Chapter 5
Receivables and Sales

REVIEW QUESTIONS

Question 5-1 (LO 5-1)

When recording a credit sale, we debit accounts receivable. Accounts receivable are reported as assets in the balance sheet.

Question 5-2 (LO 5-1)

Trade receivables are amounts receivable from customers due to credit sales. Nontrade receivables are receivables from those other than customers and include tax refund claims, interest receivable, and loans by the company to other entities including stockholders and employees.

Question 5-3 (LO 5-2)

Trade discounts represent a reduction in the listed price of a product or service. A sales discount represents a reduction, not in the selling price of a product or service, but in the amount to be paid by a credit customer if paid within a specified period of time. Sales discounts are reported as contra revenues in the income statement.

Question 5-4 (LO 5-2)

Sales returns and allowances are contra revenue accounts and therefore have normal debit balances. Sales returns occur when a customer returns a product. Sales allowances occur when the seller reduces the customer's balance owed or provides at least a partial refund because of some deficiency in the company's product or service. Sales returns and allowances are reported as contra revenues in the income statement.

Question 5-5 (LO 5-2)

An example of recognizing revenue at one point would be selling a car. An example of recognizing revenue over a period would be providing an annual magazine subscription.

Question 5-6 (LO 5-3)

Companies should account for uncollectible accounts receivable using the allowance method. Under this method, a company estimates future bad debts and records those estimates as an expense and contra asset in the current period.

Question 5-7 (LO 5-3)

The two purposes include reducing accounts receivable to the amount expected to be collected and reporting expenses (bad debts) typically in the same period as the revenue (credit sales) they helped generate.

Answers to Review Questions (continued)

Question 5-8 (LO 5-3)

Allowing for uncollectible accounts involves recording a contra asset for the amount of receivables expected not to be collected. This contra account (Allowance for Uncollectible Accounts) is reported with Accounts Receivable in the balance sheet. The difference is net accounts receivable, which equals the net amount of cash expected to be collected.

Question 5-9 (LO 5-3)

The two financial statement effects of establishing an allowance for uncollectible accounts are: (1) reducing assets and (2) increasing expenses (or reducing net income and ultimately retained earnings).

Question 5-10 (LO 5-3)

The amount expected to be collected means that there is a possibility that not all accounts receivable will be collected and the balance sheet should not overstate assets without recognition of this possibility. Thus, accounts receivable are presented at a net amount which is equal to total accounts receivable minus the allowance for uncollectible accounts.

Question 5-11 (LO 5-4)

The write-off of an account as uncollectible includes a debit to the Allowance for Uncollectible Accounts and a credit to Accounts Receivable for the amount being written off. The write-off has no effect on total assets or net income at the time of the write-off.

Question 5-12 (LO 5-4)

A debit balance in the allowance for uncollectible accounts before adjustment could occur if actual bad debts in the current year exceed the previous year’s ending balance of allowance for uncollectible accounts, which is the beginning balance of the account in the current year.

Question 5-13 (LO 5-4)

A credit balance occurs in Allowance for Uncollectible Accounts before adjustment when actual bad debts in the current year are less than the previous year’s ending balance of the account, which reflected an estimate of the amount of accounts receivable not expected to be collected.

Question 5-14 (LO 5-5)

The age of accounts receivable refers to how far past due accounts are. The older the account, the less likely it is to be collected. The aging method estimates uncollectible accounts receivable by associating a percentage probability of uncollectibility to each account and multiplying that percentage by the account balance to determine the estimated uncollectible amount.

Question 5-15 (LO 5-5)

The year-end adjustment to the allowance for uncollectible accounts normally includes a debit to bad debt expense and a credit to the allowance for uncollectible accounts. The amount of the adjustment is the amount needed to adjust the allowance for uncollectible accounts to its estimated ending balance when using the aging method or the percentage of receivables method. If the allowance account has a credit balance before adjustment, the amount of the adjustment is the year-end estimate of uncollectible accounts minus the existing credit balance. If the allowance account has a debit balance before adjustment, the amount of the adjustment is the year-end estimate of uncollectible accounts plus the existing debit balance.

Answers to Review Questions (continued)

Question 5-16 (LO 5-6)

The allowance method requires companies to estimate future bad debts and to reflect those estimates in the current period as a balance in an allowance for uncollectible accounts as a contra account to accounts receivable. The amount required to adjust the allowance account is offset to bad debt expense. The direct write-off method makes no attempt to estimate future bad debts. Instead, the reduction in accounts receivable and increase in expense associated with bad debts is recorded only when the bad debt actually occurs. Only the allowance method is allowed by financial accounting rules.

Question 5-17 (LO 5-7)

One common difference is that notes receivable require the borrower to pay interest. Also, notes receivable typically arise not from sales to customers, but from loans to other entities including affiliated companies, loans to stockholders and employees, and occasionally the sale of merchandise, other assets, or services.

Question 5-18 (LO 5-7)

Face value – amount of the note.

Annual interest rate – the interest charged by the lender to the borrower stated on an annual (twelve month) basis.

Fraction of the year – the proportion of the year that the note is outstanding.

Question 5-19 (LO 5-7)

Interest	=	Face value	x	Annual interest rate	x	Fraction of the year
$90	=	$2,000	x	6%	x	9/12

Question 5-20 (LO 5-7)

Recording interest earned but not yet received includes a debit to interest receivable and a credit to interest revenue. The amount is calculated as the face value of the note times the annual interest rate times the fraction of the year the note is outstanding.

Question 5-21 (LO 5-8)

The receivables turnover ratio equals net credit sales divided by average accounts receivable. The ratio shows the number of times during a year that the average accounts receivable balance is collected (or "turns over"). Typically, a higher ratio is a good indicator of a company's effectiveness in managing receivables.

Question 5-22 (LO 5-8)

The average collection period equals 365 days divided by the receivables turnover ratio. The ratio shows the approximate number of days the average accounts receivable balance is outstanding. Typically, a lower number is a good indicator of a company's effectiveness in managing receivables.

Answers to Review Questions (continued)

Question 5-23 (LO 5-8)

A company can attempt to boost sales, and thereby increase its value, by allowing customers to purchase products and services on account. Some customers may be unwilling or unable to purchase products and services in the current period if immediate cash payment is required. However, failure to recognize high-risk customers or to have a reliable collection policy can result in uncollectible accounts and lost resources, thereby lowering the value of a company. Having enough cash is important to running any business. The more quickly a company can collect on receivables, the more quickly it can use that cash to generate even more cash by reinvesting in the business and generating additional sales.

Question 5-24 (LO 5-9)

The percentage of receivables method is commonly used in practice. Financial accounting rules require accounts receivable to be stated at the amount expected to be collected, and this is better accomplished through the percentage of receivables method. The percentage of credit sales method focuses on matching current period bad debt expense with current period credit sales, that is, the matching principle.

Question 5-25 (LO 5-9)

The percentage of receivables method estimates future bad debts based on a balance sheet account – accounts receivable. The percentage of credit sales method estimates future bad debts based on an income statement account – credit sales. The current emphasis on better measurement of assets (balance sheet focus) outweighs the emphasis on better measurement of net income (income statement focus). This is why the percentage of receivables method (balance sheet method) is the preferable method, while the percentage of credit sales method (income statement method) is allowed only if amounts do not differ significantly from estimates using the percentage of receivables method.

