod
	16	10	Mod
	17	6	Mod
	20*	10	Diff
	21*	10	Diff
7. Apply the compound interest concepts to some common accounting situations.	18	10	Mod
	19	10	Diff
	20*	10	Diff
	21*	10	Diff

*Exercise, problem, or case covers two or more learning objectives
Level = Difficulty levels: Easy; Moderate (Mod); Difficult (Diff)

Learning Objectives	Problems and Alternates	Estimated Time in Minutes	Level
Module 1			
1. Identify the components of the Current Liability category of the balance sheet.	10*	10	Mod
2. Examine how accruals affect the Current Liability category.	1	40	Mod
	9*	30	Mod
Module 2			
3. Explain how changes in current liabilities affect the statement of cash flows.	2	30	Mod
	3	20	Diff
Module 3			
4. Determine when contingent liabilities should be presented on the balance sheet or disclosed in notes and how to calculate their amounts.	4	20	Mod
	5	10	Mod
	10*	10	Mod
Module 4			
5. Explain the difference between simple and compound interest.	6	40	Diff
	9*	30	Mod
6. Calculate amounts using the future value and present value concepts.	7	25	Easy
	8	30	Mod
	11*	10	Diff
	12*	10	Diff
7. Apply the compound interest concepts to some common accounting situations.	11*	10	Diff
	12*	10	Diff

*Exercise, problem, or case covers two or more learning objectives
Level = Difficulty levels: Easy; Moderate (Mod); Difficult (Diff)

Learning Objectives	Cases	Estimated Time in Minutes	Level
Module 1			
1. Identify the components of the Current Liability category of the balance sheet.	1*	30	Mod
	5*	25	Mod
2. Examine how accruals affect the Current Liability category.	1*	30	Mod
	5*	25	Mod
Module 2			
3. Explain how changes in current liabilities affect the statement of cash flows.	3*	25	Mod
Module 3			
4. Determine when contingent liabilities should be presented on the balance sheet or disclosed in notes and how to calculate their amounts.	2	20	Mod
	3*	15	Mod
	4	20	Mod
	7	30	Mod
	8	20	Mod
Module 4			
5. Explain the difference between simple and compound interest.			
6. Calculate amounts using the future value and present value concepts.			
7. Apply the compound interest concepts to some common accounting situations.	6	15	Mod

*Exercise, problem, or case covers two or more learning objectives
Level = Difficulty levels: Easy; Moderate (Mod); Difficult (Diff)

EXERCISES

LO 1

EXERCISE 9-1 CURRENT LIABILITIES

The treatment of the items should be as follows:

Taxes Payable—Current liability
Accounts Receivable—Current asset
Notes Payable, 9%, due in 90 days—Current liability
Investment in Bonds—Long-term investment
Capital Stock—Stockholders' equity
Accounts Payable—Current liability
Estimated Warranty Payable in 2017—Current liability
Retained Earnings—Stockholders' equity
Trademark—Intangible asset
Mortgage Payable—$10,000 due in 2017 should be current liability.
The remaining portion should be long-term liability.

LO 1

EXERCISE 9-2 CURRENT LIABILITIES

1. and 2.

	Classification	**Account Title**
a.	Current liability	Accounts Payable
b.	Current liability	Notes Payable
c.	Long-term liability	Notes Payable
d.	Current liability	Wages Payable
e.	Current liability	Interest Payable
f.	Current liability	Current Portion of Long-Term Debt
	and	
	Long-term liability	Long-Term Debt
g.	Current liability	Taxes Payable

3. Investors are interested in this information because it enables them to better predict the timing of future cash flows. Items that are classified as current liabilities require the use of current assets to satisfy them, whereas long-term liabilities do not.

LO 1

EXERCISE 9-3 CURRENT LIABILITIES SECTION

JACKIE COMPANY
BALANCE SHEET
DECEMBER 31, 2016

Current liabilities:		
Accounts payable		$ 24,400
Notes payable, 10%, due June 2, 2017	$1,000	
Discount on notes payable	150	850
Current maturities of long-term debt		6,900
Other accrued liabilities:		
Interest payable	$3,010	
Wages payable	6,000	
Unearned revenue	4,320	13,330
Income taxes payable		61,250
Total current liabilities		$106,730

LO 2

EXERCISE 9-4 TRANSACTION ANALYSIS

1. a.

Journal Entry Analysis			
	Purchases	8,000	
	Accounts Payable		8,000
	To record purchase of inventory on account.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Accounts Payable 8,000		(8,000)			Purchases 8,000		(8,000)

b.

Journal Entry Analysis			
	Land	44,500	
	Cash (20% × $44,500)		8,900
	Notes Payable		35,600
	To record purchase of land.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Land 44,500		Notes Payable 35,600							
Cash (8,900)*									

*$44,500 × 20% = $8,900

EXERCISE 9-4 (Continued)

c.

Journal Entry Analysis			
	Accounts Payable	450	
	Purchase Returns and Allowances................		450
	To record purchase return.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Accounts Payable (450)		450			Purchase Returns and Allowances* (450)		450

*The Purchase Returns and Allowances account has increased. It is shown as a decrease in the equation above because it is a contra-purchases account and causes expenses to decrease.

d.

Journal Entry Analysis			
	Accounts Payable	7,550	
	Cash...		7,550
	To record payment of account payable.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (7,550)		Accounts Payable (7,550)							

e.

Journal Entry Analysis			
	Cash	13,800	
	Discount on Notes Payable	1,200	
	Notes Payable		15,000
	To record loan less interest in advance.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 13,800		Notes Payable 15,000							
		Discount on Notes Payable* (1,200)							

*The Discount on Notes Payable account has increased. It is shown as a decrease in the equation above because it is a contra account and causes total liabilities to decrease.

EXERCISE 9-4 (Continued)

f.

Journal Entry Analysis			
	Cash (200 × $25)	5,000	
	Unearned Sales Revenue		5,000
	To record gift certificates.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 5,000		Unearned Sales Revenue 5,000*							

*200 × $25 = $5,000 Adjusting entry will be required at year-end to show 35% redemption [see (f)].

g.

Journal Entry Analysis			
	Cash ($127,200 × 90%)	114,480	
	Accounts Receivable	12,720	
	Sales		120,000
	Sales Tax Payable		7,200
	To record sales and related sales tax.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 114,480* Accounts Receiv-able 12,720		Sales Tax Payable 7,200		120,000	Sales 120,000				120,000

*$127,200 × 90% = $114,480

2. b.

Journal Entry Analysis			
	Interest Expense ($35,600 × 8% × 8/12)	1,898.67	
	Interest Payable		1,898.67
	To record accrued interest on note payable.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 1,898.67*		(1,898.67)			Interest Expense 1,898.67		(1,898.67)

*$35,600 × 8% × 8/12 = $1,898.67

EXERCISE 9-4 (Concluded)

e.

