

6 Accounting for Merchandise Inventory

Which inventory system should a merchandiser use, and why is it important?
What are the different inventory costing methods?

How do they differ?
Which methods can be used for income tax purposes?
Which inventory costing method should a merchandiser choose?

How can merchandisers estimate the cost of inventory destroyed in a fire or some other disaster?

These questions and others will be answered throughout this chapter. The Decision Guidelines at the end of this chapter will provide the answers in a useful summary.

LEARNING OBJECTIVES

- 1 Account for perpetual inventory under the specific-unit-cost, FIFO, and moving-weighted-average-cost methods
- 2 Compare the effects of the FIFO and moving-weighted-average-cost methods
- 3 Account for periodic inventory under the FIFO and weighted-average-cost methods
- 4 Apply the lower-of-cost-and-net-realizable-value rule to inventory
- 5 Measure the effects of inventory errors
- 6 Estimate ending inventory by the gross margin method and the retail method
- 7 Assess the inventory recording and reporting impacts of international financial reporting standards (IFRS)

The Forzani Group Ltd. (Forzani) is Canada's largest and only national retailer of sporting goods, apparel, and footwear. There are currently 337 operating corporate stores from coast to coast and 227 franchise stores primarily in the province of Quebec.

Forzani conducts its business through two distinct operating segments: corporate and franchise. The corporate banners include Sport Chek, Sport Mart, Coast Mountain Sports, National Sports, Athletes World, and Hockey Experts. The franchise banners include Sports Experts, Intersport, Atmosphere, Nevada Bob's Golf, Hockey Experts, The Fitness Source, Pegasus, RnR, S3, Tech Shop, and Econosports.

By far the largest asset on Forzani's balance sheet is inventory. In 2009, the company's year-end balance was over \$291 million. For the company to be successful, it must manage its inventory very well. It has to understand the wants and needs of its customers. If it guesses wrong, it may end up with too much inventory (or too much of the wrong items). If it has too little inventory, customers may look elsewhere for items they require.

Forzani recognizes this risk. Not only do successful retail companies like Forzani need to understand trends in their industry, but they also need to be aware of economic factors such as consumer spending and debt levels, and the state of the overall economy. For Forzani, the fiscal year ended February 1, 2009, was a difficult year because of the economic recession that started in the fall of 2008. The chairman of the board stated the following in Forzani's 2009 annual report:

In my 35 years in this business, I thought I had seen it all; the ebbs and flows of retail that make it so interesting. But nothing compares to the environment that we find ourselves in today. These increasingly uncertain times cause even the most optimistic to be concerned . . . the worst possible scenario for consumer optimism. And yet, for those companies that are strong and looking to increase market share, or reduce costs in a deflationary environment, it provides opportunities.¹



¹ The Forzani Group Limited 2009 Annual Report, page 9.

Chapter 5

introduced the accounting for merchandise inventory. It showed how Austin Sound Centre, a music store, recorded the purchase and sale of its inventory. Amazon.com, The Bay, and The Forzani Group Ltd. are other merchandising companies. This chapter completes the accounting for merchandise inventory.

SportChek, one of The Forzani Group Ltd.'s chains of stores, sells running shoes (among many other items) for men, women, and children. SportChek, like all other companies, may select from several different methods of accounting for its inventory. Inventory is the first area in which a company must pick the accounting method it will use and it is a key decision for a merchandiser. We will use a SportChek store to illustrate the different inventory accounting methods.

This chapter will introduce a new vocabulary, including the term FIFO. By the end of this chapter, you will also be prepared to decide which accounting method is most appropriate if you ever start your own business.

First let's review the balance sheet and the income statement, because the financial statements show how merchandise inventory affects a company. Exhibit 6-1 gives the merchandising section of The Forzani Group Ltd.'s balance sheet and income statement. Inventories, cost of goods sold, and gross margin are labelled A, B, and C, respectively, to indicate that, throughout the chapter, we will be computing them using various accounting methods.

EXHIBIT 6-1

The Forzani Group Ltd. Merchandising Section of the Financial Statements

THE FORZANI GROUP LTD.	
Balance Sheet (partial; adapted)	
February 1, 2009	
Assets:	(thousands)
Current assets:	
Cash	\$ 3,474
Accounts receivable	84,455
Inventories	291,497 (A)
Prepaid expenses	2,827

THE FORZANI GROUP LTD.	
Income Statement (partial; adapted)	
For the Year Ended February 1, 2009	
Net sales	(thousands) \$1,346,758
Cost of goods sold	863,239 (B)
Gross margin	\$ 483,519 (C)

As you can see in Exhibit 6–1, inventory is the most significant current asset for The Forzani Group Ltd., as it is for most retail companies. Companies like Forzani want to make sure that they carry enough inventory to meet customer demand. At the same time, if companies carry too much inventory, they risk “tying up” too much of the company’s assets in inventory.

The remainder of the chapter explores how to compute these amounts:

- Ending inventory on the balance sheet
- Cost of goods sold and gross margin on the income statement

We turn now to the different inventory costing methods.