BRIEF EXERCISES

Brief Exercise 5-1 (LO 5-2)

	Debit	Credit
Accounts Receivable	**3,080**	
Service Revenue		**3,080**
(*Provide services of $3,500 on account with 12% trade discount*)		
Accounts Receivable	**700**	
Service Revenue		**700**
(*Provide services on account*)		

Brief Exercise 5-2 (LO 5-2)

Total sales	$750,000
Less:	
Sales returns ($50 + $6)	(56,000)
Sales allowances ($30 + $4)	(34,000)
Sales discounts ($20 + $2)	(22,000)
Net sales	$638,000

Brief Exercise 5-3 (LO 5-3)

	Debit	Credit
Bad Debt Expense	**2,000**	
Allowance for Uncollectible Accounts		**2,000**
(*Estimate future bad debts*)		
(*$20,000 x 10% = $2,000*)		

Brief Exercise 5-4 (LO 5-4)

	Debit	Credit
Allowance for Uncollectible Accounts	**17,000**	
Accounts Receivable		**17,000**
(*Write off uncollectible accounts*)		

Allowance for uncollectible accounts = \$15,000 (beginning) − \$17,000 (write-off)
= −\$2,000 or \$2,000 debit

Brief Exercise 5-5 (LO 5-4)

September 9	Debit	Credit
Accounts Receivable	**7,000**	
Allowance for Uncollectible Accounts		**7,000**
(*Re-establish portion of account previously written off*)		
Cash	**7,000**	
Accounts Receivable		**7,000**
(*Cash collection on account*)		

Brief Exercise 5-6 (LO 5-5)

	Debit	Credit
Bad Debt Expense	**2,400**	
Allowance for Uncollectible Accounts		**2,400**
(*Estimate future bad debts*)		
(*$25,000 x 12% − $600 = $2,400*)		

Brief Exercise 5-7 (LO 5-5)

	Debit	Credit
Bad Debt Expense	**3,600**	
Allowance for Uncollectible Accounts		**3,600**
(*Estimate future bad debts*)		
(*$25,000 x 12% + $600 = $3,600*)		

The amount in BE5-7 is greater because the balance of Allowance for Uncollectible Accounts before adjustment is a debit (or negative). This means that actual bad debts in the current year have been greater than expected, and the year-end adjustment accounts for the additional bad news.

Brief Exercise 5-8 (LO 5-5)

	Debit	Credit
Bad Debt Expense	**12,000**	
Allowance for Uncollectible Accounts		**12,000**
(*Estimate future bad debts*)		
(*$15,000 − $3,000 = $12,000*)		

Brief Exercise 5-9 (LO 5-5)

	Debit	Credit
Bad Debt Expense	**18,000**	
Allowance for Uncollectible Accounts		**18,000**
(*Estimate future bad debts*)		
(*$15,000 + $3,000 = $18,000*)		

The amount in BE5-9 is greater because the balance of Allowance for Uncollectible Accounts before adjustment is a debit (or negative). This means that actual bad debts in the current year have been greater than expected, and the year-end adjustment accounts for the additional bad news.

Brief Exercise 5-10 (LO 5-5)

Age Group	Amount Receivable	Estimated Percent Uncollectible	**Estimated Amount Uncollectible**
Not yet due	$40,000	5%	**$2,000**
1-30 days past due	11,000	20%	**2,200**
More than 30 days past due	5,000	30%	**1,500**
Total	$56,000		**$5,700**

Brief Exercise 5-11 (LO 5-5)

Age Group	Amount Receivable	Estimated Percent Uncollectible	**Estimated Amount Uncollectible**
Not yet due	$25,000	4%	**$1,000**
1-60 days past due	10,000	25%	**2,500**
More than 60 days past due	5,000	50%	**2,500**
Total	$40,000		**$6,000**

	Debit	Credit
Bad Debt Expense	**5,000**	
Allowance for Uncollectible Accounts		**5,000**
(*Estimate future bad debts*)		
(*$6,000 − $1,000 = $5,000*)		

Brief Exercise 5-12 (LO 5-6)

March 14, 2022	Debit	Credit
Bad Debt Expense	**2,000**	
Accounts Receivable		**2,000**
(*Write off customer's account using the direct write-off method*)		

Brief Exercise 5-13 (LO 5-6)

December 31, 2021	Debit	Credit
No entry necessary		

During 2022	Debit	Credit
Bad Debt Expense	**3,000**	
Accounts Receivable		**3,000**
(*Write off customers' accounts using the direct write-off method*)		

Brief Exercise 5-14 (LO 5-6)

If Brady uses the direct write-off method, then no adjustment is recorded at the end of 2021 to estimate future bad debts. Instead, if Brady uses the allowance method, the following adjustment would be recorded at the end of 2021:

December 31, 2021	Debit	Credit
Bad Debt Expense	**9,000**	
Allowance for Uncollectible Accounts		**9,000**
(*Estimate future bad debts*)		

Brief Exercise 5-15 (LO 5-7)

Face Value	Annual interest rate	Fraction of the year	Interest

$11,000	6%	4 months	**$220**
$30,000	5%	**12 months**	$1,500
$35,000	**7%**	6 months	$1,225
$17,500	8%	6 months	$700

Brief Exercise 5-16 (LO 5-7)

Interest Revenue

2021: $40,000 x 9% x 3/12 = $900

2022: $40,000 x 9% x 9/12 = $2,700

Brief Exercise 5-17 (LO 5-9)

	Debit	Credit
Bad Debt Expense	**4,050**	
Allowance for Uncollectible Accounts		**4,050**
(*Estimate future bad debts*)		
(*$135,000 x 3% = $4,050*)		

Brief Exercise 5-18 (LO 5-9)

	Debit	Credit
Bad Debt Expense	**4,050**	
Allowance for Uncollectible Accounts		**4,050**
(*Estimate future bad debts*)		
(*$135,000 x 3% = $4,050*)		

Brief Exercise 5-19 (LO 5-1, 5-2, 5-3, 5-5, 5-6, 5-7)

1. C
2. E
3. A
4. H
5. B
6. D
7. G
8. F
9. I

EXERCISES

Exercise 5-1 (LO 5-1)

May 7	Debit	Credit
Accounts Receivable	**4,000**	
Service Revenue		**4,000**
(*Provide services on account*)		

May 13		
Cash	**4,000**	
Accounts Receivable		**4,000**
(*Collect cash on account*)		

Exercise 5-2 (LO 5-2)

May 1	Debit	Credit
Cash	**270**	
Service Revenue		**270**
(*Provide services of $300 with a 10% trade discount*)		

Exercise 5-3 (LO 5-1, 5-2)

March 12	Debit	Credit
Accounts Receivable	**11,000**	
Service Revenue		**11,000**
(*Provide services on account*)		

March 20		
Cash	**10,780**	
Sales Discounts	**220**	
Accounts Receivable		**11,000**
(*Receive cash on account less a 2% sales discount)*		
(*Sales discount = $11,000 x 2%*)		

Exercise 5-4 (LO 5-1, 5-2)

March 12	Debit	Credit
Accounts Receivable	**11,000**	
Service Revenue		**11,000**
(*Provide services on account*)		

March 31		
Cash	**11,000**	
Accounts Receivable		**11,000**
(*Receive cash on account)*		

Exercise 5-5 (LO 5-1, 5-2)

March 12	Debit	Credit
Service Fee Expense	**11,000**	
Accounts Payable		**11,000**
(*Receive services on account*)		

March 31		
Accounts Payable	**11,000**	
Cash		**11,000**
(*Pay cash on account)*		

Exercise 5-6 (LO 5-1, 5-2)

Requirement 1

April 25	Debit	Credit
Accounts Receivable	**3,500**	
Service Revenue		**3,500**
(*Provide services on account*)		

Requirement 2

April 27	Debit	Credit
Sales Allowances	**600**	
Accounts Receivable		**600**
(*Record sales allowance for credit sale*)		

Requirement 3

April 30	Debit	Credit
Cash	**2,900**	
Accounts Receivable		**2,900**
(*Collect cash on account less sales allowance*)		

Requirement 4

Service revenue	\$3,500
Less: Sales allowances	(600)
Net sales	\$2,900

Exercise 5-7 (LO 5-3, 5-4)

Requirement 1

December 31, 2021	Debit	Credit
Bad Debt Expense	**12,500**	
Allowance for Uncollectible Accounts		**12,500**
(*Estimate future bad debts*)		
(*$12,500 = $50,000 x 25%*)		

Requirement 2

During 2022	Debit	Credit
Allowance for Uncollectible Accounts	**10,000**	
Accounts Receivable		**10,000**
(*Write off uncollectible accounts*)		

Allowance for Uncollectible Accounts

Beginning balance in 2022	$12,500	credit
Less: Write-offs during 2022	(10,000)	debit
Ending balance in 2022 (before adjustment)	$ 2,500	credit

Requirement 3

During 2022	Debit	Credit
Allowance for Uncollectible Accounts	**15,000**	
Accounts Receivable		**15,000**
(*Write off uncollectible accounts*)		

Allowance for Uncollectible Accounts

Beginning balance in 2022	$12,500	credit
Less: Write-offs during 2022	(15,000)	debit
Ending balance in 2022 (before adjustment)	$ 2,500	debit*

* A debit balance in Allowance for Uncollectible Accounts indicates the account currently has a negative balance.