Journal Entry Analysis			
	Interest Expense..	700	
	Discount on Notes Payable ($1,200 × 7/12)...		700
	To record interest in advance as interest expense.		

Balance Sheet					Income Statement			
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	= NET INCOME
		Discount on Notes Payable* 700**		(700)			Interest Expense 700	(700)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

**$1,200 × 7/12 = $700

f.

Journal Entry Analysis			
	Unearned Sales Revenue..................................	1,750	
	Sales (35% × $5,000)....................................		1,750
	To record gift certificates redeemed.		

Balance Sheet					Income Statement			
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	= NET INCOME
		Unearned Sales Revenue (1,750)*		1,750	Sales 1,750			1,750

*$5,000 × 35% = $1,750

3.

Sales tax payable..		$ 7,200.00
Notes payable, due November 1		35,600.00
Notes payable, due June 1	$15,000.00	
Discount on notes payable*	500.00	14,500.00
Unearned sales revenue**		3,250.00
Interest payable		1,898.67
Total current liabilities		$62,448.67

*$1,200 – $700 = $500

**$5,000 – $1,750 = $3,250

LO 2 **EXERCISE 9-5 CURRENT LIABILITIES AND RATIOS**

1.

KRUSE
BALANCE SHEET
DECEMBER 31, 2016

Current liabilities:	
Accounts payable	$ 55,000
Notes payable, 12%, due in 60 days	20,000
Taxes payable	15,000
Salaries payable	10,000
Total current liabilities	$100,000

2. Working Capital = Current Assets – Current Liabilities
= $300,000* – $100,000
= $200,000

*Current Assets =	Cash	$ 15,000
	Accounts receivable	180,000
	Allowance for doubtful accounts	(20,000)
	Marketable securities	40,000
	Inventory	85,000
		$300,000

3. Current Ratio = Current Assets/Current Liabilities
= $300,000/$100,000
= 3:1

It seems that Kruse has sufficient current assets to meet its short-term obligations (pay its current liabilities).

LO 2 **EXERCISE 9-6 DISCOUNTS**

1. a. Purchase Price × Discount Rate = Discount

$450 × 2% = $9.00

Annualized Interest Rate = 2% × (360/30) = 0.24, or 24%

b. Discount = $1,500 × 1% = $15

Annualized Interest Rate = 1% × (360/20) = 0.18, or 18%

2. a. Discount/Purchase Price = Discount Rate

($200 – $196)/$200 = 0.02, or 2%

b. ($2,800 – $2,674)/$2,800 = 0.045, or 4.5%

LO 2

EXERCISE 9-7 NOTES PAYABLE AND INTEREST

1.

Journal Entry Analysis				
2016				
July 1	Cash		25,000	
	Notes Payable			25,000
	To record borrowing by note.			

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 25,000		Notes Payable 25,000							

2.

Journal Entry Analysis			
Dec. 31	Interest Expense	1,000	
	Interest Payable		1,000
	To record interest accrued on loan.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 1,000*		(1,000)			Interest Expense 1,000		(1,000)

*$25,000 × 8% × 6/12 = $1,000

3.

Journal Entry Analysis			
2016			
May 1	Notes Payable	25,000	
	Interest Expense	667	
	Interest Payable	1,000	
	Cash		26,667
	To record payment of principal and interest.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (26,667)		Notes Payable (25,000)		(667)			Interest Expense 667*		(667)*
		Interest Payable (1,000)							

*$25,000 × 8% × 4/12 = $667

LO 2

EXERCISE 9-8 NON-INTEREST-BEARING NOTES PAYABLE

1.

Journal Entry Analysis

2016			
Oct. 1	Cash	16,380	
	Discount on Notes Payable	1,620	
	Notes Payable		18,000
	To record borrowing by note.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Notes Payable 18,000							
Cash 16,380		Discount on Notes Payable* (1,620)**							

*The Discount on Notes Payable account has increased. It is shown as a decrease in the equation above because it is a contra account and causes total liabilities to decrease.

**$18,000 × 9% = $1,620

2.

Journal Entry Analysis

Dec. 31	Interest Expense	405	
	Discount on Notes Payable		405
	To record accrued interest on note.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Discount on Notes Payable 405*		(405)			Interest Expense 405		(405)

*$1,620 × 3/12 = $405

3.

Journal Entry Analysis

2017			
Oct. 1	Interest Expense	1,215	
	Notes Payable	18,000	
	Discount on Notes Payable		1,215
	Cash		18,000
	To record payment of note and amortization of discount.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (18,000)		Notes Payable (18,000)							
		Discount on Notes Payable 1,215*		(1,215)			Interest Expense 1,215		(1,215)

*$1,620 – $405 = $1,215

EXERCISE 9-8 (Concluded)

4. Effective interest rate = $1,620/$16,380 = 9.89%

LO 3

EXERCISE 9-9 IMPACT OF TRANSACTIONS INVOLVING CURRENT LIABILITIES ON STATEMENT OF CASH FLOWS

Accounts payable: O
Current maturities of long-term debt: F
Notes payable: F
Other accrued liabilities: O
Salaries and wages payable: O
Taxes payable: O

LO 3

EXERCISE 9-10 IMPACT OF TRANSACTIONS INVOLVING CONTINGENT LIABILITIES ON STATEMENT OF CASH FLOWS

Estimated liability for warranties: O
Estimated liability for product premiums: O
Estimated liability for probable loss relating to litigation: O

LO 4

EXERCISE 9-11 WARRANTIES

Journal Entry Analysis			
	Cash/Accounts Receivable	32,500,000	
	Sales		32,500,000
	To record sales of dishwashers.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash/ Accounts Receivable 32,500,000*				32,500,000	Sales 32,500,000				32,500,000

*$325 × 100,000 = $32,500,000

Journal Entry Analysis			
	Warranty Expense	168,000	
	Estimated Liability for Warranties		168,000
	To record current year's estimated expense.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Estimated Liability for Warranties 168,000*		(168,000)			Warranty Expense 168,000		(168,000)

*(100,000 units × 12%) × $14 = $168,000

EXERCISE 9-11 (Concluded)

Journal Entry Analysis			
	Estimated Liability for Warranties	150,000	
	Cash/Inventory		150,000
	To record actual expenditures for warranty work.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash/Inventory (150,000)		Estimated Liability for Warranties (150,000)							

Beginning balance	$ 120,000
Warranty estimate	168,000
Actual expense	(150,000)
Ending balance	$ 138,000

LO 5

EXERCISE 9-12 SIMPLE VERSUS COMPOUND INTEREST

Part 1.

1. *$20,000 × 4% × 6 years = $4,800

2. *$20,000 × 6% × 4 years = $4,800

3. *$20,000 × 8% × 3 years = $4,800

*Formula for Simple Interest Calculation:

$I = P \times R \times T$

where

I = Dollar amount of interest per year

P = Principal

R = Interest rate as a percentage

T = Time in years

Part 2.