Inventory Costing Methods

OBJECTIVE 1

Account for perpetual inventory under the specific-unit-cost, FIFO, and moving-weighted-average-cost methods

As we saw in Chapter 5,

$$\text{Ending inventory} = \text{Number of units on hand} \times \text{Unit cost}$$

$$\text{Cost of goods sold} = \text{Number of units sold} \times \text{Unit cost}$$

Companies determine the number of units from perpetual inventory records that are verified by a physical count. The cost of each unit of inventory is

$$\begin{aligned} \text{Unit cost} = & \text{Purchase price} - \text{Purchase discounts} - \text{Quantity discounts} \\ & + \text{Any costs necessary to put the unit in a saleable} \\ & \text{condition, such as freight in, customs duties,} \\ & \text{and insurance} \end{aligned}$$

Exhibit 6–2 gives the inventory data for a line of running shoes carried by SportChek.

EXHIBIT 6–2

Perpetual Inventory Record—Quantities Only

Item: Running Shoes, Model XL

Date	Quantity Purchased	Quantity Sold	Quantity on Hand
Nov. 1			10
5	60		70
15		40	30
26	70		100
30		80	20
Totals	130	120	20

In this illustration, SportChek began November with 10 pairs of running shoes on hand. After buying and selling, SportChek had 20 pairs at the end of the month. Assume that SportChek’s unit cost of each pair is \$60. In this case,

$$\begin{aligned} \text{Ending inventory} &= \text{Number of units on hand (Exhibit 6–2)} \times \text{Unit cost} \\ &= \qquad\qquad\qquad 20 \qquad\qquad\qquad \times \quad \$60 \\ &= \$1,200 \end{aligned}$$

$$\begin{aligned} \text{Cost of goods sold} &= \text{Number of units sold (Exhibit 6–2)} \times \text{Unit cost} \\ &= \qquad\qquad\qquad 120 \qquad\qquad\qquad \times \quad \$60 \\ &= \$7,200 \end{aligned}$$

What would SportChek’s ending inventory and cost of goods sold be if the cost of these running shoes increased from \$60 to \$65 or \$70 during the period? Companies face price increases like these all the time. To determine inventory costs, the accounting profession has developed several costing methods.

Measuring inventory cost is easy when prices are constant. However, in reality, the unit cost often changes. A pair of running shoes that cost SportChek \$60 in January may cost \$65 in April. Suppose SportChek sells 10,000 pairs of these running shoes in November. How many of the shoes cost \$60? How many cost \$65? To compute ending inventory and cost of goods sold, SportChek must assign a unit cost to each item. The three costing methods that GAAP allow are

1. Specific-unit cost
2. Weighted-average cost
3. First-in, first-out (FIFO) cost

A company can use any of these methods to account for its inventory. The method chosen does *not* have to match the physical flow of goods. Once it is chosen, however, the company should use this method going forward for consistency and comparability. Any of these methods are allowed for income tax purposes in Canada.

The **specific-unit-cost method**, also called the **specific identification method**, uses the specific cost of each unit of inventory for items that have a distinctive identity. Some businesses deal in items that differ from unit to unit, such as automobiles, jewels, and real estate. For instance, a Toyota dealer may have two vehicles—a model with vehicle identification number (VIN) 010 that costs \$21,000 and a model with VIN 020 that costs \$27,000. If the dealer sells the model with VIN 020, cost of goods sold is \$27,000, the cost of the specific unit. Suppose the model with VIN 010 is the only unit left in inventory at the end of the period; ending inventory is \$21,000, the dealer’s cost of that particular car.

Amazon.com uses the specific-unit-cost method to account for its inventory. But very few other companies use this method, and so we shift to the more popular inventory costing methods. These methods are *cost-flow assumptions* that do not have to match the actual flow of inventory costs. Exhibit 6–3 illustrates how each method works.

- Under the first-in, first-out (FIFO) method, the cost of goods sold is based on the oldest purchases. This is illustrated by the cost of goods sold coming from the *bottom* of the container.
- Under the weighted-average-cost method, the cost of goods sold is based on an average cost for the period. This is illustrated by the cost of goods sold coming from the *middle* of the container.

Now let’s see how to compute inventory amounts under the FIFO and weighted-average-cost methods. We use the following transaction data for all the illustrations:

Running Shoes, Model XL	Number of Units	Unit Cost
Nov. 1 Beginning inventory	10	\$60
5 Purchase	60	65
15 Sale	40	
26 Purchase	70	70
30 Sale	80	

We begin with inventory costing in a perpetual system.

KEY POINT

The three inventory costing methods affect the cost of inventory and, consequently, the cost of goods sold. The method used does *not* have to match the physical flow of goods.

EXHIBIT 6–3

Cost Flows for the Most Popular Inventory Methods

KEY POINT

Remember that the term *FIFO* describes which goods are sold, *not* which goods are left. FIFO assumes that goods in first are sold first; therefore, the last goods purchased are left in ending inventory.

