

Chapter 7 Cash and Receivables

Questions for Review of Key Topics

Question 7–1

Cash equivalents usually include negotiable instruments as well as highly liquid investments that have a maturity date no longer than three months from date of purchase.

Question 7–2

Internal control procedures involving accounting functions are intended to improve the accuracy and reliability of accounting information and to safeguard the company's assets. The separation of duties means that employees involved in recordkeeping should not also have physical responsibility for assets.

Question 7–3

Management must document the company's internal controls and assess their adequacy. The auditors must provide an opinion on management's assessment. The Public Company Accounting Oversight Board's *Auditing Standard No. 5*, which supersedes *Auditing Standard No. 2*, further requires the auditor to express its own opinion on whether the company has maintained effective internal control over financial reporting.

Question 7–4

Yes, restricted cash is included in the reconciliation of cash balances on the statement of cash flows. Restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period cash balances.

Answers to Questions (continued)

Question 7–5

A compensating balance is an amount of cash a depositor (debtor) must leave on deposit in an account at a bank (creditor) as security for a loan or a commitment to lend. The classification and disclosure of a compensating balance depends on the nature of the restriction and the classification of the related debt. If the restriction is legally binding, then the cash will be classified as either current or noncurrent (investments and funds or other assets) depending on the classification of the related debt. In either case, note disclosure is appropriate. If the compensating balance arrangement is informal and no contractual agreement restricts the use of cash, note disclosure of the arrangement including amounts involved is appropriate, and the compensating balance can be included in the cash and cash equivalents category of current assets.

Question 7–6

Yes, IFRS and U.S. GAAP differ in how bank overdrafts are treated. Under IFRS, overdrafts can be offset against other cash accounts. Under U.S. GAAP, overdrafts must be treated as liabilities.

Question 7–7

Trade discounts are reductions below a list price and are used to establish a final price for a transaction. The reduced price is the starting point for initial valuation of the transaction. A cash discount is a reduction, not in the selling price of a good or service, but in the amount to be paid by a credit customer if the receivable is paid within a specified period of time.

Question 7–8

The gross method of accounting for cash discounts initially records accounts receivable at their gross value, without reducing them for sales discounts, and then reduces sales revenue for discounts taken. The net method initially records accounts receivable at their net value, having already reduced them for sales discounts, and then, if collection does not occur in the discount period, increases sales revenue for discounts not taken.

Answers to Questions (continued)

Question 7–9

Companies must estimate sales returns and reduce revenue to account for them. For convenience, companies typically account for returns as they occur during the period, reducing revenue and refunding cash as well as reducing cost of goods sold and increasing inventory for the returned items. Then, at the end of the accounting period, they make an adjusting entry that debits sales returns, an account that is contra to sales revenue, and credits a refund liability for the amount expected to be refunded when products are returned. A similar adjusting entry reduces cost of goods sold for estimated returns and recognizes an asset for the right to receive inventory that will be returned.

Question 7–10

Each period companies estimate the amount of accounts receivable that will be collected, and adjust an allowance for uncollectible accounts (contra to accounts receivable) to show net accounts receivable at that carrying value. The corresponding entry to that adjustment is bad debt expense. So, for example, if additional accounts are expected to prove uncollectible, the allowance is credited (increasing it) and a corresponding debit increases bad debt expense for the period. If uncollectible accounts are immaterial, any bad debts that do arise can be written off as bad debt expense at the time they prove uncollectible.

Question 7–11

CECL stands for “Current Expected Credit Loss”. The CECL model allows a company to apply any method that reasonably captures its expectation of credit losses, so that the resulting carrying value of net accounts receivable reflects the cash the company expects to collect. That estimate should consider all receivables and be based on all relevant information, including historical experience, current conditions, and reasonable and supportable forecasts.

Answers to Questions (continued)

Question 7–12

The CARES Act included a provision that enabled banks and some other financial institutions to avoid adopting the CECL model between March 27, 2020 and December 31, 2020.

Question 7–13

ECL stands for “Expected Credit Loss”. Unless a receivable’s credit quality has deteriorated significantly, the ECL model reports a “12-month ECL,” which bases expected credit losses only on defaults that could occur within the next twelve months. On the other hand, if a receivable’s credit quality has deteriorated significantly, the creditor instead reports the “lifetime ECL,” which also includes credit losses expected to occur from defaults after twelve months, as is done for all receivables under the CECL model used in U.S. GAAP. Because of this difference, it is likely that accruals for credit losses under ECL will be lower, and occur later, than under CECL.

Question 7–14

The balance sheet approach to estimating expected credit losses determines the appropriate carrying value for accounts receivable at the end of the period and records an adjustment to the allowance for uncollectible accounts and bad debt expense to reflect the appropriate carrying value of accounts receivable. The income statement approach to estimating expected credit losses adjusts the allowance for uncollectible accounts and bad debt expense by a percentage of the current period’s credit sales.

Question 7–15

A company has to separately disclose trade receivables and receivables from related parties under U.S. GAAP, but not under IFRS.

Question 7–16

The assignment of all accounts receivable in general as collateral for debt requires no special accounting treatment other than note disclosure of the agreement.

Answers to Questions (continued)

Question 7–17

The accounting treatment of receivables factored with recourse depends on whether certain criteria are met. If the criteria are met, the factoring is accounted for as a sale. If they are *not* met, the factoring is accounted for as a loan. In addition, note disclosure may be required. Accounts receivable factored without recourse are accounted for as the *sale* of an asset. The difference between the book value and the fair value of proceeds received is recognized as a gain or a loss.

Question 7–18

U.S. GAAP focuses on whether control of assets has shifted from the transferor to the transferee. In contrast, IFRS focuses on whether the company has transferred “substantially all of the risks and rewards of ownership,” as well as whether the company has transferred control. Under IFRS:

1. If the company transfers substantially all of the risks and rewards of ownership, the transfer is treated as a sale.
2. If the company retains substantially all of the risks and rewards of ownership, the transfer is treated as a secured borrowing.
3. If neither conditions 1 or 2 hold, the company accounts for the transaction as a sale if it has transferred control, and as a secured borrowing if it has retained control.

Answers to Questions (continued)

Question 7–19

When a note is discounted, a financial institution, usually a bank, accepts the note and gives the seller cash equal to the maturity value of the note reduced by a discount. The discount is computed by applying a discount rate to the maturity value and represents the financing fee the bank charges for the transaction.

The four-step process used to account for a discounted note receivable is as follows:

1. Accrue any interest revenue earned since the last payment date (or date of the note).
2. Compute the maturity value.
3. Subtract the discount the bank requires (discount rate times maturity value times the remaining length of time from date of discounting to maturity date) from the maturity value to compute the proceeds to be received from the bank (maturity value less discount).
4. Compute the difference between the proceeds and the book value of the note and related interest receivable. The treatment of the difference will depend on whether the discounting is accounted for as a *sale* or as a *loan*. If it's a sale, the difference is recorded as a loss or gain on the sale; if it's a loan, the difference is viewed as interest expense or interest revenue.

Question 7–20

A company's investment in receivables is influenced by several related variables, to include the level of sales, the nature of the product or service, and credit and collection policies. The receivables turnover and average collection period ratios are designed to monitor receivables.

Question 7–21

The items necessary to adjust the bank balance might include deposits outstanding (including undeposited cash), outstanding checks, and any bank errors discovered during the reconciliation process. The items necessary to adjust the book balance might include collections made by the bank on the company's behalf, service and other charges made by the bank, NSF (nonsufficient funds) check charges, and any company errors discovered during the reconciliation process.

Answers to Questions (continued)

Question 7–22

A petty cash fund is established by transferring a specified amount of cash from the company's general checking account to an employee designated as the petty cash custodian. The fund is replenished by writing a check to the petty cash custodian for the sum of the bills paid with petty cash. The appropriate expense accounts are recorded from petty cash vouchers at the time the fund is replenished.

Question 7–23

When a creditor's investment in a receivable results in a credit loss due to a troubled debt restructuring, the receivable is remeasured as the present value of currently expected cash flows (principal and accrued interest) discounted at the loan's original effective rate. That value is compared to the carrying value of the receivable (including any interest receivable). The credit loss is the difference between those two amounts.

Question 7–24

The CARES Act allowed banks and other lenders to suspend accounting for loan modifications as Troubled Debt Restructurings if the loans were past due because of COVID-19-related business problems.

BRIEF EXERCISES

Brief Exercise 7–1

The company could improve its internal control procedure for cash receipts by segregating the duties of recordkeeping and the handling of cash. Jim Seymour, responsible for recordkeeping, should not also be responsible for depositing customer checks.

Brief Exercise 7–2

Under IFRS the cash balance would be **\$245,000**, because Cutler could offset the two accounts. Under U.S. GAAP the balance would be **\$250,000**, because Cutler could not offset the two accounts. The \$5,000 overdraft would be reported as a liability under GAAP.

Brief Exercise 7–3

All of these items would be included as cash and cash equivalents except the U.S. Treasury bills that mature in six months, which would be included in the current asset section of the balance sheet as short-term investments.

Brief Exercise 7–4

Income before tax in **2025** will be reduced by **\$2,500**, the amount of the cash discounts.

$$\$25,000 \times 10 = \$250,000 \times 1\% = \$2,500$$

Brief Exercise 7–5

Income before tax in **2024** will be reduced by **\$2,500**, the anticipated amount of cash discounts.

$$\$25,000 \times 10 = \$250,000 \times 1\% = \$2,500$$

Brief Exercise 7–6

Estimated returns = $\$10,600,000 \times 8\% =$	\$848,000
Less: Actual returns	<u>(720,000)</u>
Remaining estimated returns	\$128,000

Sales returns	128,000	
Refund liability		128,000
Inventory—estimated returns	76,800	
Cost of goods sold ($\$128,000 \times 60\%$)		76,800

Brief Exercise 7–7

Estimated returns = $\$10,600,000 \times 8\% =$	\$848,000
Less: Actual returns	<u>(720,000)</u>
Remaining estimated returns	\$128,000

Sales returns	128,000	
Refund liability.....		128,000
Inventory—estimated returns	76,800	
Cost of goods sold ($\$128,000 \times 60\%$)		76,800

Note; the answer to BE 7-7 is the same as the answer to BE 7-6. A refund liability is recognized regardless of whether a receivable is outstanding.