Exercise 5-8 (LO 5-5)

Requirement 1

December 31, 2021	Debit	Credit
Bad Debt Expense	**7,900**	
Allowance for Uncollectible Accounts		**7,900**
(*Estimate future bad debts*)		
(*\$7,900 = \$60,000 x 15% − \$1,100*)		

Requirement 2

Bad debt expense	\$7,900
Allowance for uncollectible accounts	\$9,000*

*\$9,000 = \$7,900 credit adjustment + \$1,100 credit balance before adjustment

Requirement 3

Total accounts receivable	\$ 60,000
Less: Allowance for uncollectible accounts	(9,000)
Net accounts receivable	\$ 51,000

Exercise 5-9 (LO 5-5)

Requirement 1

December 31, 2021	Debit	Credit
Bad Debt Expense	**28,100**	
Allowance for Uncollectible Accounts		**28,100**
(*Estimate future bad debts*)		
[*\$28,100* =(*\$130,000 x 20%*) + *\$2,100*]		

Requirement 2

Bad debt expense	\$28,100
Allowance for uncollectible accounts	\$26,000*

*\$26,000 = \$28,100 credit adjustment − \$2,100 debit balance before adjustment

Requirement 3

Total accounts receivable	\$130,000
Less: Allowance for uncollectible accounts	(26,000)
Net accounts receivable	\$104,000

Exercise 5-10 (LO 5-5)

Requirement 1

Age Group	Amount Receivable	Estimated Percent Uncollectible	**Estimated Amount Uncollectible**
Not yet due	$50,000	15%	**$ 7,500**
0-30 days past due	11,000	20%	**2,200**
31-90 days past due	8,000	45%	**3,600**
More than 90 days past due	1,000	85%	**850**
Total	$70,000		**$14,150**

Requirement 2

December 31, 2021	Debit	Credit
Bad Debt Expense	**12,750**	
Allowance for Uncollectible Accounts		**12,750**
(*Estimate future bad debts*)		
(*$12,750 = $14,150 − $1,400*)		

Requirement 3

Total accounts receivable	$ 70,000
Less: Allowance for uncollectible accounts	(14,150)
Net accounts receivable	$ 55,850

Exercise 5-11 (LO 5-5)

Requirement 1

Age Group	Amount Receivable	Estimated Percent Uncollectible	**Estimated Amount Uncollectible**
Not yet due	$ 60,000	4%	**$ 2,400**
0-60 days past due	26,000	20%	**5,200**
61-120 days past due	16,000	30%	**4,800**
More than 120 days past due	8,000	85%	**6,800**
Total	$110,000		**$19,200**

Requirement 2

December 31, 2021	Debit	Credit
Bad Debt Expense	**23,200**	
Allowance for Uncollectible Accounts		**23,200**
(*Estimate future bad debts*)		
(*$23,200 = $19,200 + $4,000*)		

Requirement 3

Total accounts receivable	$110,000
Less: Allowance for uncollectible accounts	(19,200)
Net accounts receivable	$ 90,800

Exercise 5-12 (LO 5-3, 5-4, 5-5)

Credit sales transaction cycle	Assets	Liabilities	Stockholders' equity	Revenues	Expenses
1. Provide services on account	**I**	**NE**	**I**	**I**	**NE**
2. Estimate uncollectible accounts	**D**	**NE**	**D**	**NE**	**I**
3. Write off accounts as uncollectible	**NE**	**NE**	**NE**	**NE**	**NE**
4. Collect on account previously written off	**NE**	**NE**	**NE**	**NE**	**NE**

Exercise 5-13 (LO 5-6)

Requirement 1

	Debit	Credit
1.		
Accounts Receivable	**190,000**	
Service Revenue		**190,000**
(*Provide service on account*)		
2.		
Cash	**185,000**	
Accounts Receivable		**185,000**
(*Collect cash on account*)		
3.		
Bad Debt Expense	**4,650**	
Allowance for Uncollectible Accounts		**4,650**
(*Estimate future bad debts*)		
(*$4,650 = $31,000 x 15%*)		
4.		
Allowance for Uncollectible Accounts	**8,000**	
Accounts Receivable		**8,000**
(*Write off actual bad debts*)		

Requirement 2

	Debit	Credit
1.		
Accounts Receivable	**190,000**	
Service Revenue		**190,000**
(*Provide services on account*)		
2.		
Cash	**185,000**	
Accounts Receivable		**185,000**
(*Collect cash on account*)		
3.		
No entry		
4.		
Bad Debt Expense	**8,000**	
Accounts Receivable		**8,000**
(*Write off actual bad debts*)		

Exercise 5-13 (concluded)

Requirement 3

Bad Debt Expense	Allowance Method	Direct Write-off Method
2021:	$4,650	$0
2022:	$0	$8,000

Under the allowance method, we record bad debt expense in the period we estimate the bad debts (2021). In 2021, $4,650 would be recorded for bad debt expense under the allowance method only, so net income would be lower by $4,650 under the allowance method compared to the direct write-off method. Under the direct write-off method, we record bad debts when they actually occur (2022). In 2022, $8,000 would be recorded for bad debt expense under the direct write-off method only, so net income would be lower by $8,000 under the direct write-off method compared to the allowance method. The difference in expenses between years relates to the fact that bad debt *estimates* in 2021 did not prove to be the *actual* amount occurring in 2022.

Exercise 5-14 (LO 5-7)

1. April 1	Debit	Credit
Notes Receivable	**7,000**	
Service Revenue		**7,000**
(*Provide services and accept note*)		

2. June 1		
Notes Receivable	**11,000**	
Cash		**11,000**
(*Lend cash to vendor and accept note*)		

3. November 1		
Notes Receivable	**6,000**	
Accounts Receivable		**6,000**
(*Cancel accounts receivable and accept note*)		

Exercise 5-15 (LO 5-7)

March 1	Debit	Credit
Notes Receivable	**11,000**	
Service Revenue		**11,000**
(*Provide legal services and accept note*)		

September 1		
Cash	**11,495**	
Notes Receivable		**11,000**
Interest Revenue		**495**
(*Receive cash on note receivable and interest*)		
(*Interest revenue = $11,000 x 9% x 6/12*)		

Exercise 5-16 (LO 5-7)

March 1	Debit	Credit
Legal Fees Expense	**11,000**	
Notes Payable		**11,000**
(*Receive legal services and sign note*)		

September 1	Debit	Credit
Notes Payable	**11,000**	
Interest Expense	**495**	
Cash		**11,495**
(*Pay cash on note payable and interest*)		
(*Interest expense = $11,000 x 9% x 6/12*)		

Exercise 5-17 (LO 5-7)

Requirement 1

April 1, 2021	Debit	Credit
Notes Receivable	**600,000**	
Cash		**600,000**
(*Lend cash to supplier and accept note*)		

Requirement 2

December 31, 2021	Debit	Credit
Interest Receivable	**49,500**	
Interest Revenue		**49,500**
(*Adjust interest receivable*)		
(*Interest revenue = $600,000 x 11% x 9/12*)		

Requirement 3

April 1, 2022	Debit	Credit
Cash	**666,000**	
Notes Receivable		**600,000**
Interest Receivable		**49,500**
Interest Revenue		**16,500**
(*Receive cash on note receivable and interest*)		
(*Interest revenue = $600,000 x 11% x 3/12*)		

Exercise 5-18 (LO 5-8)

			WalCo	TarMart	CostGet
Receivables turnover ratio	=	Net sales / Average accounts receivable	$322,427 / ($1,815 + $2,762) /2	$67,878 / ($6,166 + $6,694) /2	$68,963 / ($629 + $665) /2
	=		140.9 times	10.6 times	106.6 times
Average collection period	=	365 / Receivables turnover ratio	365 / 140.9	365 / 10.6	365 / 106.6
	=		2.6 days	34.4 days	3.4 days

Of these three companies, WalCo appears to be collecting cash most efficiently from sales.