Inventory Costing in a Perpetual System

The inventory costing methods produce different amounts for:

- Ending inventory
- Cost of goods sold

First-in, First-out Method

Many companies use the **first-in, first-out (FIFO) method** to account for their inventory. FIFO costing is consistent with the physical movement of inventory for most companies. That is, they sell their oldest inventory first.

Under FIFO costing, the first costs incurred by SportChek each period are the first costs assigned to cost of goods sold. FIFO leaves in ending inventory the last—the most recent—costs incurred during the period. This is illustrated in the FIFO perpetual inventory record in Exhibit 6–4.

EXHIBIT 6–4

Perpetual Inventory Record—FIFO Cost for SportChek

Running Shoes, Model XL									
Date	Purchases			Cost of Goods Sold			Inventory on Hand		
	Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost
Nov. 1							10	\$60	\$ 600
5	60	\$65	\$3,900				10	60	600
							60	65	3,900
15				10	\$60	\$ 600			
				30	65	1,950	30	65	1,950
26	70	70	4,900				30	65	1,950
							70	70	4,900
30				30	65	1,950			
				50	70	3,500	20	70	1,400
30	130		\$8,800	120		\$8,000	20		\$1,400

SportChek began November with 10 pairs of running shoes that cost \$60. After the November 5 purchase, the inventory on hand consists of 70 units.

$$\begin{array}{r}
 70 \text{ units on hand} \rightarrow 10 @ \$60 = \$ 600 \\
 \phantom{70 \text{ units on hand}} \rightarrow 60 @ \$65 = \underline{3,900} \\
 \text{Inventory on hand} = \underline{\underline{\$4,500}}
 \end{array}$$

On November 15, SportChek sold 40 units. Under FIFO costing, the first 10 units sold are costed at the oldest cost (\$60 per unit). The next 30 units sold come from the group that cost \$65 per unit. That leaves 30 units in inventory on hand, and those units cost \$65 each. The remainder of the inventory record follows that same pattern.

The FIFO monthly summary at November 30 is

- Cost of goods sold: 120 units that cost a total of \$8,000
- Ending inventory: 20 units that cost a total of \$1,400

If SportChek used the FIFO method, it would measure cost of goods sold and inventory in this manner to prepare its financial statements.

Notice that you can use the familiar cost of goods sold model to check the accuracy of the inventory record, as follows:

Beginning inventory	\$ 600
+ Net purchases	<u>8,800</u>
= Cost of goods available for sale	9,400
– Ending inventory	<u>(1,400)</u>
= Cost of goods sold	<u>\$ 8,000</u>

Journal Entries Under FIFO

The journal entries under FIFO costing for the perpetual inventory system follow the data in Exhibit 6–4. For example, on November 5, SportChek purchased \$3,900 of inventory and made the first journal entry. On November 15, SportChek sold 40 pairs of running shoes for the sale price of \$100 each. SportChek recorded the sale (\$4,000) and the cost of goods sold (\$2,550). The remaining journal entries (November 26 and 30) follow the inventory data in Exhibit 6–4.

FIFO Journal Entries: (All purchases and sales on account. The sale price of a pair of running shoes is \$100 per unit.)

Nov. 5	Inventory	3,900	
	Accounts Payable.....		3,900
	Purchased inventory on account (60 × \$65 = \$3,900).		
15	Accounts Receivable.....	4,000	
	Sales Revenue.....		4,000
	Sale on account (40 × \$100 = \$4,000).		
15	Cost of Goods Sold	2,550	
	Inventory		2,550
	Cost of goods sold (\$600 + \$1,950 = \$2,550).		
26	Inventory	4,900	
	Accounts Payable.....		4,900
	Purchased inventory on account. (70 × \$70 = \$4,900).		
30	Accounts Receivable.....	8,000	
	Sales Revenue.....		8,000
	Sale on account (80 × \$100 = \$8,000).		
30	Cost of Goods Sold	5,450	
	Inventory		5,450
	Cost of goods sold (\$1,950 + \$3,500 = \$5,450).		

Moving-Weighted-Average-Cost Method

Suppose SportChek uses the **moving-weighted-average-cost method** to account for its inventory of running shoes. With this method, the business computes a new weighted-average cost per unit after each purchase. Ending inventory and cost of goods sold are then based on the same most recent weighted-average cost per unit. Exhibit 6–5 shows a perpetual inventory record for the moving-weighted-average-cost method. We round average unit cost to the nearest cent and total cost to the nearest dollar.

After each purchase, SportChek computes a new average cost per unit. For example, on November 5, the new weighted-average unit cost is

	Total cost of inventory on hand	÷	Number of units on hand	=	Average cost per unit
Nov. 5	\$600 + \$3,900 = \$4,500	÷	70 units	=	\$64.29

EXHIBIT 6-5

 Perpetual Inventory Record—
 Moving-Weighted-Average Cost for SportChek

Running Shoes Model XL									
Date	Purchases			Cost of Goods Sold			Inventory on Hand		
	Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost	Qty.	Unit Cost	Total Cost
Nov. 1							10	\$60.00	\$ 600
5	60	\$65	\$3,900				70	64.29	4,500
15				40	\$64.29	\$2,572	30	64.29	1,928
26	70	70	4,900				100	68.28	6,828
30				80	68.28	5,462	20	68.28	1,366
30	130		\$8,800	120		\$8,034	20		\$1,366

The goods sold on November 15 are then costed at \$64.29 per unit. SportChek computes a new average cost after the November 26 purchase, which is why it is called a “moving” weighted-average cost.