Brief Exercise 7–8

Singletary cannot combine the two types of receivables under U.S. GAAP, as the director is a related party. Under IFRS a combined presentation would be allowed.

Brief Exercise 7–9

Bad debt expense (to balance)	18,000	
Allowance for uncollectible accounts ($\$300,000 \times 6\%$)		18,000

Brief Exercise 7–10

Allowance for uncollectible accounts:

Beginning balance	\$12,000
Adjustment:	48,000
Ending balance ($\$600,000 \times 10\%$)	<u>\$60,000</u>

Bad debt expense (to balance)	48,000	
Allowance for uncollectible accounts (calculated above)		48,000

Brief Exercise 7–11

Allowance for uncollectible accounts:

Beginning balance	\$(12,000)
Adjustment:	72,000
Ending balance ($\$600,000 \times 10\%$)	<u>\$60,000</u>

Bad debt expense (to balance)	72,000	
Allowance for uncollectible accounts (calculated above)		72,000

Brief Exercise 7–12

Age Group	Amount	% Uncollectible	Total
Not yet due	\$60,000 ×	5%	= \$3,000
1-30 days past due	15,000 ×	10%	= 1,500
31-60 days past due	10,000 ×	20%	= 2,000
More than 60 days past due	<u>5,000</u> ×	30%	= <u>1,500</u>
Total	<u>\$90,000</u>		<u>\$8,000</u>

Brief Exercise 7–13

(1) Bad debt expense = \$1,500,000 × 2% = **\$30,000**

(2) Allowance for uncollectible accounts:

Beginning balance	\$25,000
Add: Bad debt expense	30,000
Deduct: Write-offs	<u>(16,000)</u>
Ending balance	\$39,000

Brief Exercise 7–14

(1) Allowance for uncollectible accounts:

Beginning balance	\$25,000
Deduct: Write-offs	(16,000)
Required allowance	<u>(33,400)*</u>
Bad debt expense	\$24,400

(2) Required allowance = \$334,000** × 10% = **\$33,400***

Accounts receivable:

Beginning balance	\$ 300,000
Add: Credit sales	1,500,000
Deduct: Cash collections	(1,450,000)
Write-offs	<u>(16,000)</u>
Ending balance	\$ 334,000**

Brief Exercise 7–15

Allowance for uncollectible accounts:	
Beginning balance	\$30,000
Add: Bad debt expense	40,000
Deduct: Required allowance	<u>(38,000)</u>
Write-offs	\$32,000

Brief Exercise 7–16

Credit sales	\$8,200,000
Deduct: Cash collections	(7,950,000)
Write-offs	(32,000)*
Year-end balance in A/R	<u>(2,000,000)</u>
Beginning balance in A/R	\$1,782,000

*Allowance for uncollectible accounts:	
Beginning balance	\$30,000
Add: Bad debt expense	40,000
Deduct: Required allowance	<u>(38,000)</u>
Write-offs	\$32,000

Brief Exercise 7–17

2024 interest revenue:
 $\$20,000 \times 6\% \times \frac{1}{12} = \mathbf{\$100}$

2025 interest revenue:
 $\$20,000 \times 6\% \times \frac{2}{12} = \mathbf{\$200}$

Brief Exercise 7–18

$$\begin{aligned} \text{Sales revenue} &= \text{present value of the note receivable} \\ &= \$120,000 \times 0.71299^{\text{¥}} = \mathbf{\$85,559} \end{aligned}$$

[¥] Present value of \$1: $n = 5, i = 7\%$ (Table 2)

Brief Exercise 7–19

Assets decrease by \$7,000:	
Cash increases by $\$100,000 \times 85\% =$	\$ 85,000
Receivable from factor increases by (\$11,000 – \$3,000 fee)	8,000
Accounts receivable decrease	<u>(100,000)</u>
Net decrease in assets	\$ (7,000)

Liabilities would not change as a result of this transaction.

Income before income taxes decreases by \$7,000
(the loss on sales of receivables)

The journal entry to record the transaction is as follows:

Cash ($85\% \times \$100,000$)	85,000
Loss on sale of receivables (to balance)	7,000
Receivable from factor ($\$11,000$ fair value – $\$3,000$ fee)	8,000
Accounts receivable (balance sold)	100,000

Brief Exercise 7–20

Logitech would account for the transfer as a secured borrowing. The receivables remain on the company's books and a liability is recorded for the amount borrowed plus the bank's fee.

Brief Exercise 7–21

Under IFRS Huling would treat this transaction as a secured borrowing, because it retains substantially all of the risks and rewards of ownership. Under U.S. GAAP Huling would treat this transaction as a sale, because it has transferred control. Note, however, that in practice we would typically expect for the entity that has the risks and rewards of ownership to also have control over the assets, so we would expect these criteria to usually lead to the same accounting.

Brief Exercise 7–22

\$30,000	Face amount
<u>450</u>	Interest to maturity ($\$30,000 \times 6\% \times 3/12$)
30,450	<i>Maturity value</i>
<u>(406)</u>	Discount ($\$30,450 \times 8\% \times 2/12$)
\$30,044	<i>Cash proceeds</i>

Brief Exercise 7–23

$$\text{Receivables turnover} = \frac{\$320,000}{\$60,000^*} = \mathbf{5.33 \text{ times}}$$

$$(\$50,000 + \$70,000) \div 2 = \$60,000^*$$

$$\text{Average collection period} = \frac{365}{5.33} = \mathbf{68 \text{ days}}$$

Brief Exercise 7–24

<i>Balance per books</i>	\$22,340
Add:	
Error in recording cash receipt (\$550 – \$500)	50
Deduct:	
NSF checks	(1,500)
Service charges	<u>(45)</u>
Corrected cash balance	<u>\$20,845</u>

Brief Exercise 7–25

<i>Balance per bank statement</i>	\$47,582
Add:	
Deposits outstanding	2,500
Deduct:	
Checks outstanding	<u>(7,224)</u>
Corrected cash balance	<u>\$42,858</u>

Brief Exercise 7–26

\$100,000. Thaler would recognize a loss equal to the difference between the \$1 million receivable and the \$900,000 fair value of consideration received from Einhorn.

EXERCISES

Exercise 7–1

Requirement 1

Cash and cash equivalents includes:

a. Balance in checking account	\$13,500
Balance in savings account	22,100
b. Undeposited customer checks	5,200
c. Currency and coins on hand	580
f. U.S. treasury bills with 2-month maturity	<u>15,000</u>
Total	<u>\$56,380</u>

Requirement 2

- d. The \$400,000 savings account will be used for future plant expansion and therefore should be classified as a noncurrent asset, either in **other assets or investments**.
- e. The \$20,000 in the checking account is a compensating balance for a long-term loan and should be classified as a noncurrent asset, either **in other assets or investments**.
- f. The \$20,000 in 7-month treasury bills should be classified as a **current asset** along with other temporary investments.

Exercise 7–2

Requirement 1

Cash and cash equivalents includes:

Cash in bank—checking account	\$22,500
U.S. treasury bills	5,000
Cash on hand	1,350
Undeposited customer checks	<u>1,840</u>
Total	<u>\$30,690</u>

Requirement 2

The \$10,000 in 6-month treasury bills should be classified as a **current asset** along with other temporary investments.

Exercise 7–3

The *FASB Accounting Standards Codification* represents the single source of authoritative U.S. generally accepted accounting principles. The specific citation for each of the following items is:

- 1. Accounts receivables from related parties should be shown separately from trade receivables:** Appears as ACS 310–10–45: “Receivables—Overall—Other Presentation Matters—Receivables from Officers, Employees or Affiliates,” and under ASC 850–10–50: “Related Party Disclosures—Overall—Disclosure”. Also appears as ACS 210–10–S99: “Balance Sheet—Overall—SEC Materials.
- 2. Definition of Cash Equivalents:** FASB ACS 230–10–45: “Statement of Cash Flows—Overall—Other Presentation Matters—Cash and Cash Equivalents.”
- 3. Notes exchanged for cash are valued at the cash proceeds:** FASB ACS 310–10–30: “Receivables—Overall—Initial Measurement.”
- 4. The two conditions that must be met to accrue a loss on an account receivable:** FASB ASC 310–10–35: “Receivables—Overall—Subsequent Measurement.”

Exercise 7–4

Requirement 1: U.S. GAAP

Current Assets:

Cash	\$175,000
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Current Liabilities:

Bank overdrafts	\$ 15,000
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Requirement 2: IFRS

Current Assets:

Cash	\$160,000
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(No current liabilities with respect to overdrafts.)