Exercise 5-19 (LO 5-9)

Requirement 1

December 31, 2021	Debit	Credit
Bad Debt Expense	**5,500**	
Allowance for Uncollectible Accounts		**5,500**
(*Estimate future bad debts*)		
[*$5,500 = ($55,000 x 12%) − $1,100*]		

Requirement 2

December 31, 2021	Debit	Credit
Bad Debt Expense	**7,800**	
Allowance for Uncollectible Accounts		**7,800**
(*Estimate future bad debts*)		
(*$7,800 = $260,000 x 3%*)		

Requirement 3

	Percentage of receivables method	Percentage of credit sales method
Total assets	−$5,500	−$7,800
Net income	−$5,500	−$7,800

In this example, the amount of the adjustment is greater under the percentage of credit sales approach. This means that both assets and net income will be lower in 2021 under this approach.

Exercise 5-20 (LO 5-9)

Requirement 1

December 31, 2021	Debit	Credit
Bad Debt Expense	**7,700**	
Allowance for Uncollectible Accounts		**7,700**
(*Estimate future bad debts*)		
(*\$7,700 = \$55,000 x 12% + \$1,100*)		

Requirement 2

December 31, 2021	Debit	Credit
Bad Debt Expense	**7,800**	
Allowance for Uncollectible Accounts		**7,800**
(*Estimate future bad debts*)		
(*\$7,800 = \$260,000 x 3%*)		

Requirement 3

	Percentage of receivables method	Percentage of credit sales method
Total assets	−\$7,700	−\$7,800
Net income	−\$7,700	−\$7,800

In this example, the amount of the adjustment is greater under the percentage of credit sales approach. This means that both assets and net income will be lower in 2021 under this approach.

Exercise 5-21 (LO 5-1, 5-4, 5-5, 5-7, 5-9)

Requirement 1

January 2	Debit	Credit
Cash	**35,100**	
Service Revenue		**35,100**
(Provide services for cash)		

January 6	Debit	Credit
Accounts Receivable	**72,400**	
Service Revenue		**72,400**
(*Provide services on account*)		

January 15	Debit	Credit
Allowance for Uncollectible Accounts	**1,000**	
Accounts Receivable		**1,000**
(*Write off uncollectible accounts*)		

January 20	Debit	Credit
Salaries Expense	**31,400**	
Cash		**31,400**
(*Pay for salaries*)		

January 22	Debit	Credit
Cash	**70,000**	
Accounts Receivable		**70,000**
(*Receive cash on account*)		

January 25	Debit	Credit
Accounts Payable	**5,500**	
Cash		**5,500**
(*Pay cash on account*)		

January 30	Debit	Credit
Utilities Expense	**13,700**	
Cash		**13,700**
(*Pay for utilities*)		

Exercise 5-21 (continued)

Requirement 2

(a) January 31	Debit	Credit
Bad Debt Expense	**1,100**	
Allowance for Uncollectible Accounts		**1,100**
(*Adjust uncollectible accounts*)		
(*\$1,100 = (\$5,000×20%)+(\$10,000[a]×5%)−\$400[b]*)		
[a] *\$10,000 =\$13,600+\$72,400−\$70,000−\$1,000−\$5,000*		
[b] *\$400 = \$1,400−\$1,000*		

(b) January 31	Debit	Credit
Supplies Expense	**1,800**	
Supplies		**1,800**
(*Adjust supplies*)		
(*\$1,800 = \$2,500−\$700*)		

(c) January 31	Debit	Credit
Interest Receivable	**100**	
Interest Revenue		**100**
(*Adjust interest revenue*)		
(\$100 = \$20,000×*6%×1/12*)		

(d) January 31	Debit	Credit
Salaries Expense	**33,500**	
Salaries Payable		**33,500**
(*Adjust salaries payable*)		

Exercise 5-21 (continued)
Requirement 3

3D Family Fireworks
Adjusted Trial Balance
January 31, 2021

Accounts	Debit	Credit
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	$272,700	$272,700

Exercise 5-21 (continued)

Requirement 3 (continued)

Accounts	Ending Balance		Beginning balance in **bold**, entries during January in blue, and adjusting entries in red.
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 5-21 (continued)

Requirement 4

3D Family Fireworks
Income Statement
For the year ended January 31, 2021

Revenues:		
Service revenue		$107,500
Interest revenue		100
Total revenues		107,600
Expenses:		
Supplies expense		1,800
Salaries expense		64,900
Utilities expense		13,700
Bad debt expense		1,100
Total expenses		81,500
Net income		$ 26,100

Requirement 5

3D Family Fireworks
Balance Sheet
January 31, 2021

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

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

Exercise 5-21 (concluded)

Requirement 6

January 31, 2021	Debit	Credit
Service Revenue	107,500	
Interest Revenue	100	
Retained Earnings		107,600
(*Close revenue accounts*)		
Retained Earnings	81,500	
Supplies expense		1,800
Salaries expense		64,900
Utilities expense		13,700
Bad debt expense		1,100
(*Close expense accounts*)		

Requirement 7

(a) The receivables turnover ratio is:

$$\text{Receivables Turnover Ratio} = \frac{\text{Net credit sales}}{\text{Average accounts receivable}} = \frac{\$72{,}400}{(\$13{,}600 + \$15{,}000) / 2} = \mathbf{5.1}$$

A ratio of 5.1 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.

Exercise 5-22 (LO 5-1, 5-2, 5-4, 5-5, 5-7)

Requirement 1

1.	Debit	Credit
Accounts Receivable	**7,000**	
Service Revenue		**7,000**
(Provide services on account)		

2.	Debit	Credit
Cash	**4,900**	
Sales Discounts	**100**	
Accounts Receivable		**5,000**
(*Receive cash on account with sales discount*)		
(\$100 = \$5,000 × 2%)		

3.	Debit	Credit
Allowance for Uncollectible Accounts	**1,500**	
Accounts Receivable		**1,500**
(*Write off uncollectible accounts*)		

Requirement 2

(a) December 31	Debit	Credit
Bad Debt Expense	**3,500**	
Allowance for Uncollectible Accounts		**3,500**
(*Adjust uncollectible accounts*)		
(\$3,500 = [(\$41,500+\$7,000−\$5,000−\$1,500)×10%]−\$700[a]		
[a] \$2,200 −\$1,500		

(c) December 31	Debit	Credit
Interest Receivable	**200**	
Interest Revenue		**200**
(*Adjust interest receivable*)		
(\$200 = \$10,000×*8%×3/12*)		

Exercise 5-22 (continued)
Requirement 3

Pop's Fireworks
Adjusted Trial Balance
December 31, 2021

Accounts	Debit	Credit
Cash	$ 26,100	
Accounts Receivable	42,000	
Allowance for Uncollectible Accounts		$ 4,200
Interest Receivable	200	
Supplies	6,700	
Notes Receivable	10,000	
Land	85,000	
Accounts Payable		12,300
Common Stock		106,000
Retained Earnings		29,900
Service Revenue		131,800
Sales Discounts	100	
Interest Revenue		200
Salaries Expense	70,900	
Utilities Expense	24,200	
Supplies Expense	15,700	
Bad Debt Expense	3,500	
Totals	$284,400	$284,400

Exercise 5-22 (continued)
Requirement 3 (continued)

Accounts	Ending Balance		Given balance in **bold**, entries during the year in blue, and adjusting entries in red.
Cash	$26,100	=	**21,200**+4,900
Accounts Receivable	42,000	=	**41,500**+7,000−5,000−1,500
Allowance for Uncollectible Accounts	4,200	=	**2,200**−1,500+3,500
Interest Receivable	200	=	200
Supplies	6,700	=	**6,700**
Notes Receivable	10,000	=	**10,000**
Land	85,000	=	**85,000**
Accounts Payable	12,300	=	**12,300**
Common Stock	106,000	=	**106,000**
Retained Earnings	29,900	=	**29,900**
Service Revenue	131,800	=	**124,800**+7,000
Sales Discounts	100	=	100
Interest Revenue	200	=	200
Salaries Expense	70,900	=	**70,900**
Utilities Expense	24,200	=	**24,200**
Supplies Expense	15,700	=	**15,700**
Bad Debt Expense	3,500	=	3,500

Exercise 5-22 (continued)

Requirement 4

Pop's Fireworks
Income Statement
For the year ended December 31, 2021

Revenues:	
Service revenue	$131,800
Sales Discounts	(100)
Interest revenue	200
Net revenues	131,900
Expenses:	
Salaries Expense	70,900
Utilities Expense	24,200
Supplies Expense	15,700
Bad debt expense	3,500
Total expenses	114,300
Net income	$ 17,600