The moving-weighted-average-cost summary at November 30 is

- Cost of goods sold: 120 units that cost a total of \$8,034
- Ending inventory: 20 units that cost a total of \$1,366

If SportChek used the moving-weighted-average-cost method, it would measure cost of goods sold and inventory in this manner to prepare its financial statements.

Journal Entries Under Moving-Weighted-Average Costing

The journal entries under moving-weighted-average costing follow the data in Exhibit 6-5. On November 5, SportChek purchased \$3,900 of inventory and made the first journal entry. On November 15, SportChek sold 40 pairs of running shoes for \$100 each. SportChek recorded the sale (\$4,000) and the cost of goods sold (\$2,572). The remaining journal entries (November 26 and 30) follow the data in Exhibit 6-5.

Moving-Weighted-Average-Cost Journal Entries: (All purchases and sales on account. The sale price of a pair of running shoes is \$100 per unit.)

Nov. 5	Inventory	3,900	
	Accounts Payable.....		3,900
	Purchased inventory on account (60 × \$65 = \$3,900).		
15	Accounts Receivable.....	4,000	
	Sales Revenue.....		4,000
	Sale on account (40 × \$100 = \$4,000).		
15	Cost of Goods Sold	2,572	
	Inventory		2,572
	Cost of goods sold (40 × \$64.29 = \$2,572).		
26	Inventory	4,900	
	Accounts Payable.....		4,900
	Purchased inventory on account (70 × \$70 = \$4,900).		

Nov. 30	Accounts Receivable.....	8,000	
	Sales Revenue.....		8,000
	Sale on account (80 × \$100 = \$8,000).		
30	Cost of Goods Sold	5,462	
	Inventory		5,462
	Cost of goods sold, calculated as:		
	Cost of inventory on hand: \$1,928 + \$4,900 = \$6,828		
	Moving-weighted-average cost per unit: \$6,828 ÷ 100 = \$68.28		
	Cost of goods sold = 80 × \$68.28 = \$5,462		

DID YOU GET IT?



MyAccountingLab

To check your understanding of the material in this Learning Objective, complete these questions. The solutions appear on MyAccountingLab so you can check your progress.

- Examine Exhibit 6-4 (FIFO costing) and Exhibit 6-5 (moving-weighted-average costing). Focus on the sale of goods on November 15. Why is cost of goods sold different between FIFO costing and moving-weighted-average costing? Explain.
- The Watch Shop carries only watches. Assume The Watch Shop began June with an inventory of 20 wristwatches that cost \$60 each. The Watch Shop sells those watches for \$100 each. During June, The Watch Shop bought and sold inventory as follows:

Jun.	3	Sold 16 units for \$100 each.
	16	Purchased 20 units at \$65 each.
	23	Sold 16 units for \$100 each.

Prepare a perpetual inventory record for The Watch Shop under each method.

- FIFO
 - Moving-weighted-average cost
- Refer to The Watch Shop data given in the previous question. Journalize all of The Watch Shop's inventory transactions for June for the FIFO and moving-weighted-average-cost methods.

Comparing FIFO and Moving-Weighted-Average Cost

What leads SportChek to select the moving-weighted-average-cost method and Celestica Inc. to use FIFO? The different methods have different benefits.

Exhibit 6-6 summarizes the results for the two inventory methods for SportChek. It shows sales revenue (assumed), cost of goods sold, and gross margin for FIFO and moving-weighted-average costing. All data (except for sales revenue) come from Exhibits 6-4 and 6-5.

Exhibit 6-6 also shows that, when inventory costs are increasing, FIFO costing produces the lowest cost of goods sold and the highest gross margin. Net income is also the highest under FIFO costing when inventory costs are rising. Many companies prefer high income to attract investors and borrow money on favourable terms. In an environment of increasing costs, FIFO costing offers this benefit.

OBJECTIVE 2

Compare the effects of the FIFO and moving-weighted-average-cost methods

EXHIBIT 6-6

Comparative Results for FIFO and Moving-Weighted-Average Cost

	FIFO	Moving-Weighted-Average
Sales revenue (assumed)	\$12,000	\$12,000
Cost of goods sold	<u>8,000</u>	<u>8,034</u>
Gross margin	<u>\$ 4,000</u>	<u>\$ 3,966</u>
	(from Exhibit 6-4)	(from Exhibit 6-5)

The moving-weighted-average-cost method generates a gross margin that will be lower than the gross margin generated under FIFO costing when prices are rising. The opposite is true when inventory purchase prices are falling—the moving-weighted-average-cost method would generate a higher gross margin than FIFO costing.