1. Table 9-1 $n = 6$, $i = 4\%$

Future Value = $20,000 × 1.26532 = $25,306

Interest = Future Value – Beginning Amount

= $25,306 – $20,000

= $5,306

EXERCISE 9-12 (Concluded)

2. Table 9-1 $n = 4$, $i = 6\%$
Future Value = $20,000 × 1.26248 = $25,250
Interest = Future Value – Beginning Amount
= $25,250 – $20,000
= $5,250

3. Table 9-1 $n = 3$, $i = 8\%$
Future Value = $20,000 × 1.25971 = $25,194
Interest = Future Value – Beginning Amount
= $25,194 – $20,000
= $5,194

Part 3.

1. Table 9-1 $n = 12$, $i = 2\%$
Future Value = $20,000 × 1.26824 = $25,365
Interest = Future Value – Beginning Amount
= $25,365 – $20,000
= $5,365

2. Table 9-1 $n = 8$, $i = 3\%$
Future Value = $20,000 × 1.26677 = $25,335
Interest = $25,335 – $20,000 = $5,335

3. Table 9-1 $n = 6$, $i = 4\%$
Future Value = $20,000 × 1.26532 = $25,306
Interest = $25,306 – $20,000 = $5,306

You would want to choose an investment that yields the highest future value. All other factors being equal, higher interest rates, more frequent compounding, and a longer term will increase the future value of your investment.

LO 6 **EXERCISE 9-13 PRESENT VALUE AND FUTURE VALUE**

$n =$ 10, $i = 5\%$
Present Value = Amount × Table Factor
= $150,000 × 0.61391
= $92,087

or

Future Value = Amount × Table Factor
$150,000 = ? × 1.62889
Amount = $150,000/1.62889
= $92,087

LO 6

EXERCISE 9-14 EFFECT OF COMPOUNDING PERIOD

1. $1,000 × 1.16640 = $1,166 $n = 2$, $i = 8\%$
2. $1,000 × 1.16986 = $1,170 $n = 4$, $i = 4\%$
3. $1,000 × 1.17166 = $1,172 $n = 8$, $i = 2\%$

LO 6

EXERCISE 9-15 PRESENT VALUE AND FUTURE VALUE

1. **a.** $7,000 × 1.46933 = $10,285 $n = 5$, $i = 8\%$
   b. $7,000 × 1.48024 = $10,362 $n = 10$, $i = 4\%$
   c. $7,000 × 1.48595 = $10,402 $n = 20$, $i = 2\%$

2. **a.** $15,000 × 0.68058 = $10,209 $n = 5$, $i = 8\%$
   b. $15,000 × 0.67556 = $10,133 $n = 10$, $i = 4\%$
   c. $15,000 × 0.67297 = $10,095 $n = 20$, $i = 2\%$

LO 6

EXERCISE 9-16 PRESENT VALUE AND FUTURE VALUE

1. **a.** $16,000 × 1.46933 = $23,509 $n = 5$, $i = 8\%$
   b. $16,000 × 1.48024 = $23,684 $n = 10$, $i = 4\%$
   c. $16,000 × 1.48595 = $23,775 $n = 20$, $i = 2\%$

2. **a.** $20,000 × 0.68058 = $13,612 $n = 5$, $i = 8\%$
   b. $20,000 × 0.67556 = $13,511 $n = 10$, $i = 4\%$
   c. $20,000 × 0.67297 = $13,459 $n = 20$, $i = 2\%$

LO 6

EXERCISE 9-17 ANNUITY

$2,000 × 20.02359 = $40,047 $n = 15$, $i = 4\%$

LO 7

EXERCISE 9-18 CALCULATION OF YEARS

$32,000/$1,600 = 20.00 The table figure in the 4% column that is closest to 20.00 is 15 years.

LO 7

EXERCISE 9-19 VALUE OF PAYMENTS

1. Present Value = Payment × Table Factor
= $1,480 × 1.69005 = $2,501.27
(present value of an annuity of $1 for n = 2, i = 12%)

2. n = 8, i = 3%
Present Value = Payment × Table Factor
$2,501.27 = Payment × 7.01969
Payment = $2,501.27/7.01969 = $356.32

With annual payments:		
2 payments at $1,480	$2,960.00	
Present value	2,501.27	
Interest expense	$ 458.73	
With quarterly payments:		
8 payments at $356.32	$2,850.56	
Present value	2,501.27	
Interest expense	$ 349.29	
Interest with annual payments		$458.73
Interest with quarterly payments		349.29
Interest saved		$109.44

Payments would be smaller, and total interest would be less if she made monthly payments.

MULTI-CONCEPT EXERCISES

LO 6,7

EXERCISE 9-20 COMPARISON OF ALTERNATIVES

Present value of 1:	\$100,000 ×	1.00000	=	\$100,000
Present value of 2:	\$108,000 ×	0.92593	=	\$100,000
		n	=	1, i = 8%
Present value of 3:	\$ 20,000 ×	5.74664	=	\$114,933
		n	=	8, i = 8%
Present value of 4:	\$ 10,000 ×	11.25778	=	\$112,578
		n	=	30, i = 8%

Jane should choose Option **3**.

LO 6,7

EXERCISE 9-21 TWO SITUATIONS

1. \$53,300/\$13,000 = 4.100 table factor for present value of an annuity for 5 years, i = 7%

2. \$13,300 × 15.02581 (future value of an annuity for n = 12, i = 4%) = \$199,843

   No, Simon will not have accumulated quite enough money.

PROBLEMS

LO 2

PROBLEM 9-1 NOTES AND INTEREST

1. a.

Journal Entry Analysis				
Jan. 1	Cash		25,000	
	Notes Payable			25,000
	To record loan at 10% interest.			

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 25,000		Notes Payable 25,000							

(Balance Sheet | Income Statement)

b. On January 10, only a memorandum entry is made.

c.

Journal Entry Analysis				
Feb. 1	Equipment		18,800	
	Discount on Notes Payable		1,200	
	Notes Payable			20,000
	To record non-interest-bearing note.			

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Equipment 18,800		Notes Payable 20,000 Discount on Notes Payable* (1,200)**							

(Balance Sheet | Income Statement)

*The Discount on Notes Payable account has increased. It is shown as a decrease in the equation above because it is a contra account and causes total liabilities to decrease.

**$20,000 × 12% × 1/2 = $1,200

d.

Journal Entry Analysis				
Mar. 1	Cash		150,000	
	Loan Payable			150,000
	To record loan with line of credit.			

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 150,000		Loan Payable 150,000							

(Balance Sheet | Income Statement)

PROBLEM 9-1 (Continued)

e.

Journal Entry Analysis			
June 1	Loan Payable	100,000	
	Interest Expense	2,250	
	Cash		102,250
	To record partial payment of line of credit.		

Balance Sheet / **Income Statement**

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (102,250)		Loan Payable (100,000)		(2,250)			Interest Expense 2,250*		(2,250)

*$100,000 × 9% × 3/12 = $2,250

f.