Exercise 7–5

Requirement 1

$$\text{Sales price} = 100 \text{ units} \times \$600 = \$60,000 \times 70\% = \$42,000$$

November 17, 2024		
Accounts receivable	42,000	
Sales revenue.....		42,000

November 26, 2024		
Cash (98% × \$42,000)	41,160	
Sales discounts (2% × \$42,000)	840	
Accounts receivable		42,000

Requirement 2

November 17, 2024		
Accounts receivable	42,000	
Sales revenue.....		42,000

December 15, 2024		
Cash.....	42,000	
Accounts receivable		42,000

Exercise 7–5 (concluded)

Requirement 3

Requirement 1, using the net method:

November 17, 2024

Accounts receivable	41,160	
Sales revenue (98% × \$42,000)		41,160

November 26, 2024

Cash	41,160	
Accounts receivable		41,160

Requirement 2, using the net method:

November 17, 2024

Accounts receivable	41,160	
Sales revenue (98% × \$42,000)		41,160

December 15, 2024

Cash	42,000	
Accounts receivable		41,160
Sales discounts forfeited		840

Exercise 7–6

Requirement 1

Sales price = 1,000 units × \$50 = \$50,000

July 15, 2024

Accounts receivable	50,000	
Sales revenue.....		50,000

July 23, 2024

Cash (98% × \$50,000)	49,000	
Sales discounts (2% × \$50,000)	1,000	
Accounts receivable		50,000

Requirement 2

July 15, 2024

Accounts receivable	50,000	
Sales revenue.....		50,000

Aug. 15, 2024

Cash.....	50,000	
Accounts receivable		50,000

Exercise 7-7

Requirement 1

July 15, 2024

Accounts receivable	49,000	
Sales revenue (98% × \$50,000)		49,000

July 23, 2024

Cash	49,000	
Accounts receivable		49,000

Requirement 2

July 15, 2024

Accounts receivable	49,000	
Sales revenue (98% × \$50,000)		49,000

August 15, 2024

Cash	50,000	
Accounts receivable		49,000
Sales discounts forfeited		1,000

Exercise 7–8

Requirement 1

Estimated returns of 2024 sales= $4\% \times \$11,500,000 =$	\$460,000
Less: Actual returns of 2024 sales	<u>(200,000)</u>
Remaining estimated returns of 2024 sales	\$260,000

(a) Record the actual sales returns of merchandise sold prior to 2024:

Refund liability	250,000
Accounts receivable	250,000
Inventory	162,500
Inventory – estimated returns ($\$250,000 \times 65\%$)	162,500

(b) Record the actual sales returns of merchandise sold during 2024:

Sales returns ($\$450,000 - \$250,000$)	200,000
Accounts receivable	200,000
Inventory	130,000
Cost of goods sold ($\$200,000 \times 65\%$)	130,000

(c) Adjust balance to equal the estimated sales returns at December 31, 2024:

Sales returns	210,000
Refund liability	210,000
Inventory—estimated returns	136,500
Cost of goods sold ($\$210,000 \times 65\%$)	136,500

Exercise 7–8 (concluded)

Requirement 2

Beginning balance in refund liability	\$300,000
Less: Actual returns of pre- 2024 sales	(250,000)
Plug: adjustment needed:	<u>\$210,000</u>
Ending balance in refund liability (equal to amount estimated for remaining returns of 2024 sales)	<u>\$260,000</u>

Note: By the end of 2024, all pre-2024 refunds have expired. Therefore, the adjustments of \$210,000 can be viewed as having two parts: (1) reversing the remaining \$50,000 of pre-2024 refunds that did not occur, and (2) recognizing the remaining \$260,000 of future refunds of 2024 sales that are estimated to occur in 2025.

Exercise 7–9

Requirement 1

Estimated returns of 2024 sales = $4\% \times \$11,500,000 =$	\$460,000
Less: Actual returns of 2024 sales	<u>(200,000)</u>
Remaining estimated returns of 2024 sales	\$260,000

(a) Record the actual sales returns of merchandise sold prior to 2024:

Refund liability	250,000	
Accounts receivable		250,000
Inventory	162,500	
Inventory – estimated returns ($\$250,000 \times 65\%$)		162,500

(b) Record the actual sales returns of merchandise sold during 2024:

Sales returns ($\$450,000 - \$250,000$)	200,000	
Accounts receivable		200,000
Inventory	130,000	
Cost of goods sold ($\$200,000 \times 65\%$)		130,000

(c) Adjust balance to equal the estimated sales returns at December 31, 2024:

Sales returns	260,000	
Refund liability		260,000
Inventory—estimated returns	169,000	
Cost of goods sold ($\$260,000 \times 65\%$)		169,000

Exercise 7–9 (concluded)

Requirement 2

Beginning balance in refund liability	\$300,000
Less: Actual returns of pre-2024 sales	(250,000)
Add: Remaining estimated returns of 2024 sales	<u>260,000</u>
Ending balance in refund liability	<u>\$310,000</u>

Note: with no expiration of returns, can also view the refund liability account as calculated as follows:

Beginning balance in refund liability	\$300,000
Add: Estimated returns of 2024 sales	460,000
Less: Actual returns of pre-2024 sales	(250,000)
Less: Actual returns of 2024 sales	<u>(200,000)</u>
Ending balance in refund liability	<u>\$310,000</u>

Exercise 7–10

Requirement 1

The specific citation that specifies these disclosure policies is FASB ACS 310–10–50–2: “Receivables—Overall—Disclosure—Accounting Policies for Loans and Trade Receivables.”

Requirement 2

FASB ACS 310–10–50–2 reads as follows:

“The summary of significant accounting policies shall include the following:

- a. The basis for accounting for loans and trade receivables
- b. The method used in determining the lower of cost or fair value of nonmortgage loans held for sale (that is, aggregate or individual asset basis)
- c. The classification and method of accounting for interest-only strips, loans, other receivables, or retained interests in securitizations that can be contractually prepaid or otherwise settled in a way that the holder would not recover substantially all of its recorded investment
- d. The method for recognizing interest income on loan and trade receivables, including a statement about the entity’s policy for treatment of related fees and costs, including the method of amortizing net deferred fees or costs.”

Exercise 7–11

Requirement 1

Allowance for uncollectible accounts (to record write-offs)	10,000	
Accounts receivable (to balance).....		10,000

Requirement 2

Allowance for uncollectible accounts

Balance, beginning of year	\$	0
Add: Bad debt expense	16,000	
Less: Accounts receivable written off	<u>(10,000)</u>	
Balance, end of year $((\$250,000 - \$210,000 - \$10,000) \times 20\%)$	<u>\$</u>	<u>6,000</u>

Bad debt expense (to balance)	16,000	
Allowance for uncollectible accounts (calculated above)		16,000

Exercise 7–12

Requirement 1

12/31/2023 balance in allowance for uncollectible accounts = \$30,000
= 12/31/2023 balance in gross accounts receivable \times 10%, so
12/31/2023 balance in gross accounts receivable = $\$30,000 \div 10\% = \mathbf{\$300,000}$

Requirement 2

Allowance for uncollectible accounts:

Beginning balance	\$(55,000)
Adjustment:	105,000
Ending balance ($\$500,000 \times 10\%$)	<u>\$ 50,000</u>

Bad debt expense (to balance)	105,000
Allowance for uncollectible accounts (calculated above)	105,000

Requirement 3

Allowance for uncollectible accounts

Balance, beginning of year	\$ 30,000
Less : Accounts receivable written off	85,000
Pre-adjustment end-of-year balance	<u>\$(55,000)</u>

Requirement 4

\$85,000 — the amount of accounts receivable written off.

Exercise 7–13

Requirement 1

Bad debt expense = **\$67,500** (1.5% × \$4,500,000)

Requirement 2

Allowance for uncollectible accounts

Balance, beginning of year	\$42,000
Add: Bad debt expense for 2024 (1.5% × \$4,500,000)	67,500
Less: Accounts receivable written off	(69,500)
End-of-year balance	<u>\$40,000</u>

Requirement 3

\$69,500 — the amount of accounts receivable written off.

Exercise 7–14

Requirement 1

Age Group	Amount	% Uncollectible	Total
Not yet due	\$180,000 ×	10%	= \$18,000
1-45 days past due	25,000 ×	20%	= 5,000
More than 45 days past due	<u>10,000</u> ×	30%	= <u>3,000</u>
Total	<u>\$215,000</u>		<u>\$26,000</u>

Requirement 2

Allowance for uncollectible accounts:

Beginning balance	\$(45,000)
Adjustment:	71,000
Ending balance	<u>\$ 26,000</u>

Bad debt expense (to balance)	71,000
Allowance for uncollectible accounts (calculated above)	71,000

Exercise 7–15

Requirement 1

Age Group	Amount	% Uncollectible	Total
Not yet due	\$400,000 ×	8%	= \$32,000
1-30 days past due	50,000 ×	15%	= 7,500
31-90 days past due	40,000 ×	30%	= 12,000
More than 90 days past due	<u>30,000</u> ×	50%	= <u>15,000</u>
Total	<u>\$520,000</u>		<u>\$66,500</u>

Requirement 2

Allowance for uncollectible accounts:

Beginning balance	\$22,000
Adjustment:	44,500
Ending balance	<u>\$66,500</u>

Bad debt expense (to balance)	44,500	
Allowance for uncollectible accounts (calculated above)		44,500

Requirement 3

Gross accounts receivable	\$520,000
Less: Allowance for uncollectible accounts	<u>66,500</u>
Net accounts receivable	<u>\$453,500</u>

Exercise 7–16

Requirement 1

To record the write-off of receivables:

Allowance for uncollectible accounts	21,000	
Accounts receivable		21,000

To reinstate an account previously written off and to record the collection:

Accounts receivable	1,200	
Allowance for uncollectible accounts		1,200
Cash	1,200	
Accounts receivable		1,200

Allowance for uncollectible accounts:

Balance, beginning of year	\$32,000
Deduct: Receivables written off	(21,000)
Add: Collection of receivable previously written off	<u>1,200</u>
Balance, before adjusting entry for 2024 bad debts	12,200
Required allowance: 10% × \$625,000	<u>(62,500)</u>
Bad debt expense	<u>\$50,300</u>

To record bad debt expense for the year:

Bad debt expense	50,300	
Allowance for uncollectible accounts		50,300

Requirement 2

Current assets:

Accounts receivable, net of \$62,500 allowance for uncollectible accounts	\$562,500
--	-----------

Exercise 7–17

Using the direct write-off method, bad debt expense is equal to actual write-offs. Collections of previously written-off receivables are recorded as revenue.