DID YOU GET IT?

MyAccountingLab

To check your understanding of the material in this Learning Objective, complete these questions. The solutions appear on MyAccountingLab so you can check your progress.

4. Refer to the information in Did You Get It? Question 2 on page 307 and your journal entries created in Did You Get It? Question 3 on page 307. Use that information to show the computation of gross margin for the FIFO and moving-weighted-average-costing methods for The Watch Shop.
5. Refer to Question 4. Which method maximizes net income? Which method minimizes income taxes?
6. How would your answer to Question 5 change if inventory purchase prices were falling during June?

Inventory Costing in a Periodic System

OBJECTIVE 3

Account for periodic inventory under the FIFO and weighted-average-cost methods

We described the periodic inventory system in Chapter 5. Accounting is simpler in a periodic system because the company keeps no daily running record of inventory on hand. The only way to determine the ending inventory and cost of goods sold in a periodic system is to count the goods—usually at the end of the year. The periodic system works well for a small business where the owner can control inventory by visual inspection. Appendix A in Chapter 5 illustrates how the periodic system works.

Cost of goods sold in a periodic inventory system is computed by the following formula (using assumed amounts for this illustration):

Beginning inventory (the inventory on hand at the end of the preceding period).....	\$ 5,000
Net purchases (often abbreviated as Purchases)	<u>20,000*</u>
Cost of goods available for sale	25,000
Less: Ending inventory (the inventory on hand at the end of the current period)	<u>(7,000)</u>
Cost of goods sold.....	<u>\$18,000</u>

*The Net purchases amount is determined as follows (all amounts assumed):

Purchases	\$21,000
Less: Purchase discounts	(2,000)
Purchase returns and allowances.....	(5,000)
Add: Freight in	<u>6,000</u>
Net purchases.....	<u>\$20,000</u>

The application of the FIFO and weighted-average-costing methods in a periodic inventory system follows the pattern illustrated earlier for the perpetual system. To show how the periodic inventory system works, we use the same SportChek data that we used for the perpetual system, as follows:

Running Shoes, Model XL	Number of Units	Unit Cost
Nov. 1 Beginning inventory	10	\$60
5 Purchase	60	\$65
15 Sale	40	
26 Purchase	70	\$70
30 Sale	80	

First-in, First-out (FIFO) Method

SportChek could use the FIFO costing method with a periodic inventory system. The FIFO computations follow:

Beginning inventory (10 units at \$60)	\$ 600
Purchases (60 units at \$65 + 70 units at \$70)	8,800
Cost of goods available for sale (140 units)	<u>9,400</u>
Less: Ending inventory (20 units at \$70)	<u>(1,400)</u>
Cost of goods sold (120 units)	<u>\$8,000</u>

The cost of goods available is always the sum of beginning inventory plus purchases. Under FIFO costing, the ending inventory comes from the latest—the most recent—purchases, which cost \$70 per unit. Ending inventory is therefore \$1,400, and cost of goods sold is \$8,000. These amounts will always be the same as the amounts calculated under the perpetual system.

There are fewer journal entries in the periodic system because SportChek would record a sale with only a single entry. For example, SportChek’s sale of 40 pairs of running shoes for \$100 each is recorded as follows:

Nov. 15	Accounts Receivable (40 × \$100)	4000	
	Sales Revenue		4000

There is no cost-of-goods-sold entry in the periodic system.

Weighted-Average-Cost Method

In the **weighted-average-cost method**, we compute a single weighted-average cost per unit for the entire period as follows:

$$\begin{array}{rcccl} \text{Cost of goods} & & \text{Number of units} & = & \text{Average cost per unit} \\ \text{available for sale} & \div & \text{available for sale} & = & \text{for the entire period} \\ \$9,400 & \div & 140 \text{ units} & = & \$67.14 \end{array}$$

This average cost per unit is then used to compute the ending inventory and cost of goods sold as follows:

Beginning inventory (10 units at \$60)	\$ 600
Purchases (60 units at \$65 + 70 units at \$70)	<u>8,800</u>
Cost of goods available for sale	
(140 units at weighted-average cost of \$67.14)	9,400
Less: Ending inventory (20 units at \$67.14)	<u>(1,343)</u>
Cost of goods sold (120 units at \$67.14)	<u>\$8,057</u>

Using the weighted-average-cost method, ending inventory and cost of goods sold under the periodic system differ from the amounts in a perpetual system. Why? Because under the perpetual system, a new average cost is computed after each purchase (it is a “moving” weighted-average cost). But the periodic system uses a single average cost that is determined at the end of the period.

Accounting Principles and Inventories

Several accounting concepts have special relevance to inventories. Among them are consistency, disclosure, materiality, and accounting conservatism.

Consistency

The characteristic of **consistency** states that businesses should use the same accounting methods and procedures from period to period. Consistency helps investors compare a company's financial statements from one period to the next.