Journal Entry Analysis			
June 30	Interest Expense	2,750	
	Interest Payable....................................		2,750
	To record interest on interest-bearing loan.		

Balance Sheet / **Income Statement**

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 2,750		(2,750)			Interest Expense 2,750*		(2,750)

*Interest-bearing:

$25,000 × 10% × 6/12	$1,250
$50,000 × 9% × 4/12	1,500
Subtotal	$2,750

Journal Entry Analysis			
June 30	Interest Expense	1,000	
	Discount on Notes Payable.....................		1,000
	To record interest on non-interest-bearing note.		

Balance Sheet / **Income Statement**

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Discount on Notes Payable* 1,000		(1,000)			Interest Expense 1,000		(1,000)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

PROBLEM 9-1 (Continued)

g.

Journal Entry Analysis				
	Aug. 1	Notes Payable	20,000	
		Interest Expense	200	
		Cash		20,000
		Discount on Notes Payable		200
		To record payment of non-interest-bearing note.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Notes Payable (20,000)							
Cash (20,000)		Discount on Notes Payable 200*		(200)			Interest Expense 200		(200)

*$1,200 – $1,000 = $200

h.

Journal Entry Analysis				
	Sept. 1	Cash	200,000	
		Notes Payable		200,000
		To record loan from line of credit.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 200,000		Notes Payable 200,000							

i.

Journal Entry Analysis				
	Nov. 1	Accounts Payable	12,000	
		Notes Payable		12,000
		To record loan in repayment of account.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Accounts Payable (12,000)							
		Notes Payable 12,000							

PROBLEM 9-1 (Concluded)

j.

Journal Entry Analysis				
	Dec. 31	Notes Payable	25,000	
		Interest Payable	1,250	
		Interest Expense	1,250	
		Cash		27,500
		To repay the 10% note plus interest.		

Balance Sheet						Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY		REVENUES	–	EXPENSES	=	NET INCOME
Cash (27,500)		Notes Payable (25,000) Interest Payable (1,250)		(1,250)				Interest Expense 1,250*		(1,250)

*$25,000 × 10% × 6/12 = $1,250

2. Line of credit:

$50,000 × 9% × 10/12	$3,750
$200,000 × 9% × 4/12	6,000
8% Note:	
$12,000 × 8% × 2/12	160
	$9,910

LO 3

PROBLEM 9-2 EFFECTS OF BURGER KING'S CURRENT LIABILITIES ON ITS STATEMENT OF CASH FLOWS

1. Adjustments to reconcile net income to net cash provided by operating activities:

Net income	$ xxx
Adjustments to reconcile net income to net cash provided by operating activities:	
Decrease in accounts and drafts payable	(37.6)
Decrease in accrued advertising	(10.0)
Decrease in other accrued liabilities	(29.8)

The change in current maturities of long-term debt during the year is not included as an adjustment above because it is not directly related to Burger King's operating activities.

2. Burger King must have access to cash or other assets that can be converted to cash, in amounts sufficient to pay its current liabilities. Burger King's current ratio would be useful in assessing its liquidity. However, Burger King would be expected to have some amount of inventory on hand. Therefore, its quick ratio would be a more conservative measure of its ability to pay its bills on time.

LO 3

PROBLEM 9-3 EFFECTS OF BRINKER INTERNATIONAL'S CURRENT LIABILITIES ON ITS STATEMENT OF CASH FLOWS

1. Operating Activities section of cash-flow statement:

Net income	$xxx,xxx
Adjustments to reconcile net income to net cash provided by operating activities:	
Increase in accounts payable	9,605
Increase in accrued liabilities	58,552
Increase in income taxes payable	7,278
Decrease in deferred tax	(845)

The change in current installments of long term debt is not included because it is not related to operations and should not be in the Operating Category of the statement of cash flows.

2. Changes in the balance of current liability accounts should be reflected in the Operating Activities category of the statement of cash flows. An increase in a current liability account indicates that the company increased its cash position by incurring a liability and the amount should appear as an increase on the cash-flow statement. The change representing current installments of long-term debt is not reflected because it is not related to operating activities.

LO 4

PROBLEM 9-4 WARRANTIES

1. XX defective units × $150 per unit = $12,600
XX defective units = $12,600/$150 per unit
Defective units = 84

2. 600 units sold × XX% = 84 defective units
XX% = 84 defective units/600 units sold = 14% of sales

3. If the actual amount of warranty costs incurred during 2017 is significantly higher than the estimated liability recorded for warranty costs at the end of 2016, Clearview should review its method for determining the accrual for warranty costs. Clearview should ensure that its estimates of the number of defective television sets sold and the average costs for replacement parts and labor are reasonable. Most likely, one or more of those estimates were too low.

LO 4

PROBLEM 9-5 WARRANTIES

1.

Journal Entry Analysis			
	Warranty Expense	5,400	
	Estimated Liability for Warranties		5,400
	To record current year's estimated warranty cost.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Estimated Liability for Warranties 5,400		(5,400)			Warranty Expense 5,400		(5,400)

$1,500 × 120 × 3% = $5,400

2.

Journal Entry Analysis			
	Estimated Liability for Warranties	4,950	
	Inventory		4,950
	To record actual warranty repairs.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Inventory (4,950)		Estimated Liability for Warranties (4,950)							

LO 5

PROBLEM 9-6 COMPARISON OF SIMPLE AND COMPOUND INTEREST

1.

Journal Entry Analysis			
2016			
Dec. 31	Interest Expense	1,000	
	Interest Payable		1,000
	To record accrued interest on 8% note for 2016 (1/2 year).		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 1,000*		(1,000)			Interest Expense 1,000		(1,000)

*$25,000 × 8% × 1/2 year = $1,000

PROBLEM 9-6 (Continued)

Journal Entry Analysis			
2017			
Dec. 31	Interest Expense	2,000	
	Interest Payable		2,000
	To record accrued interest on 8% note for 2017.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 2,000*		(2,000)			Interest Expense 2,000		(2,000)

*$25,000 × 8% × 1 = $2,000

Journal Entry Analysis			
2018			
June 30	Interest Expense	1,000	
	Interest Payable	3,000	
	Notes Payable	25,000	
	Cash		29,000
	To record repayment of note plus interest.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (29,000)		Notes Payable (25,000) Interest Payable (3,000)*		(1,000)			Interest Expense 1,000**		(1,000)

*$1,000 + $2,000 = $3,000
**$25,000 × 8% × 1/2 = $1,000

2.