Allowance for uncollectible accounts:

Balance, beginning of year	\$17,280
Deduct: Receivables written off	(17,100)
Add: Collection of receivables previously written off	2,200
Less: End of year balance	(22,410)
Bad debt expense for the year 2024	<u>\$20,030</u>

Allowance	
	17,280 Beginning balance
	2,200 Reinstated
	20,030 Bad debt expense (plug)
Write-offs 17,100	
	22,410 Ending balance

Exercise 7–18

Allowance for uncollectible accounts:

Balance, beginning of year	\$28.8
Add: Bad debt expense	25.9
Less: End of year balance	<u>(33.2)</u>
Write-offs during the year	\$ 21.5* plug #1

Allowance	
	28.8
	25.9
write-offs 21.5	
	<u>33.2</u>

Accounts receivable analysis:

Balance, beginning of year (\$1,679.7 + \$28.8)	\$ 1,708.5
Add: Credit sales	17,626.6
Less: Write-offs*	(21.5)
Less: Balance, end of year (\$1,615.1 + \$33.2)	<u>(1,648.3)</u>
Cash collections	\$17,665.3 plug #2

Gross A/R	
1,708.5	
17,626.6	21.5
	collections
	17,665.3
<u>1,648.3</u>	

Exercise 7–19

Requirement 1

June 30, 2024		
Notes receivable	30,000	
Sales revenue.....		30,000
December 31, 2024		
Interest receivable	900	
Interest revenue ($\$30,000 \times 6\% \times \frac{6}{12}$)		900
March 31, 2025		
Cash [$\$30,000 + (\$30,000 \times 6\% \times \frac{9}{12})$]	31,350	
Interest revenue ($\$30,000 \times 6\% \times \frac{3}{12}$)		450
Interest receivable (accrued at December 31).....		900
Notes receivable		30,000

Requirement 2

2024 income before income taxes would be understated by \$900

2025 income before income taxes would be overstated by \$900.

Exercise 7–20

Requirement 1

June 30, 2024		
Notes receivable (face amount)	30,000	
Discount on notes receivable (to balance)		1,800
Sales revenue (difference)		28,200
December 31, 2024		
Discount on notes receivable	1,200	
Interest revenue ($\$1,800 \times \frac{6}{9}$)		1,200
March 31, 2025		
Discount on notes receivable	600	
Interest revenue ($\$1,800 \times \frac{3}{9}$)		600
Cash	30,000	
Notes receivable (face amount)		30,000

Requirement 2

$$\begin{aligned} & \$ 1,800 \quad \text{interest for 9 months} \\ & \div \$28,200 \quad \text{sales price} \\ & = 6.383\% \quad \text{rate for 9 months} \\ & \times \quad \frac{12}{9} \quad \text{to annualize the rate} \\ & \hline & = \mathbf{8.511\%} \quad \text{effective interest rate} \end{aligned}$$

Exercise 7–21

Requirement 1

Sales revenue = present value of the note receivable
= $\$515,000 \times 0.79383^{\text{¥}} = \$408,822$

[¥] Present value of \$1: $n = 3, i = 8\%$ (Table 2)

Requirement 2

January 1, 2024

Note receivable	515,000	
Discount on notes receivable		106,178
Sales revenue*		408,822
<i>To record the sale of goods in exchange for a three-year note receivable.</i>		

December 31, 2024

Discount on notes receivable	32,706	
Interest revenue ($\$408,822 \times 8\%$)		32,706
<i>To record interest revenue in 2024.</i>		

December 31, 2025

Discount on notes receivable	35,322	
Interest revenue ($(\$408,822 + \$32,706) \times 8\%$)		35,322
<i>To record interest revenue in 2025.</i>		

December 31, 2026

Discount on notes receivable	38,150	
Interest revenue ($(\$408,822 + \$32,706 + \$35,322) \times 8\%$)		38,150
Cash.....	515,000	
Notes receivable.....		515,000
<i>To record interest revenue in 2026 and collection of the note.</i>		

* $\$515,000 \times$ Present value of \$1; $n = 3, i = 8\%$

Note: the debit to Discount on notes receivable of \$38,150 is necessary to reduce the discount to zero. It differs from \$38,148, which equals $(\$408,822 + \$32,706 + \$35,322) \times 8\%$, due to rounding.

Exercise 7–22

Requirement 1

Book (carrying) value of stock	\$16,000		
Plus gain on sale of stock	<u>6,000</u>		
= Note receivable	<u>\$22,000</u>		
Interest reported for the year	\$ 2,200		
	<hr/>	=	10% rate
Divided by value of note	\$ 22,000		

Requirement 2

To record sale of stock in exchange for note receivable:

January 1, 2024		
Notes receivable	22,000	
Investments		16,000
Gain on sale of investments		6,000

To accrue interest on note receivable for twelve months:

December 31, 2024		
Interest receivable	2,200	
Interest revenue ($\$22,000 \times 10\%$)		2,200

Exercise 7–23

Cash (difference).....	439,200	
Finance charge expense (1.8% × \$600,000).....	10,800	
Notes payable		450,000

Exercise 7–24

Cash (90% × \$60,000)	54,000	
Loss on sale of receivables (to balance)	2,200	
Receivable from factor (\$5,000 fair value – [2% × \$60,000])	3,800	
Accounts receivable (balance sold).....		60,000

Exercise 7–25

Cash ([90% – 2%] × \$60,000)	52,800	
Loss on sale of receivables (to balance)	5,200	
Receivable from factor (\$5,000 fair value)	5,000	
Recourse liability		3,000
Accounts receivable (balance sold).....		60,000

Exercise 7–26

Mountain High retains significant risks and rewards and therefore must treat the transfer as a secured borrowing. The accounts receivable stay on the balance sheet of Mountain High, and they must record a liability.

Cash ([90% – 2%] × \$60,000)	52,800	
Finance charge expense (2% × \$60,000).....	1,200	
Liability		54,000

Exercise 7–27

Step 1: Accrue interest earned.

February 28, 2024		
Interest receivable	250	
Interest revenue ($\$15,000 \times 10\% \times \frac{2}{12}$).....		250

Step 2: Add interest to maturity to calculate maturity value.

Step 3: Deduct discount to calculate cash proceeds.

\$15,000	Face amount
<u> 750</u>	Interest to maturity ($\$15,000 \times 10\% \times \frac{6}{12}$)
15,750	<i>Maturity value</i>
<u> (630)</u>	Discount ($\$15,750 \times 12\% \times \frac{4}{12}$)
\$15,120	<i>Cash proceeds</i>

Step 4: Record a loss for the difference between the cash proceeds and the note's book value.

February 28, 2024		
Cash (<i>proceeds determined above</i>)	15,120	
Loss on sale of notes receivable (<i>difference</i>)	130	
Notes receivable (<i>face amount</i>).....		15,000
Interest receivable (<i>accrued interest determined above</i>).....		250

Exercise 7–28

List A

- c 1. Internal control
- j 2. Trade discount
- g 3. Cash equivalents
- h 4. Allowance for uncollectibles
- i 5. Cash discount
- l 6. Balance sheet approach
- d 7. Income statement approach
- k 8. Net method
- a 9. Compensating balance
- m 10. Discounting
- b 11. Gross method
- e 12. Direct write-off method
- f 13. Factoring

List B

- a. Restriction on cash.
- b. Cash discount not taken is sales revenue.
- c. Includes separation of duties.
- d. Bad debt expense a % of credit sales.
- e. Recognizes bad debts as they occur.
- f. Sale of receivables to a financial institution.
- g. Include highly liquid investments.
- h. Estimate of bad debts.
- i. Reduction in amount paid by credit customer.
- j. Reduction below list price.
- k. Cash discount not taken is sales discount forfeited.
- l. Bad debt expense determined by estimating realizable value.
- m. Sale of note receivable to a financial institution.

Exercise 7–29

Requirement 1

March 17, 2024		
Allowance for uncollectible accounts	1,700	
Accounts receivable		1,700

March 30, 2024		
Notes receivable	20,000	
Cash		20,000

Step 1: Accrue interest earned for two months on note receivable.

May 30, 2024		
Interest receivable	233	
Interest revenue ($\$20,000 \times 7\% \times 2/12$)		233

Step 2: Add interest to maturity to calculate maturity value.

Step 3: Deduct discount to calculate cash proceeds.

\$20,000	Face amount
<u> 1,400</u>	Interest to maturity ($\$20,000 \times 7\%$)
21,400	<i>Maturity value</i>
<u>(1,427)</u>	Discount ($\$21,400 \times 8\% \times 10/12$)
\$19,973	<i>Cash proceeds</i>

Exercise 7–29 (continued)

Step 4: Record a loss for the difference between the cash proceeds and the note's book value.