Suppose you are analyzing a company's net income pattern over a two-year period. The company switched from moving-weighted-average to FIFO costing during that time. Its net income increased dramatically, but only as a result of the change in inventory method. If you did not know of the change, you might believe that the company's income increased because of improved operations. Therefore, companies must report any changes in the accounting methods they use. Investors need this information in order to make wise decisions about the company.

Disclosure Principle

The **disclosure principle** holds that a company's financial statements should report enough information for outsiders to make knowledgeable decisions about the company. In short, the company should report *relevant*, *reliable*, and *comparable* information about itself. This means disclosing the method or methods used to value inventories. Suppose a banker is comparing two companies—one using weighted-average costing and the other using FIFO. The FIFO company reports higher net income, but only because it uses the FIFO inventory method. Without knowledge of these accounting methods, the banker could lend money to the wrong business. In addition, different categories of inventory should be disclosed, such as raw materials, work-in-process, and finished goods inventories.

Materiality Concept

The **materiality concept** states that a company must perform strictly proper accounting *only* for items that are significant to the business's financial statements. Information is significant—or, in accounting terminology, *material*—when its presentation in the financial statements would cause someone to change a decision. The materiality concept frees accountants from having to report every item in strict accordance with GAAP. For inventory, this means immaterial items can be expensed rather than included in inventory. For example, if freight for an inventory item is immaterial, then it could be expensed immediately, even if the inventory item is sold in a later period.

Accounting Conservatism

Conservatism in accounting means reporting items in the financial statements at amounts that lead to the most cautious immediate results. Conservatism appears in accounting guidelines such as

- “Anticipate no gains, but provide for all probable losses.”
- “If in doubt, record an asset at the lowest reasonable amount and a liability at the highest reasonable amount.”
- “When there's a question, record an expense rather than an asset.”

The goal is for financial statements to report realistic figures. However, do not deliberately understate assets, revenues, and gains, nor deliberately overstate liabilities, expenses, and losses.

DID YOU GET IT?



To check your understanding of the material in this Learning Objective, complete these questions. The solutions appear on MyAccountingLab so you can check your progress.

7. Pemberton Company began May with 20 units of inventory that cost a total of \$800. During May, Pemberton purchased and sold goods as follows:

May	8	Purchase: 30 units at \$25
	14	Sale: 25 units at \$50
	22	Purchase: 20 units at \$30
	27	Sale: 30 units at \$60

Calculate the gross margin amount using the FIFO method, assuming Pemberton uses a periodic inventory system.

8. Refer to the Pemberton Company data in the previous question. Calculate the gross margin amount using the weighted-average method, assuming Pemberton uses a periodic inventory system.

Other Inventory Issues

In addition to the FIFO and weighted-average inventory costing methods, accountants face other inventory issues. This section covers

- The lower-of-cost-and-net-realizable-value rule
- Effects of inventory errors
- Ethical issues
- Estimating ending inventory

OBJECTIVE 4
Apply the lower-of-cost-and-net-realizable-value rule to inventory

Lower-of-Cost-and-Net-Realizable-Value Rule

The **lower-of-cost-and-net-realizable-value rule** (abbreviated as **LCNRV**) shows accounting conservatism in action. LCNRV requires that inventory be reported in the financial statements at whichever is lower:

- The historical cost of the inventory
- The net realizable value (market value) of the inventory

For inventories, *net realizable value* generally means the expected selling price (that is, the amount the business could get if it sold the inventory less the costs of selling it).

If the net realizable value of inventory falls below its historical cost, the business must write down the value of its goods. This situation may arise if inventory has become damaged or if it has become obsolete. On the balance sheet, the business reports ending inventory at its LCNRV.

At each year end, a new assessment of the net realizable value is made. If the circumstances that caused inventories to be written down below cost no longer exist, the amount of the write-down is reversed, up to the original cost of the inventory in question. However, inventory is *never* written up to an amount greater than its original cost, since this would violate LCNRV.

Suppose SportChek paid \$6,000 for inventory on September 26. By December 31, the inventory can only be sold for \$5,000, and the decline in value appears permanent. Net realizable value is below FIFO cost, and the entry to write down the inventory to LCNRV follows:

Costs of Goods Sold	1,000	
Inventory		1,000
To write down inventory to net realizable value. (cost, \$6,000 – net realizable value, \$5,000)		

LEARNING TIPS

Note that the matching objective of the measurement principle is applied to ending inventory with LCNRV. The reduction in the value of the inventory is shown in the year the inventory declines in value, *not* in the year the inventory is sold.

In this case, The Forzani Group Ltd.'s balance sheet would report this inventory as follows:


Balance Sheet	
Current assets:	
Inventory, at market	\$5,000
(which is lower than \$6,000 cost)	

Companies often disclose LCMNRV in notes to their financial statements, as shown here for The Forzani Group Ltd., SportChek's parent company:


NOTE 2: SIGNIFICANT ACCOUNTING POLICIES

(b) *Inventory valuation*

Inventory is valued at the lower of laid-down cost and net realizable value. Laid-down cost is determined using the weighted average cost method and includes invoice cost, duties, freight, and distribution costs. Net realizable value is defined as the expected selling price. . . .