Journal Entry Analysis			
2016			
Dec. 31	Interest Expense	1,000	
	Interest Payable		1,000
	To record accrued interest for 2016.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 1,000*		(1,000)			Interest Expense 1,000		(1,000)

*$25,000 × 8% × 1/2 = $1,000

PROBLEM 9-6 (Concluded)

Journal Entry Analysis

2017			
Dec. 31	Interest Expense	2,122	
	Interest Payable		2,122
	To record accrued interest for 2017.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 2,122*		(2,122)			Interest Expense 2,122		(2,122)

*First 6 months: ($25,000 + $1,000) × 8% × 1/2 year $1,040
Second 6 months: ($26,000 + $1,040) × 8% × 1/2 year 1,082
Total $2,122

Journal Entry Analysis

2018			
June 30	Interest Expense	1,125	
	Interest Payable	3,122	
	Notes Payable	25,000	
	Cash		29,247
	To record repayment of note plus interest.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (29,247)		Notes Payable (25,000) Interest Payable (3,122)*		(1,125)			Interest Expense 1,125**		(1,125)

*$1,000 + $2,122 = $3,122
**($27,040 + $1,082) × 8% × 1/2 year = $1,125

3. Interest recognized in (b) ($1,000 + $2,000 + $1,000) $4,000
Interest recognized in (a) ($1,000 + $2,122 + $1,125) 4,247
Additional interest with compounding at 8% .... $ 247

LO 6

PROBLEM 9-7 INVESTMENT WITH VARYING INTEREST RATE

Year	Principal at Beginning of Year	Interest Factor	Accumulated at End of Period
2016	$1,000	1.04	$1,040
2017	1,040	1.05	1,092
2018	1,092	1.06	1,158
2019	1,158	1.07	1,239
2020	1,239	1.08	1,338

LO 6 PROBLEM 9-8 COMPARISON OF ALTERNATIVES

a. \$180,000 × 1.0 = \$180,000

b. \$196,200 × 0.92593 (present value of \$1 for n = 1, i = 8%) = \$181,667

c. \$220,500 × 0.85734 (present value of \$1 for n = 2, i = 8%) = \$189,043

d. \$55,000 × 3.31213 (present value of annuity of \$1 for n = 4, i = 8%) = \$182,167

Option (a) is the least cost alternative.

MULTI-CONCEPT PROBLEMS

LO 2,5 PROBLEM 9-9 INTEREST IN ADVANCE VERSUS INTEREST PAID WHEN LOAN IS DUE

1. **a.** \$103,200
   b. \$103,200/(100% – 14%) = \$120,000

2. **a.** \$103,200 × 14% = \$14,448; \$14,448/\$103,200 = 14%
   b. (\$120,000 – \$103,200)/\$103,200 = 16.28%

3. **a.**

Journal Entry Analysis				
2016				
July 1	Cash		103,200	
	Notes Payable			103,200
	To record issuance of note.			

Balance Sheet						Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY		REVENUES	–	EXPENSES	=	NET INCOME
Cash 103,200		Notes Payable 103,200								

PROBLEM 9-9 (Continued)

Journal Entry Analysis

Dec. 31	Interest Expense	7,224	
	Interest Payable		7,224
	To record the accrual of interest.		

Balance Sheet / **Income Statement**

ASSETS	=	LIABILITIES		+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES		=	NET INCOME
		Interest Payable	7,224*		(7,224)			Interest Expense	7,224		(7,224)

*$103,200 × 14% × 6/12 = $7,224

Journal Entry Analysis

2017			
July 1	Notes Payable	103,200	
	Interest Expense	7,224	
	Interest Payable	7,224	
	Cash		117,648
	To record payment of interest and principal.		

Balance Sheet / **Income Statement**

ASSETS	=	LIABILITIES		+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES		=	NET INCOME
Cash (117,648)		Notes Payable	(103,200)								
		Interest Payable	(7,224)		(7,224)			Interest Expense	7,224		(7,224)

b.

Journal Entry Analysis

2016			
July 1	Cash	103,200	
	Discount on Notes Payable	16,800	
	Notes Payable		120,000
	To record issuance of note.		

Balance Sheet / **Income Statement**

ASSETS	=	LIABILITIES		+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Notes Payable	120,000							
Cash 103,200		Discount on Notes Payable*	(16,800)							

*The Discount on Notes Payable account has increased. It is shown as a decrease in the equation above because it is a contra account and causes total liabilities to decrease.

PROBLEM 9-9 (Concluded)

Journal Entry Analysis

Dec. 31	Interest Expense	8,400	
	Discount on Notes Payable		8,400
	To record interest for the year.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Discount on Notes Payable* 8,400**		(8,400)			Interest Expense 8,400		(8,400)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

**$16,800 × 1/2 = $8,400

Journal Entry Analysis

2017			
July 1	Interest Expense	8,400	
	Notes Payable	120,000	
	Discount on Notes Payable		8,400
	Cash		120,000
	To record payment of the note.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Notes Payable (120,000)							
Cash (120,000)		Discount on Notes Payable* 8,400		(8,400)			Interest Expense 8,400		(8,400)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

4. **a.** Note payable $103,200

b. Note payable $120,000
Discount on note payable 16,800
$103,200

LO 1,4

PROBLEM 9-10 CONTINGENT LIABILITIES

1. Items (a), (d), (e): The liability is probable, and an estimate is available.

2. Item (c): The liability is reasonably possible, but an estimate is not available.
Item (b) is not recorded or disclosed because it is a contingent asset.

LO 6,7

PROBLEM 9-11 TIME VALUE OF MONEY CONCEPT

1. \$9,750 × 6.86604 (future value of \$1 for n = 17, i = 12%) = \$66,944

2. \$42,486/\$21,600 = 1.967; future value of \$1 for n = 10, i = 7%

3. \$15,000/1.71382 (future value of \$1 for n = 7, i = 8%) = \$8,752
OR: \$15,000 × 0.58349 (present value of \$1 for n = 7, i = 8%) = \$8,752

4. \$15,026/\$5,800 = 2.591; future value of \$1 for i = 10%, n = 10 years

LO 6,7

PROBLEM 9-12 COMPARISON OF ALTERNATIVES

a. \$15,000 × 1.36049 (future value of \$1 for n = 4, i = 8%) = \$20,407

b. \$2,250 × 9.21423 (future value of annuity of \$1 for n = 8, i = 4%) = \$20,732

c. \$4,350 × 4.50611 (future value of annuity of \$1 for n = 4, i = 8%) = \$19,602
Alternative (b) is preferable.

ALTERNATE PROBLEMS

LO 2

PROBLEM 9-1A NOTES AND INTEREST

1. a.

Journal Entry Analysis

Date	Account	Debit	Credit
Jan. 1	Cash	35,000	
	Notes Payable		35,000
	To record issuance of note.		

Balance Sheet: ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	Income Statement: REVENUES	–	EXPENSES	=	NET INCOME
Cash 35,000		Notes Payable 35,000							

b. Jan. 10. Only a memorandum entry would be made.

c.

Journal Entry Analysis

Date	Account	Debit	Credit
Feb. 1	Equipment	26,320	
	Discount on Notes Payable	1,680	
	Notes Payable		28,000
	To record non-interest-bearing note.		