May 30, 2024

Cash (proceeds determined above)	19,973	
Loss on sale of notes receivable (difference).....	260	
Interest receivable (from adjusting entry)		233
Notes receivable (face amount)		20,000

June 30, 2024

Accounts receivable	12,000	
Sales revenue		12,000

July 8, 2024

Cash ($\$12,000 \times 98\%$)	11,760	
Sales discounts ($\$12,000 \times 2\%$)	240	
Accounts receivable		12,000

August 31, 2024

Notes receivable (face amount)	6,000	
Discount on notes receivable ($\$6,000 \times 8\% \times \frac{6}{12}$)		240
Investments (book value)		5,000
Gain on sale of investments (difference)		760

Exercise 7–29 (concluded)

Requirement 2

To accrue interest earned on note receivable:

December 31, 2024		
Discount on notes receivable	160	
Interest revenue ($\$6,000 \times 8\% \times \frac{4}{12}$)		160

To accrue bad debt expense:

<u>Allowance</u>		
	12,000	Beginning balance
	3,700	Bad debt expense (plug)
<u>Write-offs</u> 1,700		
	14,000	Ending balance ($\$700,000 \times 2\%$)

December 31, 2024		
Bad debt expense	3,700	
Allowance for uncollectible accounts		3,700

Exercise 7–30

Q4 (ended 6/30/2020):

Average receivables balance: $(\$32,011 + \$22,699) / 2 = \$27,355$

Receivables turnover = $\frac{\$38,033}{\$27,355} = \mathbf{1.390 \text{ times}}$

Average collection period = $\frac{91}{1.390} = \mathbf{65.47 \text{ days}}$

Q3 (ended 3/31/2020):

Average receivables balance: $(\$22,699 + \$23,525) / 2 = \$23,112$

Receivables turnover = $\frac{\$35,021}{\$23,112} = \mathbf{1.515 \text{ times}}$

Average collection period = $\frac{91}{1.515} = \mathbf{60.07 \text{ days}}$

Exercise 7–31

$$\text{Average collection period} = 365 \div \text{Accounts receivable turnover} = 50 \text{ days}$$

$$\text{Accounts receivable turnover} = 365 \div 50 = 7.3$$

$$\text{Average accounts receivable} = (\$400,000 + \$300,000) \div 2 = \$350,000$$

$$\begin{aligned} \text{Accounts receivable turnover} &= \text{Net sales} \div \text{Average accounts receivable} \\ 7.3 &= \text{Net sales} \div \$350,000 \end{aligned}$$

$$\text{Net sales} = 7.3 \times \$350,000 = \mathbf{\$2,555,000}$$

Exercise 7–32

To establish the petty cash fund:

October 2, 2024

Petty Cash.....	200	
Cash (checking account)		200

To replenish the petty cash fund:

October 31, 2024

Office supplies expense.....	76	
Advertising expense	48	
Postage expense.....	20	
Miscellaneous expense.....	19	
Cash (checking account)		163

Exercise 7–33

September 30, 2024		To replenish the petty cash fund	
Delivery expense.....	16		
Office supplies expense	19		
Receivables from employees	25		
Postage expense	32		
Cash (checking account)			92

Exercise 7–34

Balance per books	\$23,820
Deduct: Deposits outstanding	(2,340)
Add: Checks outstanding	1,890
Deduct: Bank service charges	<u>(38)</u>
Balance per bank	<u>\$23,332</u>

Step 1: Bank Balance to Corrected Balance	
<i>Balance per bank statement</i>	\$23,332
Add: Deposits outstanding	2,340
Deduct: Checks outstanding	<u>(1,890)</u>
Corrected cash balance	<u>\$23,782</u>
Step 2: Book Balance to Corrected Balance	
<i>Balance per books</i>	\$23,820
Deduct: Service charges	<u>(38)</u>
Corrected cash balance	<u>\$23,782</u>

Exercise 7–35

Requirement 1

Step 1: Bank Balance to Corrected Balance

<i>Balance per bank statement</i>	\$38,018
Add: Deposits outstanding	6,300
Deduct: Checks outstanding	(8,420)
Add: Bank error in recording check	<u>270</u>
Corrected cash balance	<u>\$36,168</u>

Step 2: Book Balance to Corrected Balance

<i>Balance per books</i>	\$38,918
Add: Error in recording cash receipt (\$2,000 – \$200)	1,800
Deduct:	
Service charges	(30)
NSF checks	(1,200)
Monthly payment on note	<u>(3,320)</u>
Corrected cash balance	<u>\$36,168</u>

Exercise 7–35 (concluded)

Requirement 2

To correct error in recording cash receipt from credit customer:

Cash.....	1,800	
Accounts receivable		1,800

To record credits to cash revealed by the bank reconciliation:

Miscellaneous expense (bank service charges).....	30	
Accounts receivable (NSF checks)	1,200	
Interest expense	320	
Notes payable	3,000	
Cash.....		4,550

Note: Each of the adjustments to the book balance required journal entries. None of the adjustments to the bank balance require entries.

Exercise 7–36

ANALYSIS

Previous Value:

Accrued 2024 interest	(10% × \$12,000,000)	\$ 1,200,000	
Principal		<u>12,000,000</u>	
<i>Carrying amount of the receivable</i>			\$13,200,000

New Value:

Interest	\$1 million	x	1.73554 *	=	\$1,735,540	
Principal	\$11 million	x	0.82645 **	=	<u>9,090,950</u>	
<i>Present value of the receivable</i>						<u>(10,826,490)</u>
Loss:						<u>\$ 2,373,510</u>

* present value of an ordinary annuity of \$1: $n = 2$, $i = 10\%$ (from Table 4)

** present value of \$1: $n = 2$, $i = 10\%$ (from Table 2)

JOURNAL ENTRIES

January 1, 2024

Bad debt expense (to balance)	2,373,510	
Interest receivable (account balance)		1,200,000
Allowance for uncollectible accounts (\$12,000,000 – \$10,826,490)		1,173,510

December 31, 2024

Cash (required by new agreement)	1,000,000	
Allowance for uncollectible accounts (to balance)	82,649	
Interest revenue (10% × \$10,826,490)		1,082,649

December 31, 2025

Cash (required by new agreement)	1,000,000	
Allowance for uncollectible accounts (to balance)	90,861	
Interest revenue (10% × [\$10,826,490 + \$82,649])		1,090,861*

Cash (required by new agreement)	11,000,000	
Allowance for uncollectible accounts (to balance)	1,000,000	
Notes receivable (balance)		12,000,000

* rounded to amortize the note to \$11,000,000 (per schedule below)

Exercise 7–36 (concluded)

Amortization Schedule – Not required

	Cash Interest by agreement	Effective Interest 10% × Outstanding Balance	Increase in Balance Discount Reduction	Outstanding Balance
				10,826,490
1	1,000,000	.10 (10,826,490) = 1,082,649	82,649	10,909,139
2	<u>1,000,000</u>	.10 (10,909,139) = <u>1,090,861</u> *	<u>90,861</u>	11,000,000
	2,000,000	2,173,510	173,510	

* rounded

Exercise 7–37

Requirement 1

1. January 2	Debit	Credit
Cash	35,100	
Service Revenue		35,100
<i>(Provide services for cash)</i>		
2. January 6	Debit	Credit
Accounts Receivable	72,400	
Service Revenue		72,400
<i>(Provide services on account)</i>		
3. January 15	Debit	Credit
Allowance for Uncollectible Accounts	1,000	
Accounts Receivable		1,000
<i>(Write off uncollectible accounts)</i>		
4. January 20	Debit	Credit
Salaries Expense	31,400	
Cash		31,400
<i>(Pay for salaries)</i>		
5. January 22	Debit	Credit
Cash	70,000	
Accounts Receivable		70,000
<i>(Receive cash on account)</i>		
6. January 25	Debit	Credit
Accounts Payable	5,500	
Cash		5,500
<i>(Pay cash on account)</i>		
7. January 30	Debit	Credit
Utilities Expense	13,700	
Cash		13,700
<i>(Pay for utilities)</i>		

Exercise 7–37 (continued)

Requirement 2

<u>8. January 31</u>	<u>Debit</u>	<u>Credit</u>
Bad Debt Expense	1,100	
Allowance for Uncollectible Accounts		1,100
<i>(Adjust uncollectible accounts)</i>		
<i>(\$1,100 = (\$5,000 × 20%) + (\$10,000^a × 5%) – \$400^b)</i>		
^a <i>\$10,000 = \$13,600 + \$72,400 – \$70,000 – \$1,000 – \$5,000</i>		
^b <i>\$400 = \$1,400 – \$1,000</i>		
<u>9. January 31</u>	<u>Debit</u>	<u>Credit</u>
Supplies Expense	1,800	
Supplies		1,800
<i>(Adjust supplies)</i>		
<i>(\$1,800 = \$2,500 – \$700)</i>		
<u>10. January 31</u>	<u>Debit</u>	<u>Credit</u>
Interest Receivable	100	
Interest Revenue		100
<i>(Adjust interest revenue)</i>		
<i>(\$100 = \$20,000 × 6% × 1/12)</i>		
<u>11. January 31</u>	<u>Debit</u>	<u>Credit</u>
Salaries Expense	33,500	
Salaries Payable		33,500
<i>(Adjust salaries payable)</i>		

Exercise 7–37 (continued)

Requirement 3

**3D Family Fireworks
Adjusted Trial Balance
January 31, 2024**

<u>Accounts</u>	<u>Debit</u>	<u>Credit</u>
Cash	\$ 78,400	
Accounts Receivable	15,000	
Interest Receivable	100	
Supplies	700	
Notes Receivable	20,000	
Land	77,000	
Allowance for Uncollectible Accounts		\$ 1,500
Accounts Payable		1,700
Salaries Payable		33,500
Common Stock		96,000
Retained Earnings		32,400
Service Revenue		107,500
Interest Revenue		100
Supplies Expense	1,800	
Salaries Expense	64,900	
Utilities Expense	13,700	
Bad Debt Expense	1,100	
Totals	<u>\$272,700</u>	<u>\$272,700</u>

Exercise 7–37 (continued)

Requirement 3 (continued)

<u>Accounts</u>	<u>Ending Balance</u>	<u>Beginning balance in bold, entries during January in blue, and adjusting entries in red.</u>
Cash	78,400	= 23,900 +35,100+70,000–31,400–5,500–13,700
Accounts Receivable	15,000	= 13,600 +72,400–1,000–70,000
Interest Receivable	100	= 100
Supplies	700	= 2,500 –1,800
Notes Receivable	20,000	= 20,000
Land	77,000	= 77,000
Allowance for Uncollectible Accounts	1,500	= 1,400 –1,000+1,100
Accounts Payable	1,700	= 7,200 –5,500
Salaries Payable	33,500	= 33,500
Common Stock	96,000	= 96,000
Retained Earnings	32,400	= 32,400
Service Revenue	107,500	= 35,100+72,400
Interest Revenue	100	= 100
Supplies Expense	1,800	= 1,800
Salaries Expense	64,900	= 31,400+33,500
Utilities Expense	13,700	= 13,700
Bad Debt Expense	1,100	= 1,100