DID YOU GET IT?



To check your understanding of the material in this Learning Objective, complete these questions. The solutions appear on MyAccountingLab so you can check your progress.

- Suppose Indy Computers paid \$10,000 for inventory. By its year end, the company had sold 60 percent of the inventory but determined that the remaining inventory could be sold for only 50 percent of its original cost. The company anticipated that this decline was permanent. At what amount would inventory be reported on the year-end balance sheet?
- Refer to the inventory data in the previous question. Suppose, one month later, a worldwide shortage of this inventory now gives it a net realizable value of \$5,000. At what amount would this inventory be reported on the balance sheet one month later?

Effects of Inventory Errors

OBJECTIVE 5
Measure the effects of inventory errors

Businesses count their inventories at the end of the period. For the financial statements to be accurate, it is important to get a correct count of ending inventory. This can be difficult for a company with inventory in many locations.

An error in ending inventory creates a whole string of errors. To illustrate, suppose SportChek accidentally counted too much ending inventory. Therefore, ending inventory is overstated on the balance sheet. The following diagram shows how an overstatement of ending inventory affects cost of goods sold, gross margin, and net income:

	Ending Inventory Overstated
Sales revenue.....	Correct
Cost of goods sold:	
Beginning inventory	Correct
Net purchases	Correct
Cost of goods available for sale	Correct
Ending inventory	ERROR: Overstated
Cost of goods sold.....	Understated
Gross margin.....	Overstated
Operating expenses.....	Correct
Net income	Overstated

Understating the ending inventory—reporting the inventory too low—has the opposite effect, as shown here:

	Ending Inventory Understated
Sales revenue	Correct
Cost of goods sold:	
Beginning inventory	Correct
Net purchases	Correct
Cost of goods available for sale.....	Correct
Ending inventory	ERROR: Understated
Cost of goods sold	Overstated
Gross margin	Understated
Operating expenses	Correct
Net income	Understated

Recall that one period's ending inventory is the next period's beginning inventory. Thus, an error in ending inventory carries over into the next period. Exhibit 6-7 illustrates the effect of an inventory error. Period 1's ending inventory is overstated by \$10,000. The error carries over to Period 2. Period 3 is correct. In fact, both Period 1 and Period 2 should look like Period 3.

EXHIBIT 6-7 Inventory Errors: An Example

	Period 1	Period 2	Period 3
	Ending Inventory Overstated by \$10,000	Beginning Inventory Overstated by \$10,000	Correct
Sales revenue.....	\$100,000	\$100,000	\$100,000
Cost of goods sold:			
Beginning inventory	\$10,000	\$20,000	\$10,000
Net purchases	50,000	50,000	50,000
Cost of goods available for sale	60,000	70,000	60,000
Ending inventory.....	(20,000)	(10,000)	(10,000)
Cost of goods sold	40,000	60,000	50,000
Gross margin.....	\$60,000	\$40,000	\$50,000

\$100,000

The correct gross margin is \$50,000 for each period.

Source: The authors thank Carl High for this example.

Ending inventory is *subtracted* in computing cost of goods sold in one period and the same amount is *added* as beginning inventory the next period. Therefore, an inventory error cancels out after two periods. The overstatement of cost of goods

sold in Period 2 counterbalances the understatement for Period 1. Thus, the total gross margin for the two periods combined is correct. These effects are summarized in Exhibit 6–8.

EXHIBIT 6–8

Effects of Inventory Errors

Inventory Error	Period 1		Period 2	
	Cost of Goods Sold	Gross Margin and Net Income	Cost of Goods Sold	Gross Margin and Net Income
Period 1 ending inventory <i>overstated</i>	Understated	Overstated	Overstated	Understated
Period 1 ending inventory <i>understated</i>	Overstated	Understated	Understated	Overstated

 **KEY POINT**

Recognize that a dollar change in ending inventory means a dollar change in income. This is one reason auditors examine the ending inventory so carefully. An income statement may be manipulated by altering the amount of ending inventory.

Ethical Issues

No area of accounting has a deeper ethical dimension than inventory. Companies whose profits do not meet expectations can be tempted to “cook the books” to increase reported income. The increase in reported income will make the business look more successful than it really is.

There are two main schemes for using inventory to increase reported income. The easier, and the more obvious, is to overstate ending inventory. In Exhibit 6–8, we see how an error in ending inventory affects net income.

The second way of using inventory to increase reported income involves sales. Sales schemes are more complex than simple inventory overstatements. Datapoint Corporation and MiniScribe, both computer-related companies, were charged with creating fictitious sales to boost reported profits.

Datapoint is alleged to have hired drivers to transport its inventory around the city so that the goods could *not* be counted. Datapoint’s plan was to create the impression that the inventory must have been sold. This scheme broke down when the trucks returned the goods to the warehouse. The sales returns were much too high to be realistic, and the sales proved to be phony.