Balance Sheet: ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	Income Statement: REVENUES	–	EXPENSES	=	NET INCOME
Equipment 26,320		Notes Payable 28,000 Discount on Notes Payable* (1,680)**							

*The Discount on Notes Payable account has increased. It is shown as a decrease in the equation above because it is a contra account and causes total liabilities to decrease.

**$28,000 × 12% × 1/2 = $1,680

d.

Journal Entry Analysis

Date	Account	Debit	Credit
Mar. 1	Cash	210,000	
	Loan Payable		210,000
	To record line of credit borrowing.		

Balance Sheet: ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	Income Statement: REVENUES	–	EXPENSES	=	NET INCOME
Cash 210,000		Loan Payable 210,000							

PROBLEM 9-1A (Continued)

e.

Journal Entry Analysis				
June 1	Loan Payable	140,000	
	Interest Expense	3,150	
	Cash		143,150
	To record partial payment of line of credit.		

Balance Sheet					Income Statement			
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	= NET INCOME
Cash (143,150)		Loan Payable (140,000)		(3,150)			Interest Expense 3,150*	(3,150)

*$140,000 × 9% × 3/12 = $3,150

f.

Journal Entry Analysis				
June 30	Interest Expense	3,850	
	Interest Payable		3,850
	To record the accrual of interest.		

Balance Sheet					Income Statement			
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	= NET INCOME
		Interest Payable 3,850		(3,850)*			Interest Expense 3,850	(3,850)

*$35,000 × 0.10 × 6/12	$1,750
$70,000 × 0.09 × 4/12	2,100
	$3,850

Journal Entry Analysis				
June 30	Interest Expense	1,400	
	Discount on Notes Payable		1,400
	To record accrued interest on non-interest-bearing note.		

Balance Sheet					Income Statement			
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	= NET INCOME
		Discount on Notes Payable* 1,400**		(1,400)			Interest Expense 1,400	(1,400)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

**$1,680 × 5/6 = $1,400

PROBLEM 9-1A (Continued)

g.

Journal Entry Analysis				
	Aug. 1	Notes Payable	28,000	
		Interest Expense	280	
		Cash		28,000
		Discount on Notes Payable		280
		Repaid non-interest-bearing note.		

Balance Sheet						Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY		REVENUES	–	EXPENSES	=	NET INCOME
Cash (28,000)		Notes Payable (28,000) Discount on Notes Payable* 280		(280)				Interest Expense 280		(280)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

h.

Journal Entry Analysis				
	Sept. 1	Cash	280,000	
		Notes Payable		280,000
		Borrowed on line of credit.		

Balance Sheet						Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY		REVENUES	–	EXPENSES	=	NET INCOME
Cash 280,000		Notes Payable 280,000								

i.

Journal Entry Analysis				
	Nov. 1	Accounts Payable	16,800	
		Notes Payable		16,800
		To record 8% note payable in payment of account.		

Balance Sheet						Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY		REVENUES	–	EXPENSES	=	NET INCOME
		Accounts Payable (16,800) Notes Payable 16,800								

PROBLEM 9-1A (Concluded)

j.

Journal Entry Analysis				
Dec. 31	Notes Payable	35,000	
	Interest Payable	1,750	
	Interest Expense	1,750	
	Cash		38,500
	Repaid note plus interest.		

Balance Sheet			Income Statement		
ASSETS =	LIABILITIES +	STOCKHOLDERS' EQUITY	REVENUES –	EXPENSES =	NET INCOME
Cash (38,500)	Notes Payable (35,000)				
	Interest Payable (1,750)	(1,750)		Interest Expense 1,750*	(1,750)

*$35,000 × 10% × 6/12 = $1,750

2. Line of credit:

($210,000 – $140,000) × 9% × 10/12	$ 5,250
$280,000 × 9% × 4/12	8,400
8% Note:	
$16,800 × 8% × 2/12	224
	$13,874

LO 3

PROBLEM 9-2A EFFECTS OF MCDONALD'S CURRENT LIABILITIES ON ITS STATEMENT OF CASH FLOWS

1. Adjustments to reconcile net income to net cash provided by operating activities:

Net income	$ xxx
Adjustments to reconcile net income to net cash provided by operating activities:	
Decrease in accounts payable	(55.9)
Decrease in income taxes	(83.2)
Increase in other taxes	12.4
Increase in accrued interest	4.6
Decrease in accrued payroll and other liabilities	(111)

2. McDonald's must have access to cash, or other assets that can be converted to cash, in amounts sufficient to pay its current liabilities. McDonald's current ratio would be useful in assessing its liquidity. However, McDonald's would be expected to have a large amount of inventory on hand. Therefore, its quick ratio would be a more conservative measure of its ability to pay its bills on time.

LO 3 **PROBLEM 9-3A EFFECTS OF DARDEN RESTAURANTS' CHANGES IN CURRENT ASSETS AND LIABILITIES ON ITS STATEMENT OF CASH FLOWS**

1. Adjustments to reconcile net income to net cash provided by operating activities:

Net income	$xxx,xxx
Adjustments to reconcile net income to net cash provided by operating activities:	
Decrease in accounts payable	(63.4)
Increase in short-term debt	43.1
Decrease in accrued payroll	(24.8)
Decrease in accrued income taxes	(16.5)
Decrease in other accrued taxes	(3.1)
Increase in unearned revenues	29.2
Increase in other current liabilities	7.1

2. The changes to current portion of long-term debt during the year are not included as adjustments above because they do not directly relate to the company's operating activities. The change in liabilities associated with assets held for sale is also not related to operating activities.

LO 4 **PROBLEM 9-4A WARRANTIES**

1. XX defective units × $300 per unit = $25,200
XX defective units = $25,200/$300 per unit
Defective units = 84

2. XX% = 84 defective units/600 units sold = 14% of sales

LO 4 **PROBLEM 9-5A WARRANTIES**

1.

Journal Entry Analysis			
	Warranty Expense	15,360	
	Estimated Liability for Warranties		15,360
	To record estimated warranty expense.		

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Estimated Liability for Warranties 15,360*		(15,360)			Warranty Expense 15,360		(15,360)

Balance Sheet: ASSETS = LIABILITIES + STOCKHOLDERS' EQUITY; Income Statement: REVENUES – EXPENSES = NET INCOME

*$3,200 × 120 × 4% = $15,360

PROBLEM 9-5A (Concluded)

2.

Journal Entry Analysis			
	Estimated Liability for Warranties	10,200	
	Inventory		10,200
	To record actual warranty costs.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Inventory (10,200)		Estimated Liability for Warranties (10,200)							

3. Beginning balance $ 1,100
Warranty estimate 15,360
Actual expense (10,200)
Ending balance $ 6,260

Beginning balance	$ 1,100
Warranty estimate	15,360
Actual expense	(10,200)
Ending balance	$ 6,260

LO 5

PROBLEM 9-6A COMPARISON OF SIMPLE AND COMPOUND INTEREST

1.