Exercise 7–37 (continued)

Requirement 4

3D Family Fireworks	
Income Statement	
For the year ended January 31, 2024	
<hr/>	
Revenues:	
Service revenue	\$107,500
Interest revenue	100
Total revenues	<hr/> 107,600
Expenses:	
Supplies expense	1,800
Salaries expense	64,900
Utilities expense	13,700
Bad debt expense	1,100
Total expenses	<hr/> 81,500
Net income	<hr/> \$ 26,100

Exercise 7–37 (continued)

Requirement 5

**3D Family Fireworks
Balance Sheet
January 31, 2024**

<u>Assets</u>		<u>Liabilities</u>	
Cash	\$ 78,400	Accounts payable	\$ 1,700
Accounts receivable	\$15,000	Salaries payable	33,500
Less: Allowance for uncollectible accounts	(1,500) 13,500	Total current liabilities	35,200
Interest receivable	100		
Supplies	700		
Total current assets	92,700		
Notes receivable	20,000	<u>Stockholders' Equity</u>	
Land	77,000	Common stock	96,000
		Retained earnings	58,500 *
		Total stockholders' equity	154,500
		Total liabilities and stockholders' equity	\$189,700
Total assets	\$189,700		

* Retained earnings = Beginning retained earnings + Net income – Dividends
= \$32,400 + \$26,100 – \$0
= \$58,500

Requirement 6

12. January 31, 2024	Debit	Credit
Service Revenue	107,500	
Interest Revenue	100	
Retained Earnings (Close revenue accounts)		107,600
13. January 31, 2024	Debit	Credit
Retained Earnings	81,500	
Supplies expense		1,800
Salaries expense		64,900
Utilities expense		13,700
Bad debt expense (Close expense accounts)		1,100

Exercise 7–37 (concluded)

Requirement 7

(a) The receivables turnover ratio is:

$$\begin{array}{l} \text{Receivables} \\ \text{Turnover} \\ \text{Ratio} \end{array} = \frac{\text{Net credit sales}}{\text{Average accounts receivable}} = \frac{\$72,400}{(\$13,600 - \$1,400 + \$15,000 - \$1,500) / 2} = \mathbf{5.6}$$

A ratio of 5.6 suggests that credit sales are about five times the average balance of accounts receivable. Companies allow customers to purchase goods and services on account to boost revenues, but these credit sales also create a risk of the customer not paying, so a higher receivables turnover ratio typically is preferred. Compared to the industry average receivables turnover ratio of 4.2., 3D Family Fireworks is collecting cash **more** efficiently from customers on credit sales.

(b) The ratio at the end of January is:

$$\frac{\text{Allowance for Uncollectible Accounts}}{\text{Accounts receivable}} = \frac{\$1,500}{\$15,000} = \mathbf{10\%}$$

In comparison, the ratio at the beginning of January was 10.3% (= \$1,400 / \$13,600). The allowance is lower in relation to accounts receivable at the end of the month indicating the company expects an **improvement** in cash collections from customers on credit sales.

PROBLEMS

Problem 7-1

Requirement 1

Monthly bad debt expense accrual summary.

Bad debt expense (3% × \$2,620,000)	78,600	
Allowance for uncollectible accounts		78,600

To record year 2024 accounts receivable write-offs:

Allowance for uncollectible accounts	68,000	
Accounts receivable		68,000

Requirement 2

Bad debt expense	4,300	
Allowance for uncollectible accounts (below)		4,300

Year-end required allowance for uncollectible accounts:

Summary			
Age Group	Amount	Percent Uncollectible	Estimated Allowance
0–60 days	\$430,000	4%	\$17,200
61–90 days	98,000	15%	14,700
91–120 days	60,000	25%	15,000
Over 120 days	<u>55,000</u>	40%	<u>22,000</u>
Totals	<u>\$643,000</u>		<u>\$68,900</u>

Problem 7-1 (concluded)

Allowance for uncollectible accounts:

Beginning balance	\$54,000
Add: Monthly bad debt accruals	78,600
Deduct: Write-offs	<u>(68,000)</u>
Balance before year-end adjustment	64,600
Required allowance (determined above)	<u>68,900</u>
Required year-end increase in allowance	<u>\$ 4,300</u>

Requirement 3

Bad debt expense for 2024:

Monthly accruals	\$78,600
Year-end adjustment	<u>4,300</u>
Total	<u>\$82,900</u>

Balance sheet:

Current assets:

Accounts receivable, net of \$68,900 allowance for uncollectible accounts	\$574,100
--	-----------

Problem 7–2

Requirement 1

(a) Net amount of accounts receivable written off or reinstated.

Accounts Receivable (gross)

		(\$ in millions)
Beg. Bal.	12,371 + 85 = 12,456	
Sales	92,154	
		91,868 Collections
		164 Write off
End. Bal.	12,484 + 94 = 12,578	

Because the plug is a credit, there must have been a writeoff of accounts receivable of \$164.

(b) Increase or decrease in bad debt expense

Allowance for Uncollectible Accounts

		(\$ in millions)
		85 Beg. Bal.
		173 Bad debt expense
164 Write off of bad debts		
		94 End. Bal.

A credit plug implies a debit to bad debt expense of \$173, adjusting upward the level of the allowance of uncollectible accounts. Note that this differs by \$5 from the \$178 listed as the provision for doubtful accounts on the statement of cash flows. The difference might be explained by the \$178 including provisions for financing receivables.

Problem 7–2 (concluded)

(c) The approximate percentage used to estimate bad debts assuming Dell used the income statement approach

$$\$173 \div \$92,154 = \mathbf{0.188\%}$$

Requirement 2

(a) (*\$ in millions*)

	2020	2019
Current assets:		
Receivables	\$12,578	\$12,456

(b) Bad debt expense would be equal to actual receivables written off or reinstated; in this case the reinstatement of **\$164 million**.

Problem 7-3

Requirement 1

	(\$ in millions)	
	2020	2019
Accounts receivable, net	\$2,749	\$4,272
Add: Allowances	<u>214</u>	<u>30</u>
Accounts receivable, gross	\$2,963	\$4,302

Requirement 2

Accounts Receivable (net)

		(\$ in millions)
Beg. Bal.		
S		C
		E
W		W
<hr/>		
End. Bal.		

Accounts Receivable (net)

		(\$ in millions)
Beg. Bal.	4,272	
		1,239
		E = 284
<hr/>		
End. Bal.	2,749	

If A/R decreased by \$1,239, Collections must have exceeded Sales by that amount, shown as a credit. Solving for Bad debt expense (E) yields an estimate of **\$284**.

Problem 7–3 (continued)

Requirement 3

Allowance for Uncollectible Accounts

		(\$ in millions)
		Beg. Bal.
W		E
		End. Bal.

Allowance for Uncollectible Accounts

		(\$ in millions)
		30 Beg. Bal.
W = 100		284 Bad Debt Expense
		214 End. Bal.

Nike had **\$100** of bad debt write-offs during 2020.

Problem 7–3 (concluded)

Requirement 4

Accounts Receivable (gross)

		(\$ in millions)	
Beg. Bal.	4,302		
Sales	37,403		
		38,642	Collections
		100	Write-offs
End. Bal.	2,963		

Nike collected **\$38,642** of accounts receivable during 2020.

Requirement 5

Accounts Receivable (net)

		(\$ in millions)	
Beg. Bal.	4,272		
Sales	37,403	284	Bad debts expense
		38,642	Collections
Write-offs	100	100	Write-offs
End. Bal.	2,749		

Once again we see that Nike collected **\$38,642** of accounts receivable during 2020. Note that write-offs cancel when reconciling net accounts receivable, because the journal entry to recognize write-offs debits the Allowance for uncollectible accounts and credits Accounts receivable. However, we have to make sure to include the credit to Bad debt expense, as that increases the Allowance for uncollectible accounts and therefore decreases Net accounts receivable.