Requirement 5

Pop's Fireworks
Balance Sheet
December 31, 2021

Assets			**Liabilities**		
Cash		$ 26,100	Accounts payable	$ 12,300	
Accounts receivable	$42,000				
Less: Allowance	(4,200)	37,800	Total current liabilities	12,300	
Interest receivable		200			
Supplies		6,700			
Total current assets		70,800	**Stockholders' Equity**		
			Common stock	106,000	
Notes receivable		10,000	Retained earnings	47,500	*
Land		85,000	Total stockholders' equity	153,500	
			Total liabilities and		
Total assets		$165,800	stockholders' equity	$165,800	

* Retained earnings = Beginning retained earnings + Net income − Dividends
= $29,900 + $17,600 − $0
= $45,700

Exercise 5-22 (concluded)

Requirement 6

January 31, 2021	Debit	Credit
Service Revenue	131,800	
Interest Revenue	200	
Sales Discounts		100
Retained Earnings		131,900
(*Close revenue accounts*)		
Retained Earnings	114,300	
Salaries Expense		70,900
Utilities Expense		24,200
Supplies Expense		15,700
Bad debt expense		3,500
(*Close expense accounts*)		

Requirement 7

(a) Bad Debt Expense = $3,500

(b) Allowance for Uncollectible Accounts = $4,200

(c) Accounts Receivable	$42,000
Allowance for Uncollectible	4,200
Amount expected to be collected	$37,800

PROBLEMS: SET A

Problem 5-1A (LO 5-1)

	Revenue recognized in 2021	
Scenario 1:	$11,000	
Scenario 2:	$1,200	(= $1,600 x 75%)
Scenario 3:	$450,000	
Scenario 4:	$35,000	

Problem 5-2A (LO 5-1, 5-2)

Requirement 1

	Debit	Credit
May 2		
No entry		
May 7		
Accounts Receivable	**1,200**	
Tour Revenue		**1,200**
(*Provide guided tour on account*)		
May 9		
No entry		
May 15		
Sales Allowances	**360**	
Accounts Receivable		**360**
(*Sales allowance for services on account*)		
(Sales allowance = $1,200 x 30%)		
May 20		
Cash	**789.60**	
Sales Discounts	**50.40**	
Accounts Receivable		**840**
(*Receive cash on account*)		
(*Sales discount = $840 x 6%*)		

Requirement 2

Outdoor Expo
Partial Income Statement

Total tour revenues	$1,200.00	
Less: Sales allowances	(360.00)	
Sales discounts	(50.40)	
Net tour revenues		$789.60

Problem 5-3A (LO 5-3, 5-4, 5-5)

Requirement 1

June 12, 2021	Debit	Credit
Accounts Receivable	**41,000**	
Service Revenue		**41,000**
(*Provide services on account*)		
September 17, 2021		
Cash	**25,000**	
Accounts Receivable		**25,000**
(*Receive cash on account*)		
December 31, 2021		
Bad Debt Expense	**7,200**	
Allowance for Uncollectible Accounts		**7,200**
(*Estimate future bad debts*)		
(*$16,000 x 45% = $7,200*)		
March 4, 2022		
Accounts Receivable	**56,000**	
Service Revenue		**56,000**
(*Provide services on account*)		
May 20, 2022		
Cash	**10,000**	
Accounts Receivable		**10,000**
(*Receive cash on account*)		
July 2, 2022		
Allowance for Uncollectible Accounts	**6,000**	
Accounts Receivable		**6,000**
(*Write off actual bad debts*)		
October 19, 2022		
Cash	**45,000**	
Accounts Receivable		**45,000**
(*Receive cash on account*)		
December 31, 2022		
Bad Debt Expense	**3,750**	
Allowance for Uncollectible Accounts		**3,750**
(*Estimate future bad debts*)		
[(*$11,000 x 45%*) − *$1,200* = *$3,750*]		

Problem 5-3A (concluded)

Requirement 2

Cash

	Debit	Credit
	25,000	
Dec. 31, 2021	25,000	
	10,000	
	45,000	
Dec. 31, 2022	80,000	

Accounts Receivable

	Debit	Credit
	41,000	25,000
Dec. 31, 2021	16,000	
	56,000	10,000
		6,000
		45,000
Dec. 31, 2022	11,000	

Allow. for Uncol. Accts.

Debit	Credit	
	7,200	Dec. 31, 2021
6,000	3,750	
	4,950	Dec. 31, 2022

Requirement 3

	2021	2022
Total accounts receivable	$16,000	$11,000
Less: Allowance for uncollectible accounts	7,200	4,950
Net accounts receivable	$ 8,800	$ 6,050

Problem 5-4A (LO 5-4, 5-5)

Requirement 1

Age group	Amount receivable	Estimated percent uncollectible	**Estimated amount uncollectible**
Not yet due	$40,000	4%	**$ 1,600**
0-90 days past due	16,000	20%	**3,200**
91-180 days past due	11,000	25%	**2,750**
More than 180 days past due	13,000	80%	**10,400**
Total	$80,000		**$17,950**

Requirement 2

December 31, 2021	Debit	Credit
Bad Debt Expense	**12,950**	
Allowance for Uncollectible Accounts		**12,950**
(*Estimate future bad debts*)		
(*$17,950 − $5,000 = $12,950*)		

Requirement 3

July 19, 2022		
Allowance for Uncollectible Accounts	**8,000**	
Accounts Receivable		**8,000**
(*Write off actual bad debts*)		

Requirement 4

September 30, 2022		
Accounts Receivable	**8,000**	
Allowance for Uncollectible Accounts		**8,000**
(*Re-establish account previously written off*)		

September 30, 2022		
Cash	**8,000**	
Accounts Receivable		**8,000**
(*Receive cash on account*)		

Problem 5-5A (LO 5-3, 5-6)

Requirement 1

Arnold should not use the direct write-off method. Even if no accounts are known to be uncollectible at the time, Arnold should estimate future bad debts and record those estimates as an expense (bad debt expense) and reduction in total assets (allowance for uncollectible accounts) in the current year.

Requirement 2

Allowance for uncollectible accounts = $170,000 x 70% = $119,000.

Requirement 3

If Arnold uses the direct write-off method, total assets will be overstated and total expenses will be understated by $119,000.

Problem 5-6A (LO 5-5)

Requirement 1

	Debit	Credit
Bad Debt Expense	**59,000**	
Allowance for Uncollectible Accounts		**59,000**
(*Estimate future bad debts*)		
[(*$1,100,000 x 9%*) − *$40,000* = *$59,000*]		

Requirement 2

Revised operating income = $260,000 − $59,000 (bad debt expense)
= $201,000

Willie will not get his bonus because the revised operating income of $201,000 is less than the $210,000 bonus level.

Requirement 3

	Debit	Credit
Bad Debt Expense	**26,000**	
Allowance for Uncollectible Accounts		**26,000**
(*Estimate future bad debts*)		
[(*$1,100,000 x 6%*) − *$40,000* = *$26,000*]		

Revised operating income = $260,000 − $26,000 (bad debt expense)
= $234,000

Willie will get his bonus because the revised operating income of $234,000 is greater than the $210,000 bonus level.

Requirement 4

Using 6% instead of 9% to estimate future bad debts causes total assets to be overstated and operating income to be overstated by $33,000 (= $234,000 − $201,000).

Problem 5-7A (LO 5-3, 5-4)

Requirement 1

December 31, 2021	Debit	Credit
Bad Debt Expense	**455,000**	
Allowance for Uncollectible Accounts		**455,000**
(*Estimate future bad debts*)		
(*$1,300,000 x 35% = $455,000*)		

Requirement 2

Because actual bad debts in 2022 were only $300,000 when the company estimated bad debts to be $455,000, total assets will be understated and total expenses will be overstated by $155,000 (= $455,000 − $300,000) in 2021.

Requirement 3

Humanity International should not prepare new financial statements for 2021. The fact that actual bad debts in 2022 turned out to be different than the amount estimated at the end of 2021 does not constitute a reason for re-issuing prior financial statements. Estimation error is an issue inherent in financial reporting.