Dec. 31, 2016	$25,000 × 6% × 6/12	$ 750
Dec. 31, 2017	$25,000 × 6% × 12/12	1,500
June 30, 2018	$25,000 × 6% × 6/12	750
Total accrued		$3,000

2.

Dec. 31, 2016 ($25,000 × 6% × 1/2)	$ 750
Dec. 31, 2017:	
First 6 months [($25,000 + $750) × 6% × 1/2 year]	$ 773
Second 6 months [($25,750 + $773) × 6% × 1/2 year]	796
Total for 2017	$1,569
June 30, 2018 [($26,523 + $796) × 6% × 6/12]	820
Total accrued	$3,139

3.

Interest recognized in (2) ($750 + $1,569 + $820)	$3,139
Interest recognized in (1) ($750 + $1,500 + $750)	3,000
Additional interest with compounding at 6%	$ 139

LO 6

PROBLEM 9-7A INVESTMENT WITH VARYING INTEREST RATE

Year	Principal at Beginning of Year	Interest Factor	Accumulated at End of Period
2016	$2,000	1.04	$2,080
2017	2,080	1.05	2,184
2018	2,184	1.06	2,315
2019	2,315	1.07	2,477
2020	2,477	1.08	2,675

LO 6

PROBLEM 9-8A COMPARISON OF ALTERNATIVES

a. $270,000 × 1.0 = $270,000 n = 0, i = 8%

b. $294,300 × 0.92593 (present value of $1 for n = 1, i = 8%) = $272,501

c. $334,750 × 0.85734 (present value of $1 for n = 2, i = 8%) = $286,995

d. $82,500 × 3.31213 (present value of annuity of $1 for n = 4, i = 8%) = $273,251

Option (a) is the lowest cost alternative.

ALTERNATE MULTI-CONCEPT PROBLEMS

LO 2,5

PROBLEM 9-9A INTEREST IN ADVANCE VERSUS INTEREST PAID WHEN LOAN IS DUE

1. **a.** $206,400

   b. $206,400/(100% – 14%) = $240,000

2. **a.** $206,400 × 14% = $28,896; $28,896/$206,400 = 14%

   b. ($240,000 – $206,400)/$206,400 = 16.28%

3. **a.**

Journal Entry Analysis

2016			
July 1	Cash	206,400	
	Notes Payable		206,400
	To record issuance of note.		

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 206,400		Notes Payable 206,400							

Journal Entry Analysis

Dec. 31	Interest Expense	14,448	
	Interest Payable		14,448
	To record accrual of interest.		

ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Interest Payable 14,448*		(14,448)			Interest Expense 14,448		(14,448)

*$206,400 × 14% × 6/12 = $14,448

PROBLEM 9-9A (Continued)

Journal Entry Analysis

2017				
July 1	Notes Payable		206,400	
	Interest Expense		14,448	
	Interest Payable		14,448	
	Cash			235,296
	To record payment of note plus interest.			

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (235,296)		Notes Payable (206,400) Interest Payable (14,448)		(14,448)			Interest Expense 14,448		(14,448)

b.

Journal Entry Analysis

2016				
July 1	Cash		206,400	
	Discount on Notes Payable		33,600	
	Notes Payable			240,000
	To record non-interest-bearing loan.			

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash 206,400		Notes Payable 240,000 Discount on Notes Payable* (33,600)							

*The Discount on Notes Payable account has increased. It is shown as a decrease in the equation above because it is a contra account and causes total liabilities to decrease.

Journal Entry Analysis

Dec. 31	Interest Expense		16,800	
	Discount on Notes Payable			16,800
	To record interest on loan.			

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
		Discount on Notes Payable* 16,800**		(16,800)			Interest Expense 16,800		(16,800)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

**$33,600 × 1/2 = $16,800

PROBLEM 9-9A (Concluded)

Journal Entry Analysis				
2017				
July 1	Interest Expense	16,800	
	Notes Payable	240,000	
	Discount on Notes Payable		16,800
	Cash		240,000
	To record payment of the loan.		

Balance Sheet					Income Statement				
ASSETS	=	LIABILITIES	+	STOCKHOLDERS' EQUITY	REVENUES	–	EXPENSES	=	NET INCOME
Cash (240,000)		Notes Payable (240,000) Discount on Notes Payable* 16,800		(16,800)			Interest Expense 16,800		(16,800)

*The Discount on Notes Payable account has decreased. It is shown as an increase in the equation above because it is a contra account and causes total liabilities to increase.

4. a. Note payable $\underline{\underline{\$206,400}}$

b. Note payable $240,000
Discount on note payable $\underline{33,600}$
$\underline{\underline{\$206,400}}$

LO 1,4 **PROBLEM 9-10A CONTINGENT LIABILITIES**

1. Items (a), (d), (e): The liability is probable in occurrence, and an estimate is available.

2. Item (b): The liability is possible, but an estimate is not available.

Item (c) is not recorded or disclosed because it is a contingent asset.

LO 6,7 **PROBLEM 9-11A TIME VALUE OF MONEY CONCEPT**

a. $19,500 × 6.86604 (future value of $1 for n = 17, i = 12%) = $\underline{\underline{\$133,887.78}}$

b. $84,974/$43,200 = 1.967; future value of $1 for n = 10, i = $\underline{\underline{7\%}}$

c. $30,000/1.71382 = (future value of $1 for n = 7, i = 8%) = $\underline{\underline{\$17,505}}$

OR: $30,000 × 0.58349 (present value of $1 for n = 7, i = 8%) = $\underline{\underline{\$17,505}}$

d. $30,052/$11,600 = 2.591; future value of $1 for i = 10%, n = $\underline{\underline{10 \text{ years}}}$

LO 6,7

PROBLEM 9-12A COMPARISON OF ALTERNATIVES

a. \$16,000 × 1.36049 (future value of \$1 for n = 4, i = 8%) = \$21,768

b. \$2,400 × 9.21423 (future value of annuity of \$1 for n = 8, i = 4%) = \$22,114

c. \$4,640 × 4.50611 (future value of annuity of \$1 for n = 4, i = 8%) = \$20,908

Option (b) is preferable.

DECISION CASES

READING AND INTERPRETING FINANCIAL STATEMENTS

LO 1,2

DECISION CASE 9-1 COMPARING TWO COMPANIES: PANERA BREAD AND CHIPOTLE'S CURRENT LIABILITIES

1. Panera Bread Company for 2014: Current assets \$406,166,000/Current liabilities \$352,712,000 = 1.15

For 2013: Current assets \$302,716,000/Current liabilities \$303,325,000 = 0.99

2. Under Chipotle for 2014: Current assets \$878,479,000/Current liabilities \$245,710,000 = 3.45

For 2013: Current assets \$666,307,000/Current liabilities \$199,228,000 = 3.34

Chipotle's current ratio is considerably higher than Panera's. The amount of their current assets far exceeds current liabilities. However, both companies have shown the ability to pay their liabilities as they are due.