Problem 7–4

Requirement 1

To record accounts receivable written off during the year 2024:

Allowance for uncollectible accounts	35,000	
Accounts receivable		35,000

To record collection of account receivable previously written off:

Accounts receivable	3,000	
Allowance for uncollectible accounts		3,000
Cash	3,000	
Accounts receivable		3,000

Requirement 2

(a)

December 31, 2024		
Bad debt expense ($3\% \times \$1,750,000$)	52,500	
Allowance for uncollectible accounts		52,500

(b)

December 31, 2024		
Bad debt expense	36,700	
Allowance for uncollectible accounts (below)		36,700

Problem 7-4 (continued)

Accounts receivable analysis:

Beginning balance	\$ 462,000
Add: Credit sales	1,750,000
Less: Write-offs	(35,000)
Less: Cash collections	<u>(1,830,000)</u>
Ending balance	<u>\$ 347,000</u>

$\$347,000 \times 10\% = \$34,700 =$ Required allowance for uncollectible accounts

Allowance for uncollectible accounts analysis:

Beginning balance	\$30,000
Add: Collection of receivable previously written off	3,000
Less: Write-offs	<u>(35,000)</u>
Balance before adjustment	(2,000) debit balance
Required allowance (determined above)	<u>34,700</u>
Bad debt expense adjustment	<u>\$36,700</u>

(c)

December 31, 2024		
Bad debt expense	37,047	
Allowance for uncollectible accounts (below)		37,047

Required allowance:

Age Group	Amount	Percent Uncollectible	Estimated Allowance
0-60 days	\$225,550	4%	\$ 9,022
61-90 days	69,400	15%	10,410
91-120 days	34,700	25%	8,675
Over 120 days	<u>17,350</u>	40%	<u>6,940</u>
Totals	<u>\$347,000</u>		<u>\$35,047</u>

Problem 7–4 (concluded)

Allowance for uncollectible accounts analysis:

Beginning balance	\$30,000
Add: Collection of receivable previously written off	3,000
Less: Write-offs	<u>(35,000)</u>
Balance before adjustment	(2,000) debit balance
Required allowance	<u>35,047</u>
Bad debt expense adjustment	<u>\$37,047</u>

Requirement 3

Accounts receivable	–	Year-end allowance	
(a) \$347,000	–	[((\$2,000) + \$52,500)]	= \$296,500
(b) \$347,000	–	\$34,700	= \$312,300
(c) \$347,000	–	\$35,047	= \$311,953

Problem 7–5

Requirement 1

	(\$ in thousands)	
	2016	2015
Accounts receivable, net	\$458,900	\$440,000
Add: Allowances	<u>131,100</u>	<u>86,700</u>
Accounts receivable, gross	\$590,000	\$526,700

Requirement 2

Allowance for Uncollectible Accounts

	(\$ in thousands)	
Write-offs 145,700	77,600	Beg. Bal.
	191,000	Bad Debt Expense
	<u>122,900</u>	End. Bal.

Avon had **\$145,700** thousand of bad debt write-offs during 2016.

Requirement 3

(\$ in thousands)

Allowance for Sales Returns

Actual returns 187,000	9,100	Beg. Bal.
	186,100	Estimated Sales Returns
	<u>8,200</u>	End. Bal.

Avon had **\$186,100** thousand of estimated sales returns during 2016.

Gross sales for the year equal net sales of \$5,578,800 + estimated sales returns of \$186,100 = **\$5,764,900 thousand**.

Problem 7-5 (concluded)

Requirement 4

Accounts Receivable

		(\$ in thousands)	
Beg. Bal.	526,700		
Sales	5,764,900	5,368,900	Collections
		145,700	Write-offs
		187,000	Sales returns
End. Bal.	590,000		

Avon had **\$5,368,900 thousand** of cash collected from customers during 2016.

Problem 7–6

Requirement 1

Total face value of notes = \$300,000 + \$150,000 + \$200,000 =	\$650,000
Balance sheet carrying value =	<u>645,000</u>
Difference is the remaining discount on note 3	<u>\$ 5,000</u>

Note 3 is a 6-month note, with three months remaining. Therefore, \$5,000 represents one-half of the total discount of \$10,000.

$$\$10,000 \div \$200,000 = 5\% \times 12/6 = \mathbf{10\% \text{ discount rate.}}$$

Requirement 2

Total accrued interest receivable	\$16,000
Less: Interest accrued on note 1:	
$\$300,000 \times 10\% \times 4/12 =$	<u>(10,000)</u>
Interest accrued on note 2	<u>\$ 6,000</u>

$$\$6,000 \div \$150,000 = 4\% \times 12/6 = \mathbf{8\%}$$

Requirement 3

Note 1	\$10,000
Note 2	6,000
Note 3 ($\$200,000 \times 10\% \times 3/12$)	<u>5,000</u>
Total interest revenue	<u>\$21,000</u>

Problem 7–7

Requirement 1

Alternative a:

To record the borrowing of \$500,000 and signing of a promissory note:

July 1, 2024

Cash.....	500,000	
Notes payable		500,000

Alternative b:

To record the transfer of receivables:

July 1, 2024

Cash ($\$550,000 \times 98\%$).....	539,000	
Loss on sale of receivables ($2\% \times \$550,000$)	11,000	
Accounts receivable		550,000

Requirement 2

Alternative a:

July, 2024

Cash ($80\% \times \$780,000$).....	624,000	
Accounts receivable		624,000

July 31, 2024

Interest expense ($\$500,000 \times 12\% \times 1/12$)	5,000	
Notes payable	500,000	
Cash.....		505,000

Problem 7–7 (concluded)

Alternative b:

\$550,000 of accounts receivable are now held by the bank, and presumably the bank has collected $0.8 \times \$550,000 = \$440,000$ during July. Lonergan still holds accounts receivable of $(\$780,000 - \$550,000 = \$230,000)$, so should have collected $0.8 \times \$230,000 = \$184,000$ during July.

July 31, 2024	
Cash $[80\% \times (\$780,000 - \$550,000)]$	184,000
Accounts receivable	184,000

Requirement 3

Alternative a. – Note disclosure is required for the assignment of accounts receivable as collateral for the \$500,000 note.

Alternative b. – No disclosure is required since the transfer of receivables was made without recourse.

Problem 7–8

Cash $(90\% \times \$800,000)$	720,000
Loss on sale of receivables (to balance)	52,000
Receivable from factor $(\$60,000 \text{ fair value} - [4\% \times \$800,000])$	28,000
Accounts receivable (balance sold)	800,000

Problem 7–9

WALKEN COMPANY
Balance Sheet
December 31, 2024

Current Assets

Cash ^a	€35,000
Accounts receivable (net) ^b	60,000

^aWalken would net the €40,000 and (€5000) cash balances, yielding a balance of €35,000.

^bNet accounts receivable would be affected as follows:

Beginning balance:	€ 25,000
Credit sales	85,000
Cash collections	(30,000)
Receivables factored with Reliable	(20,000)
Receivables factored with Dependable ^c	<u>-0-</u>
Total	€60,000

^cThe receivables factored with Dependable don't qualify for sales treatment, as substantially all risks and rewards of ownership are retained by Walken.

Problem 7–10

Requirement 1

February 28, 2024		
Notes receivable	10,000	
Sales revenue.....		10,000

March 31, 2024		
Notes receivable (face amount)	8,000	
Discount on notes receivable ($\$8,000 \times 10\%$)		800
Sales revenue (difference)		7,200

April 3, 2024		
Accounts receivable	7,000	
Sales revenue.....		7,000

April 11, 2024		
Cash ($98\% \times \$7,000$)	6,860	
Sales discounts ($2\% \times \$7,000$)	140	
Accounts receivable		7,000

April 17, 2024		
Sales returns	5,000	
Accounts receivable		5,000
Inventory	3,200	
Cost of goods sold.....		3,200

Problem 7–10 (continued)

April 30, 2024

Cash ($99\% \times \$50,000$).....	49,500	
Loss on sale of receivables ($1\% \times \$50,000$).....	500	
Accounts receivable		50,000

To accrue interest on note receivable for four months:

June 30, 2024

Interest receivable	333	
Interest revenue ($\$10,000 \times 10\% \times 4/12$)		333

To record discounting of note receivable:

June 30, 2024

Cash (<i>proceeds determined below</i>).....	10,266	
Loss on sale of notes receivable (<i>to balance</i>)	67	
Interest receivable (<i>from adjusting entry</i>)		333
Notes receivable (<i>face amount</i>)		10,000

\$10,000	Face amount
<u>583</u>	Interest to maturity ($\$10,000 \times 10\% \times 7/12$)
10,583	<i>Maturity value</i>
<u>(317)</u>	Discount ($\$10,583 \times 12\% \times 3/12$)
\$10,266	<i>Cash proceeds</i>

September 30, 2024 — NO ENTRY REQUIRED

Problem 7–10 (concluded)

Requirement 2

To accrue nine months' interest on the Maddox Co. note receivable:

Discount on notes receivable	600	
Interest revenue ($\$8,000 \times 10\% \times 9/12$)		600

Requirement 3

Date	Income increase (decrease)
February 28	\$10,000
March 31	7,200
April 3	7,000
April 11	(140)
April 17	(5,000)
April 17	3,200
April 30	(500)
June 30	333
June 30	(67)
December 31	<u>600</u>
Total effect	<u>\$22,626</u>

Problem 7–11

Note	Note Face Value	Date of Note	Interest Rate	Date Discounted	Discount Rate	Proceeds Received
1	\$50,000	3-31-24	8%	6-30-24	10%	\$50,350 (1)
2	50,000	3-31-24	8%	9-30-24	10%	51,675 (2)
3	50,000	3-31-24	8%	9-30-24	12%	51,410 (3)
4	80,000	6-30-24	6%	10-31-24	10%	81,027 (4)
5	80,000	6-30-24	6%	10-31-24	12%	80,752 (5)
6	80,000	6-30-24	6%	11-30-24	10%	81,713 (6)

(1)

\$50,000	Face amount
<u>3,000</u>	Interest to maturity ($\$50,000 \times 8\% \times \frac{9}{12}$)
53,000	<i>Maturity value</i>
<u>(2,650)</u>	Discount ($\$53,000 \times 10\% \times \frac{6}{12}$)
\$50,350	<i>Cash proceeds</i>

(2)

\$50,000	Face amount
<u>3,000</u>	Interest to maturity ($\$50,000 \times 8\% \times \frac{9}{12}$)
53,000	<i>Maturity value</i>
<u>(1,325)</u>	Discount ($\$53,000 \times 10\% \times \frac{3}{12}$)
\$51,675	<i>Cash proceeds</i>

Problem 7-11 (concluded)

(3)

\$50,000	Face amount
<u>3,000</u>	Interest to maturity ($\$50,000 \times 8\% \times \frac{9}{12}$)
53,000	<i>Maturity value</i>
<u>(1,590)</u>	Discount ($\$53,000 \times 12\% \times \frac{3}{12}$)
\$51,410	<i>Cash proceeds</i>

(4)

\$80,000	Face amount
<u>2,400</u>	Interest to maturity ($\$80,000 \times 6\% \times \frac{6}{12}$)
82,400	<i>Maturity value</i>
<u>(1,373)</u>	Discount ($\$82,400 \times 10\% \times \frac{2}{12}$)
\$81,027	<i>Cash proceeds</i>

(5)

\$80,000	Face amount
<u>2,400</u>	Interest to maturity ($\$80,000 \times 6\% \times \frac{6}{12}$)
82,400	<i>Maturity value</i>
<u>(1,648)</u>	Discount ($\$82,400 \times 12\% \times \frac{2}{12}$)
\$80,752	<i>Cash proceeds</i>

(6)

\$80,000	Face amount
<u>2,400</u>	Interest to maturity ($\$80,000 \times 6\% \times \frac{6}{12}$)
82,400	<i>Maturity value</i>
<u>(687)</u>	Discount ($\$82,400 \times 10\% \times \frac{1}{12}$)
\$81,713	<i>Cash proceeds</i>

Problem 7–12

Requirement 1

In addition to sales revenue of \$1,340,000, the 2024 income statement will include (1) interest revenue, (2) bad debt expense, and (3) loss on sale of note receivable.