Problem 5-8A (LO 5-7)

Requirement 1

December 1, 2021	Debit	Credit
Notes Receivable	**90,000**	
Service Revenue		**90,000**
(*Provide services in exchange for a note*)		

Requirement 2

December 31, 2021	Debit	Credit
Interest Receivable (2021)	**750**	
Interest Revenue		**750**
(*Adjust interest receivable*)		
(*Interest revenue = $90,000 x 10% x 1/12*)		

December 1, 2022		
Cash	**9,000**	
Interest Receivable (2021)		**750**
Interest Revenue		**8,250**
(*Receive annual interest*)		
(*Interest revenue = $90,000 x 10% x 11/12*)		

December 31, 2022		
Interest Receivable (2022)	**750**	
Interest Revenue		**750**
(*Adjust interest receivable*)		
(*Interest revenue = $90,000 x 10% x 1/12*)		

Problem 5-8A (concluded)

December 1, 2023		
Cash	**9,000**	
Interest Receivable (2022)		**750**
Interest Revenue		**8,250**
(*Receive annual interest*)		
(*Interest revenue = $90,000 x 10% x 11/12*)		

December 31, 2023		
Interest Receivable (2023)	**750**	
Interest Revenue		**750**
(*Adjust interest receivable*)		
(*Interest revenue = $90,000 x 10% x 1/12*)		

Requirement 3

December 1, 2024	Debit	Credit
Cash	**99,000**	
Notes Receivable		**90,000**
Interest Receivable (2021)		**750**
Interest Revenue		**8,250**
(*Receive cash on note and annual interest*)		
(*Interest revenue = $90,000 x 10% x 11/12*)		

Problem 5-9A (LO 5-8)

Requirement 1

			Walmart	Target
Receivables turnover ratio	=	Net sales / Average accounts receivable	$443,854 / (($5,089 + $5,937) / 2)	$68,466 / (($6,153 + $5,927) / 2)
	=		80.5 times	11.3 times
Average collection period	=	365 / Receivables turnover ratio	365 / 80.5	365 / 11.3
	=		4.5 days	32.3 days

Walmart has a higher receivables turnover ratio and a lower average collection period, which means it collects cash more quickly from its customers. The receivables turnover ratio and average collection period for Tenet Healthcare in the most recent year reported in the text are 7.7 times and 47.4 days. The receivables turnover ratio and average collection period for LifePoint Hospitals in the most recent year reported in the text are 8.7 times and 42.0 days. Companies in the healthcare industry will usually have a lower receivables turnover ratio because the amounts to be received are larger and customers are more often not able to pay in a timely manner.

Requirement 2

Including cash sales in the numerator of the receivables turnover ratio is the same as suggesting that receivables turnover instantly (in other words, the average collection period is zero). Therefore, companies that are more likely to have cash sales will show a higher receivables turnover ratio and lower average collection period compared to a company with similar net sales that consist of a higher proportion of credit sales. The receivables turnover ratio remains useful for understanding how quickly a company generates cash from its customers, but the ratio will naturally vary with industry characteristics. Therefore, to determine the efficiency of management in collecting receivables, it is better to compare ratios among firms in the same industry.

PROBLEMS: SET B

Problem 5-1B (LO 5-1)

	Revenue recognized in 2021	
Scenario 1:	$900,000	
Scenario 2:	$68	(= $80 x 85%)
Scenario 3:	$30,000	
Scenario 4:	$260,000	

Problem 5-2B (LO 5-1, 5-2)

Requirement 1

June 10	Debit	Credit
No entry		
June 12		
No entry		
June 13		
No entry		
June 16		
Accounts Receivable	**2,700**	
Service Revenue		**2,700**
(*Provide services of $3,000 on account with a 10% discount*)		
June 19		
No entry		
June 20		
Sales Allowances	**810**	
Accounts Receivable		**810**
(*Sales allowance for services on account*)		
June 30		
Cash	**1,890**	
Accounts Receivable		**1,890**
(*Receive cash on account*)		

Problem 5-2B (concluded)

Requirement 2

Data Recovery Services
Partial Income Statement

Total service revenues	$2,700	
Less: Sales allowances	(810)	
Net service revenues		$1,890

Requirement 3

June 25		
Cash	**1,852.2**	
Sales Discounts	**37.8**	
Accounts Receivable		**1,890**
(*Receive cash on account with 2% sales discount*)		
(*Sales discount = 1,890 x 2%*)		

Total Service Revenues	$2,700.00
Less: Sales Allowances	810.00
Sales Discounts	37.80
Net Service Revenues	$1,852.20

Problem 5-3B (LO 5-3, 5-4, 5-5)

Requirement 1

	Debit	Credit
February 2, 2021		
Accounts Receivable	**38,000**	
Service Revenue		**38,000**
(*Provide services on account*)		
July 23, 2021		
Cash	**27,000**	
Accounts Receivable		**27,000**
(*Receive cash on account*)		
December 31, 2021		
Bad Debt Expense	**2,750**	
Allowance for Uncollectible Accounts		**2,750**
(*Estimate future bad debts*)		
(*$11,000 x 25% = $2,750*)		
April 12, 2022		
Accounts Receivable	**51,000**	
Service Revenue		**51,000**
(*Provide services on account*)		
June 28, 2022		
Cash	**6,000**	
Accounts Receivable		**6,000**
(*Receive cash on account*)		
September 13, 2022		
Allowance for Uncollectible Accounts	**5,000**	
Accounts Receivable		**5,000**
(*Write off actual bad debts*)		
October 5, 2022		
Cash	**45,000**	
Accounts Receivable		**45,000**
(*Receive cash on account*)		
December 31, 2022		
Bad Debt Expense	**3,750**	
Allowance for Uncollectible Accounts		**3,750**
(*Estimate future bad debts*)		
[(*$6,000 x 25%*) + *$2,250* = *$3,750*]		

Problem 5-3B (concluded)

Requirement 2

Cash

	Debit	Credit
	27,000	
Dec. 31, 2021	27,000	
	6,000	
	45,000	
Dec. 31, 2022	78,000	

Accounts Receivable

	Debit	Credit
	38,000	27,000
Dec. 31, 2021	11,000	
	51,000	6,000
		5,000
		45,000
Dec. 31, 2022	6,000	

Allow. for Uncol. Accts.

Debit	Credit	
	2,750	Dec. 31, 2021
5,000	3,750	
	1,500	Dec. 31, 2022

Requirement 3

	2021	2022
Total accounts receivable	$11,000	$6,000
Less: Allowance for uncollectible accounts	2,750	1,500
Net accounts receivable	$ 8,250	$4,500

Problem 5-4B (LO 5-4, 5-5)

Requirement 1

Age group	Amount receivable	Estimated percent uncollectible	**Estimated amount uncollectible**
Not yet due	$40,000	3%	**$1,200**
0-30 days past due	11,000	4%	**440**
31-60 days past due	8,000	11%	**880**
More than 60 days past due	1,000	25%	**250**
Total	$60,000		**$2,770**

Requirement 2

December 31, 2021	Debit	Credit
Bad Debt Expense	**3,170**	
Allowance for Uncollectible Accounts		**3,170**
(*Estimate future bad debts*)		
(*$2,770 + $400 = $3,170*)		

Requirement 3

April 3, 2022		
Allowance for Uncollectible Accounts	**500**	
Accounts Receivable		**500**
(*Write off actual bad debts*)		

Requirement 4

July 17, 2022		
Accounts Receivable	**100**	
Allowance for Uncollectible Accounts		**100**
(*Re-establish portion of account previously written off*)		

July 17, 2022		
Cash	**100**	
Accounts Receivable		**100**
(*Receive cash on account*)		

Problem 5-5B (LO 5-3, 5-6)

Requirement 1

Letni should not use the direct write-off method. Even if no accounts are known to be uncollectible at the time, Paul should estimate future bad debts and record those estimates as an expense (bad debt expense) and reduction in total assets (allowance for uncollectible accounts) in the current year.

Requirement 2

Allowance for uncollectible accounts = $330,000 x 25% = $82,500.

Requirement 3

If Letni uses the direct write-off method, total assets will be overstated and total expenses will be understated by $82,500.