3. Both companies indicate they are party to lawsuits and litigation. Neither company has recorded an amount on the balance sheet as a liability because of these matters. Both companies have disclosed the lawsuits and other litigation in the footnotes.

LO 4

DECISION CASE 9-2 CARIBOU COFFEE'S CASH-FLOW STATEMENT

1. Current ratio for January 1, 2012: Current Assets/Current Liabilities
$92,129/$33,845 = 2.72

Current ratio for January 2, 2011: Current Assets/Current Liabilities
$59,468/$29,676 = 2.00

The current ratio is a reliable indicator of solvency. It helps to shows the ability of a company to pay its current obligations. The current ratio for both years is above 1.0. This means the company has less current liabilities than current assets. This amount will not require payment in the future. For both years, the company had a relatively large amount of cash on hand. The major causes for changes in liquidity were changes to cash and accounts receivable. This may indicate an increase in sales, a positive sign. However, the increase in receivables could also indicate a negative if it was because the company was having trouble collecting the receivables.

LO 3,4

DECISION CASE 9-3 WALMART'S CONTINGENT LIABILITIES

1. In this case, the company could consider whether accrual of a contingent liability is required. A contingent liability should be recorded if the amount is a material amount, if the likelihood of an unfavorable outcome is probable, and if the amount of the loss can be reasonably estimated. A judgment has been rendered against the company, but the company has been able to reverse the judgment upon appeal. The company's accountants must carefully weigh the probability of the possible outcomes in order to decide whether accrual is necessary. When an amount is recorded, it will decrease the company's net income and increase its liabilities. When all the facts of this case are considered something more than disclosure in the notes is probably not required. The company can base its position on the fact that it is not reasonably possible to estimate the amount of the liability and on the fact that, if an unfavorable outcome does occur, it will not have a material impact on the company.

LO 4

DECISION CASE 9-4 HEWLETT-PACKARD'S CONTINGENT LIABILITY

1. It seems like none were accrued. A company should record the amounts if they are material and if the likelihood of the loss is probable and can be reasonably estimated. In this case, it appears that the company did not record a liability because an unfavorable outcome was not probable and because it was not reasonably possible to estimate the amount.

2. Contingent liabilities should be disclosed if they do not meet the probable criterion but are "*reasonably possible.*" These are generally disclosed in the notes to the statement but not accrued and reported on the balance sheet.

MAKING FINANCIAL DECISIONS

LO 1,2

DECISION CASE 9-5 CURRENT RATIO LOAN PROVISION

1. The company is experiencing difficulties that are similar to many small, start-up companies. The company must either take action to get a 2 to 1 ratio of current assets to current liabilities or must approach its bank and ask for a modification of that provision. If the firm wishes to achieve a 2 to 1 ratio, it must increase current assets, decrease current liabilities, or both. Actions that should be considered include the following:

   a. Request from the bank a long-term line of credit to be used to pay the current liabilities.

   b. Work with creditors to stretch out the payment of liabilities in order to conserve current assets.

   c. Speed the sale of inventory and the collection of cash from customers.

   d. Delay the purchase of additional inventory.

   Normally, a combination of all the above actions is necessary and should be recommended. However, the above actions are rather short term in nature. The firm must achieve a solid financial base to alleviate similar liquidity problems.

2. Some actions to improve liquidity are referred to as *window-dressing*. The term refers to actions that artificially make the financial statements appear more favorable for a short time. An example of window-dressing in this case would be to use current assets to pay current liabilities which in many cases will increase the current ratio. Window-dressing actions are seldom beneficial in the long run. In fact, such actions do not recognize the other financial needs of the firm and may be detrimental in the long run.

LO 7 **DECISION CASE 9-6 ALTERNATIVE PAYMENT OPTIONS**

The only way to compare the dollars is to determine the present value of each of these options discounted at 8%.

a. $2,000 + [($18,000 × 1.08) × 0.92593] = $20,000

b. $2,000 + ($1,800 × 10.57534) = $21,036

c. $21,600 × 0.92593 = $20,000

The present value of a $20,000 cash sale is $20,000. When these options are compared, the option with the highest present value of cash flows, discounted at 8%, is option (b). Kathy should also consider the financial position of the buyer because these amounts are not materially different. Since the buyer is starting a new business, she may be better off taking the cash up front if it is possible for the buyer to get cash from another source.

ETHICAL DECISION MAKING

LO 4 **DECISION CASE 9-7 WARRANTY COST ESTIMATE**

The purpose of the case is to allow students to understand that judgment is necessary in the accrual of an estimated liability such as warranty costs. Because the decision requires the exercise of judgment, it should be emphasized that there is no right answer, and in this case few good alternatives seem to exist. Discussion of the case should begin with the evidence available, which convinced John that 5% is inadequate as an accrual for warranties. Can he rely on the evidence? Would others reach the same conclusion with the same evidence? If students conclude that John should stick with his decision, then the available courses of action should be examined.

Students should be encouraged to develop the pros and cons of (a) remaining silent and accepting the 5% figure, (b) approaching the owner and informing him that the expense is understated, or (c) approaching the bank officer and relating his concern. While options (b) and (c) may appear to be “morally correct,” students should see the negative consequences that could result if John did not follow the chain of command. Can an employee always make decisions that are consistent with personal and team objectives?

Finally, students should be encouraged to develop innovative compromise solutions. How could the company prevent similar situations? Could a third party serve as an arbitrator? What should be the role of the internal and external auditors in this matter?

LO 4

DECISION CASE 9-8 RETAINER FEES AS SALES

1. **Recognize an ethical dilemma:**
   Students should be asked to consider why the controller wishes to include the retainer fees as income. The controller may be eager to show the amount as sales because the amount may improve net income, since sales would be recorded with no corresponding expenses. Ratios that involve net income would be improved. Working capital would be increased because a lower liability amount would be reported. Correspondingly, the working capital ratios would improve. Students should also see that this short-term improvement in income will be offset by lower income reported in future periods.

2. **Analyze the key elements in the situation:**
   Students must consider the nature of return fees. At what point in time are they "earned and realized or realizable." They may want to investigate other aspects of the retainer fee process such as whether the fees are refundable, the past history of the receipt of the fees, and how other companies record such fees.

3. **List alternatives and evaluate the impact of each on those affected:**
   In this case, the alternatives are fairly clear. The retainer fees can be recorded as unearned income and then recorded as income over time. It is not clear if they could be recorded evenly across time or recorded in a manner to offset the cost of the arrangements. Alternatively, the retainer fees could be recorded as income upon receipt, as the controller has suggested.

4. **Select the best alternative:**
   In this case, it appears that the retainer fee should be recorded as sales when the sales are made and charged off against the retainer. Even if the retainer were nonrefundable, the amount would be recognized as sales at the time the goods are delivered, because that is when the fees have been earned, on the basis of the going concern concept.