Interest revenue

\$200,000 note:	$\$200,000 \times 6\% \times 3/12 =$	\$3,000
\$60,000 note:	$\$60,000 \times 8\%^{(1)} \times 10/12 =$	<u>4,000</u>
Total interest revenue		<u>\$7,000</u>

⁽¹⁾The interest rate on the \$60,000 note can be determined as follows:

Interest receivable in 12/31/2024 balance sheet =	\$6,800
Less: Interest on \$200,000 note: $\$200,000 \times 6\% \times 6/12 =$	<u>(6,000)</u>
Interest on \$60,000 note	\$ 800

\$800 represents interest for two months (November and December of 2024) or \$400 per month. Annual interest is $\$400 \times 12 = \$4,800$.

$\$4,800 \div \$60,000 = 8\%$ interest rate.

Bad debt expense

Analysis of accounts receivable

Beginning accounts receivable (\$218,000 + \$24,000)	\$ 242,000
Add: Credit sales	1,340,000
Less: Cash collections	(1,280,000)
Less: Write-offs	<u>(22,000)</u>
Ending accounts receivable	<u>\$ 280,000</u>

Analysis of allowance for uncollectible accounts

Beginning allowance	\$24,000
Add: Bad debt expense	?
Less: Write-offs	<u>(22,000)</u>
Ending allowance ⁽²⁾	<u>\$28,000</u>

Therefore, bad debt expense is **\$26,000** ($\$24,000 - \$22,000 - \$28,000$)

⁽²⁾ $\$280,000 \times 10\% = \$28,000$

Problem 7–12 (concluded)

Loss on sale of notes receivable

Interest accrued on the \$200,000 note for nine months (6/30/2024 to 3/31/2025):

$$\$200,000 \times 6\% \times 9/12 = \$9,000$$

Calculation of cash proceeds received from discounting note:

\$200,000	Face amount
<u>12,000</u>	Interest to maturity (\$200,000 × 6%)
212,000	<i>Maturity value</i>
<u>(4,240)</u>	Discount (\$212,000 × 8% × 3/12)
\$207,760	<i>Cash proceeds</i>

Carrying value of note	\$209,000 (\$200,000 + \$9,000 interest receivable)
Less: Cash proceeds	<u>(207,760)</u>
Loss on sale of notes receivable	\$ 1,240

Requirement 2

Accounts receivable, net of \$28,000 allowance for uncollectible accounts	\$252,000
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Requirement 3

Accounts receivable turnover ratio:

$$\frac{\$1,340,000}{\$235,000^{(3)}} = \mathbf{5.7 \text{ times}}$$

$$^{(3)} (\$218,000 + \$252,000) \div 2 = \$235,000$$

Problem 7–13

Requirement 1

Computation of balance per books:

<i>Balance per bank statement</i>	\$14,632.12
Add: Deposits outstanding	575.00
Deduct: Checks outstanding	(1,320.25)
Error in recording rent check	(18.00)
Add: Automatic mortgage payment	450.00
Add: Bank service charges	14.00
Deduct: Deposit credit to company's account in error	(875.00)
Add: NSF check charge	85.00
<i>Balance per books</i>	<u>\$13,542.87</u>

Step 1: Bank Balance to Corrected Balance

<i>Balance per bank statement</i>	\$14,632.12
Add: Deposits outstanding	575.00
Deduct:	
Bank error—deposit incorrectly credited to company account	(875.00)
Checks outstanding	<u>(1,320.25)</u>
Corrected cash balance	<u>\$13,011.87</u>

Step 2: Book Balance to Corrected Balance

<i>Balance per books</i>	\$13,542.87
Add: Error in recording rent check	18.00
Deduct:	
Automatic payment on note	(450.00)
Service charges	(14.00)
NSF checks	<u>(85.00)</u>
Corrected cash balance	<u>\$13,011.87</u>

Problem 7–13 (concluded)

Requirement 2

To correct error in recording cash disbursement for rent:

Cash.....	18	
Rent expense		18

To record credits to cash revealed by the bank reconciliation:

Interest expense.....	350	
Notes payable.....	100	
Miscellaneous expense (bank service charges) .	14	
Accounts receivable (NSF checks)	85	
Cash.....		549

Requirement 3

Checking account balance	\$13,011.87
Petty cash	200.00
U.S. treasury bills	<u>5,000.00</u>
Total cash and cash equivalents	<u>\$18,211.87</u>

Problem 7–14

Requirement 1

Step 1: Bank Balance to Corrected Balance

<i>Balance per bank statement</i>	\$3,851
Add: Deposits outstanding	2,150 (1)
Deduct:	
Bank error—deposit incorrectly credited to company account	(1,300)
Outstanding checks	<u>(831) (2)</u>
Corrected cash balance	<u>\$3,870</u>

Step 2: Book Balance to Corrected Balance

<i>Balance per books</i>	\$4,422
Deduct:	
Error in recording check #411	(90)
Service charges	(22)
NSF checks	<u>(440)</u>
Corrected book balance	<u>\$3,870</u>

(1) Receipts	\$42,650
Less: December receipts deposited:	
Bank deposits	\$43,000
Less: Deposit error	(1,300)
Less: Prior month's deposits outstanding	<u>(1,200)</u>
Deposits outstanding, Dec. 31	<u>40,500</u>
	<u>\$ 2,150</u>

(2) Dec. disbursements	\$41,853
Error in recording check #411	90
Less: December checks cleared:	
Total checks cleared	\$41,918
Prior month's checks:	
#363	\$123
#380	56
#381	86
#382	<u>340</u>
December checks outstanding	<u>(605)</u>
Add: check # 365	630
Total checks outstanding, Dec. 31	<u>201</u>
	<u><u>\$ 831</u></u>

Problem 7–14 (concluded)

Requirement 2

To record credits to cash revealed by the bank reconciliation:

Advertising expense	90	
Miscellaneous expense (bank service charges) .	22	
Accounts receivable (NSF checks)	440	
Cash		552

Problem 7–15

Requirement 1

	(\$ in millions)
Land.....	16
Loss on troubled debt restructuring.....	6
Notes receivable	20
Interest receivable	2

Requirement 2

ANALYSIS

Previous Value:

Accrued 2023 interest	(10% × \$20,000,000)	\$ 2,000,000	
Principal		<u>20,000,000</u>	
<i>Carrying amount of the receivable</i>			\$22,000,000

New Value:

Interest	\$1 million	x	3.16987 *	=	\$ 3,169,870	
Principal	\$15 million	x	0.68301 **	=	<u>10,245,150</u>	
<i>Present value of the receivable</i>						<u>(13,415,020)</u>
Loss:						<u>\$ 8,584,980</u>

* Present value of an ordinary annuity of \$1: $n = 4$, $i = 10\%$ (from Table 4)

** Present value of \$1: $n = 4$, $i = 10\%$ (from Table 2)

JOURNAL ENTRIES

January 1, 2024

Bad debt expense (to balance)	8,584,980	
Interest receivable (10% × \$20,000,000).....		2,000,000
Allowance for uncollectible accounts (\$20,000,000 – \$13,415,020)		6,584,980

December 31, 2024

Cash (required by new agreement).....	1,000,000	
Allowance for uncollectible accounts (to balance).....	341,502	
Interest revenue (10% × \$13,415,020).....		1,341,502

December 31, 2025

Cash (required by new agreement).....	1,000,000	
Allowance for uncollectible accounts (to balance).....	375,652	
Interest revenue (10% × \$13,756,522).....		1,375,652

Problem 7–15 (continued)

December 31, 2026

Cash (required by new agreement)	1,000,000	
Allowance for uncollectible accounts (to balance)	413,217	
Interest revenue (10% × \$14,132,174).....		1,413,217

December 31, 2027

Cash (required by new agreement)	1,000,000	
Allowance for uncollectible accounts (to balance)	454,609	
Interest revenue (10% × \$14,545,391).....		1,454,609*

Cash (required by new agreement)	15,000,000	
Allowance for uncollectible accounts (to balance)	5,000,000	
Notes receivable (balance)		20,000,000

* rounded to amortize the note to \$15,000,000 (per schedule below)

Amortization Schedule – Not required

	Cash Interest by agreement	Effective Interest 10% × Outstanding Balance	Increase in Balance Discount Reduction	Outstanding Balance
				13,415,020
1	1,000,000	.10(13,415,020) = 1,341,502	341,502	13,756,522
2	1,000,000	.10(13,756,522) = 1,375,652	375,652	14,132,174
3	1,000,000	.10(14,132,174) = 1,413,217	413,217	14,545,391
4	<u>1,000,000</u>	.10(14,545,391) = <u>1,454,609*</u>	<u>454,609</u>	15,000,000
	4,000,000	5,584,980	1,584,980	

* rounded