Problem 5-6B (LO 5-5)

Requirement 1

	Debit	Credit
Bad Debt Expense	**330,000**	
Allowance for Uncollectible Accounts		**330,000**
(*Estimate future bad debts*)		
(*$11,000,000 x 4% − $110,000 = $330,000*)		

Requirement 2

Revised operating income = $2,900,000 − $330,000 (bad debt expense)
= $2,570,000

Outlet Flooring will meet analysts' expectations because the revised operating income of $2,570,000 is greater than the $2,200,000 expectations.

Requirement 3

Revised operating income = $2,900,000 − $700,000 (bad debt expense)
= $2,200,000

If Outlet Flooring records bad debt expense for $700,000 instead of $330,000, assets will be understated and operating income will be understated by $370,000.

Requirement 4

By managing operating income downward, Wanda is "saving" reported income for the future. If bad debt expense is overestimated this year, then it can be understated next year. Understating bad debt expense next year will overstate operating income in that year.

Problem 5-7B (LO 5-3, 5-4)

Requirement 1

	Debit	Credit
Bad Debt Expense	**7,000**	
Allowance for Uncollectible Accounts		**7,000**
(*Estimate future bad debts*)		
(*$350,000 x 2% = $7,000*)		

Requirement 2

Previts underestimated uncollectible accounts by $80,500. Actual bad debts in the second year were $87,500 and the company estimated bad debts to be only $7,000. Because of this, total assets will be overstated and total expenses will be understated by $80,500 in the first year.

Requirement 3

Previts should not prepare new financial statements for the first year. The fact that actual bad debts in the second year turned out to be different than the amount estimated at the end of the first year does not constitute a reason for re-issuing prior financial statements. Estimation error is an issue inherent in financial reporting.

Problem 5-8B (LO 5-7)

Requirement 1

April 15, 2021	Debit	Credit
Notes Receivable	**110,000**	
Service Revenue		**110,000**
(*Provide services and accept note*)		

Requirement 2

December 31, 2021	Debit	Credit
Interest Receivable (2021)	**9,350**	
Interest Revenue		**9,350**
(*Adjust interest receivable*)		
(*Interest revenue = $110,000 x 12% x 8.5/12*)		
April 15, 2022		
Cash	**13,200**	
Interest Receivable (2021)		**9,350**
Interest Revenue		**3,850**
(*Receive annual interest*)		
(*Interest revenue = $110,000 x 12% x 3.5/12*)		
December 31, 2022		
Interest Receivable (2022)	**9,350**	
Interest Revenue		**9,350**
(*Adjust interest receivable*)		
(*Interest revenue = $110,000 x 12% x 8.5/12*)		

Problem 5-8B (concluded)

April 15, 2023		
Cash	**13,200**	
Interest Receivable (2022)		**9,350**
Interest Revenue		**3,850**
(*Receive annual interest*)		
(*Interest revenue = $110,000 x 12% x 3.5/12*)		

December 31, 2023		
Interest Receivable (2023)	**9,350**	
Interest Revenue		**9,350**
(*Adjust interest receivable*)		
(*Interest revenue = $110,000 x 12% x 8.5/12*)		

Requirement 3

April 15, 2024	Debit	Credit
Cash	**123,200**	
Notes Receivable		**110,000**
Interest Receivable (2023)		**9,350**
Interest Revenue		**3,850**
(*Receive cash on note and annual interest*)		
(*Interest revenue = $110,000 x 12% x 3.5/12*)		

Problem 5-9B (LO 5-8)

Requirement 1

			Sun Health Group	Select Medical
Receivables turnover ratio	=	Net sales / Average accounts receivable	$1,930 / (($215 + $202) / 2)	$2,240 / (($414 + $353) / 2)
	=		9.3 times	5.8 times
Average collection period	=	365 / Receivables turnover ratio	365 / 9.3	365 / 5.8
	=		39.2 days	62.9 days

Compared to Select Medical, Sun Health has a higher receivables turnover ratio and a lower average collection period, which means it collects cash more quickly from its customers. The receivables turnover ratio and average collection period for Tenet Healthcare in the most recent year reported in the text are 7.7 times and 47.4 days. The receivables turnover ratio and average collection period for LifePoint Hospitals in the most recent year reported in the text are 8.7 times and 42.0 days. Sun Health has the most favorable (highest) receivables turnover ratio of the four companies.

Requirement 2

The receivables turnover ratio and average collection period provide an indication of management's ability to collect cash from customers in a timely manner. A high receivables ratio suggests that managers are selling to customers that have the ability to pay their accounts in a timely manner. The more quickly a company can collect its receivables, the more quickly it can use that cash to generate even more cash by reinvesting in the business and generating additional sales. Factors that could affect the receivables turnover ratio would be managers failing to recognize the financial situation of lower-quality customers, being too aggressive in selling to customers on account, or encountering weak business conditions in the industry which would affect all companies.

ADDITIONAL PERSPECTIVES

Additional Perspective 5-1

Requirement 1

Jan. 24, 2022	Debit	Credit
Equipment	**5,000**	
Cash		**5,000**
(*Pay cash for outdoor equipment*)		
Feb. 25, 2022		
Accounts Receivable	**3,000**	
Service Revenue		**3,000**
(*Provide TEAM event*)		
Feb. 28, 2022		
Cash	**2,850**	
Sales Discounts	**150**	
Accounts Receivable		**3,000**
(*Receive cash on account less 5% discount*)		
Mar. 19, 2022		
Accounts Receivable	**4,000**	
Service Revenue		**4,000**
(*Provide TEAM event*)		
Mar. 27, 2022		
Cash	**3,800**	
Sales Discounts	**200**	
Accounts Receivable		**4,000**
(*Receive cash on account less 5% discount*)		
Apr. 7, 2022		
Cash	**7,500**	
Deferred Revenue		**7,500**
(*Received cash in advance for TEAM event*)		
Apr. 14, 2022		
Deferred Revenue	**7,500**	
Service Revenue		**7,500**
(*Provide TEAM event*)		
April 30, 2022		
Accounts Receivable	**6,000**	
Service Revenue		**6,000**
(*Provide TEAM event*)		

AP5-1 (continued)

Requirement 1 (concluded)

May 31, 2022		
Notes Receivable	**6,000**	
Accounts Receivable		**6,000**
(*Accept note receivable*)		
Jun. 15, 2022		
Accounts Receivable	**24,000**	
Service Revenue		**24,000**
(*Provide TEAM event*)		

Requirement 2(a)

Jun. 30, 2022	Debit	Credit
Bad Debt Expense	**2,400**	
Allowance for Uncollectible Accounts		**2,400***
(*Estimate future bad debts*)		

* Accounts Receivable × 10% = $24,000 × 10% = $2,400

Requirement 2(b)

Jun. 30, 2022	Debit	Credit
Interest Receivable	**40**	
Interest Revenue		**40**
(*Accrue interest revenue*)		
(*Interest revenue = $6,000 × 8% × 1/12*)		

AP5-1 (continued)
Requirement 2(c)

Great Adventures, Inc.
Partial Balance Sheet
June 30, 2022

Assets

Current assets:		
Accounts receivable	$24,000	
Less: Allowance for uncollectible accounts	(2,400)	
Net accounts receivable		$21,600

Additional Perspective 5-1 *(in General Ledger)*

Students will be given the following existing trial balance.

Great Adventures, Inc.
Trial Balance
June 30, 2022

Accounts	Debit	Credit
Cash	$ 38,500	
Accounts Receivable	-0-	
Allowance for Uncollectible Accounts		$ -0-
Interest Receivable	-0-	
Notes Receivable	-0-	
Prepaid Rent	400	
Equipment	40,000	
Accumulated Depreciation		16,000
Accounts Payable		2,800
Deferred Revenue		-0-
Interest Payable		1,650
Notes Payable		30,000
Common Stock		20,000
Retained Earnings		33,450
Service Revenue		-0-
Interest Revenue		-0-
Sales Discounts	-0-	
Depreciation Expense	8,000	
Insurance Expense	2,400	
Rent Expense	1,200	
Salaries Expense	12,000	
Supplies Expense	500	
Bad Debt Expense	-0-	
Interest Expense	900	
Totals	$103,900	$103,900

Requirements 1, 2(a), and 2(b) will be completed as shown above.

Additional Perspective 5-1 (in General Ledger, continued)

Great Adventures, Inc.
Income Statement
For the period ended June 30, 2022

Revenues:		
Service revenue	$44,500	
Sales discounts	(350)	
Interest revenue	40	
Net revenues		$44,190
Expenses:		
Depreciation Expense	8,000	
Insurance Expense	2,400	
Rent Expense	1,200	
Salaries Expense	12,000	
Supplies Expense	500	
Bad Debt Expense	2,400	
Interest Expense	900	
Total expenses		27,400
Net income		$16,790

Additional Perspective 5-1 (in General Ledger, continued)

Great Adventures, Inc.
Balance Sheet
June 30, 2022

Assets		**Liabilities**	
Current assets:		Current liabilities:	
Cash	$ 47,650	Accounts payable	$ 2,800
Accounts receivable	24,000	Interest payable	1,650
Allowance for uncollectible accounts	(2,400)	Total current liabilities	4,450
Interest receivable	40	Notes payable	30,000
Notes receivable	6,000	Total liabilities	34,450
Prepaid Rent	400		
Total current assets	75,690	**Stockholders' Equity**	
Long-term assets:		Common stock	20,000
Equipment	45,000	Retained earnings	50,240
Accumulated depreciation	(16,000)	Total stockholders' equity	70,240
Total assets	$104,690	Total liabilities and stockholders' equity	$104,690

Additional Perspective 5-1 (in General Ledger, concluded)

Jun. 30, 2021	Debit	Credit
Service Revenue	**44,500**	
Interest Revenue	**40**	
Sales Discounts		**350**
Retained Earnings		**44,190**
(*Close revenue accounts*)		
Jun. 30, 2021		
Retained Earnings	**27,400**	
Depreciation Expense		**8,000**
Insurance Expense		**2,400**
Rent Expense		**1,200**
Salaries Expense		**12,000**
Supplies Expense		**500**
Bad Debt Expense		**2,400**
Interest Expense		**900**
(*Close expense accounts*)		

Additional Perspective 5-2

Requirement 1

American Eagle shows an **increasing** trend in net sales for the past three years.

Requirement 2

Accounts receivable are reported in the **balance sheet** in the current asset section. The receivables turnover ratio equals net *credit* sales divided by average accounts receivable. The net sales amount reported in the income statement includes not only credit sales, but also cash sales. When a company has a large amount of cash sales, net sales will not be a good measure of net credit sales. Therefore, using net sales (instead of net credit sales) to calculate the receivables turnover ratio will overstate a company's ability to efficiently manage receivables.

Requirement 3

Yes. American Eagle reports accounts receivable "net", indicating the company likely has an allowance for uncollectible accounts.

Additional Perspective 5-3

Requirement 1

Buckle shows a **decreasing** trend in net sales for the past three years.

Requirement 2

Accounts receivable are reported in the **balance sheet** in the current asset section. The receivables turnover ratio equals net *credit* sales divided by average accounts receivable. The net sales amount reported in the income statement includes not only credit sales, but also cash sales. When a company has a large amount of cash sales, net sales will not be a good measure of net credit sales. Therefore, using net sales (instead of net credit sales) to calculate the receivables turnover ratio will overstate a company's ability to efficiently manage receivables.

Requirement 3

No. Buckle does not indicate that its accounts receivable balance is net of an allowance for uncollectible accounts.

Additional Perspective 5-4

American Eagle's ratio of total current receivables to current assets is **8.1%**. Buckle's ratio of total current receivables to current assets is **2.4%**. Neither company has a relative large portion of its current assets as receivable. Therefore, there do not appear to be any problems with each company's management of receivables.

Additional Perspective 5-5

1. Increase income before taxes by $45,000.
If the balance of the allowance for uncollectible accounts before adjustment is $20,000 and the year-end estimate of future uncollectible accounts is $180,000, then an adjustment of $160,000 is needed. This adjustment has the effect of increasing the allowance for uncollectible accounts, which increases bad debt expense and therefore reduces net income and eventually retained earnings (stockholders' equity). By reducing the estimate of future bad debts to only $135,000, an adjustment of only $115,000 is needed. Therefore, the change requested by the controller has the effect of increasing income before taxes by $45,000.

2. Decrease total assets by $45,000.
Allowance for Uncollectible Accounts is a contra-asset to the Accounts Receivable account. By reporting the Allowance account for $45,000 higher, total assets are reduced.

3. Yes.
By making the change requested, net income and total assets will increase by $45,000. Overstating these amounts will make the company appear more profitable and less risky than it would have otherwise. This type of misreporting can fool investors and creditors into making suboptimal decisions. Preparing a new invoice does not change the age of the underlying account receivable, and the best estimate is the original amount estimated, $180,000. Next year, the large account may prove uncollectible and require a write off. When this occurs, investors and creditors (and potentially employees) could suffer financial damages because the company fails to receive cash that the receivables balances suggested it was going to collect.

4. No.
However, you are new to the position. You might not be sure that it's right for you to question any decision of your superior. It is clear that the superior is asking you to engage in fraudulent reporting.
Upsetting your superior may reduce your compensation, reduce the likelihood of promotion, and increase your chance of being fired. You may feel that as long as your boss told you to do it, then your agreement to go along is technically the superior's ethical dilemma; you are just following orders. However, you should agree that reporting inaccurate numbers is against your ethical standards. You would be partially responsible for any adverse outcomes to investors, creditors, employees, and others

relying on those reports. Both your superior and you could incur legal penalties for this fraudulent reporting.

Additional Perspective 5-6

(Note to instructors: Answers are based on Avon's annual report for the year ended December 31, 2016)

Requirement 1

The balance of net accounts receivable is $458.9 million. By adding back the allowance of $131.1, total accounts receivable is computed to be $590.0 million.

Requirement 2

Bad debt expense is reported on the statement of cash flows under provisions for doubtful accounts. The amount is $190.5 million.

Requirement 3

The ending balance of the allowance account equals the beginning balance plus bad debt expense less actual write-offs. Using this formula, we calculate actual write-offs to be:

($ in millions)

Beginning allowance	+	**Bad debt expense**	−	**Actual write-offs**	=	**Ending allowance**
$86.7	+	$190.5	−	$X	=	$131.1
				($X = **$146.1**)		

The estimate of bad debts at the beginning of the year was $86.7 million. Actual bad debts were $146.1 million, so the company underestimated and had approximately 70% more write-offs than it had provided for at the beginning of the year.

Requirement 4

$$\text{Receivables turnover ratio} = \frac{\text{Net sales}}{\text{Average net accounts receivable}} = \frac{\$5{,}578.8}{(\$458.9 + \$443.0)\ /\ 2} = 12.4$$

$$\text{Average collection period} = \frac{365}{\text{Receivables turnover ratio}} = \frac{365}{12.4} = 29.4$$

Avon's receivables turnover ratio and average collection period are better than the industry average.

Additional Perspective 5-7

Students should communicate the following ideas.

Under the allowance method,

- Future bad debts are estimated.
- The adjustments to total assets and net income as a result of bad debts are reported in the period the bad debts are estimated.
- The adjustment normally involves a debit to bad debt expense and a credit to the allowance for uncollectible accounts.

Under the direct write-off method,

- Future bad debts are not estimated.
- The reductions to total assets and net income as a result of bad debts are reported in the period the bad debts occur.
- No adjustment is made.

The difference between the two methods is in the timing of recording the bad debt (time of estimation vs. when actually occurring). Over an extended period of time, the two will approximately equal. However, in a given year, the difference can be large. The fact that uncollectible accounts have been stable across years indicates that the difference between the two has been relatively small. However, circumstances could change in any year and the allowance method would provide a better approximation of net accounts receivable and costs (bad debts expense) to generate current credit sales.

Additional Perspective 5-8

Requirement 1

	Debit	Credit
Bad Debt Expense	**65,000**	
Allowance for Uncollectible Accounts		**65,000***
(*Estimate future bad debts*)		

* ($500,000 x 9%) + $20,000 = $65,000

Requirement 2

Revised operating income is $255,000 (= $320,000 − $65,000). Operating income decreases compared to the previous year's amount of $275,000.

Requirement 3

Using 4% instead of 9% of accounts receivable to estimate uncollectible accounts results in an adjustment of $40,000 [= ($500,000 x 4%) + $20,000] to bad debt expense. Now, operating income would be $280,000 (= $320,000 − $40,000), which is an increase compared to the previous year.

Requirement 4

Total assets would be overstated and total expenses would be understated by $25,000 (= $65,000 − $40,000).