MiniScribe is alleged to have “cooked its books” by shipping boxes of bricks labelled as computer parts to its distributors right before year end. The distributors refused to accept the goods and returned them to MiniScribe—but in the next accounting period. The scheme affected MiniScribe’s reported year-end assets and equity: sales and net income were overstated and inventories were understated by millions of dollars—but only temporarily. The offsetting effect of the scheme occurred in the next accounting period when MiniScribe had to record the sales returns. In virtually every area, accounting imposes a discipline that brings out the facts sooner or later.

DID YOU GET IT? 



To check your understanding of the material in this Learning Objective, complete these questions. The solutions appear on MyAccountingLab so you can check your progress.

- Leena’s Craft Shop uses a periodic inventory system. The inventory data for the year ended December 31, 2010, follow.

Sales revenue	\$120,000
Cost of goods sold:	
Beginning inventory	22,000
Net purchases	90,000
Cost of goods available for sale	112,000
Less: Ending inventory	(24,000)
Cost of goods sold	88,000
Gross margin	<u>\$ 32,000</u>

Suppose it was discovered after the year end that \$4,000 of craft supplies had dried up in their packages and should have been destroyed before year end. These supplies had been counted and recorded as ending inventory. What effects did these obsolete craft supplies have on the accounting information above?

12. Refer to the Leena's Craft Shop data in the previous question. What effects will the obsolete craft supplies have on the accounting information for the following year?

Estimating Ending Inventory

Often a business must *estimate* the value of its ending inventory. Suppose the company suffers a fire loss and must estimate the value of the inventory destroyed. Or suppose a company needs monthly financial statements.

The **gross margin method** (also known as the **gross profit method**) provides a way to estimate inventory using the cost of goods sold model (amounts are assumed for illustration):

OBJECTIVE 6
Estimate ending inventory by the gross margin method and the retail method

Beginning inventory	\$ 20
+ Net purchases	100
= Cost of goods available for sale	120
– Ending inventory	(40)
= Cost of goods sold	\$ 80

Rearranging *ending inventory* and *cost of goods sold* makes the model useful for estimating ending inventory (amounts are assumed for illustration):

Beginning inventory	\$ 20
+ Purchases	100
= Cost of goods available for sale	120
– Cost of goods sold	(80)
= Ending inventory	\$ 40

Suppose a fire destroys your inventory. To collect insurance, you must estimate the cost of the ending inventory. Using your normal *gross margin percent* (that is, gross margin divided by net sales revenue), you can estimate cost of goods sold. Then subtract cost of goods sold from cost of goods available to estimate ending inventory. Exhibit 6–9 illustrates the gross margin method using assumed amounts.

EXHIBIT 6–9

Gross Margin Method of Estimating Inventory (amounts assumed)

Beginning inventory		\$ 14,000
Purchases		66,000
Cost of goods available for sale		80,000
Estimate cost of goods sold:		
Sales revenue.....	\$100,000	
Less: Estimated gross margin of 40%.....	<u>(40,000)</u>	
Estimated cost of goods sold.....		<u>(60,000)</u>
Estimated cost of <i>ending inventory</i>		<u>\$ 20,000</u>

LEARNING TIPS

Remember that the gross margin % + the cost of goods sold % = 100%. If gross margin is 35% of sales, then cost of goods sold is 65% of sales.

Retail Method The **retail method** of estimating the cost of ending inventory is often used by retail establishments that use the periodic inventory system. This is because it is often easier for retail establishments to calculate the selling price, or retail price, of a wide range of items rather than to look at all the individual invoices to find the costs of each of those items.

Like the gross margin method, the retail method is based on the familiar cost of goods sold model, rearranged to calculate ending inventory:

Beginning inventory	
+ Net purchases	
= Cost of goods available for sale	
– Cost of goods sold	
= Ending inventory	

However, to use the retail method, a business must know both the total cost and the total selling price of its opening inventory, as well as both the total cost and the total selling price of its net purchases. Total selling price is determined by counting each item of inventory and multiplying it by the item's retail selling price (the price given on the price tag). By summing the costs and selling prices of beginning inventory and net purchases, the business knows the cost and retail selling price of the goods it has available for sale.

The business can calculate the total selling price of its sales because this is the sum of the amounts recorded on the cash register when sales are made. The total of sales at retail is deducted from the total selling price of the goods available for sale to give the total selling price of ending inventory. To convert ending inventory at selling price to ending inventory at cost, the business multiplies the ending inventory at selling price by the *retail ratio*. The retail ratio is the ratio of the cost of goods available for sale at *cost* to the cost of goods available for sale at *selling price*. It is usually expressed as a percent. Exhibit 6–10 illustrates the retail method.

REAL WORLD EXAMPLE

The gross margin and retail methods are also used to estimate inventory for interim periods when it is impractical to take a physical inventory.

EXHIBIT 6–10

Retail Method of Estimating Inventory (amounts assumed)

	Cost	Selling Price
Beginning inventory	\$151,200	\$216,000
Purchases	504,000	720,000
Goods available for sale	655,200	936,000
Net sales, at selling price (retail)		696,000
Ending inventory, at selling price (retail)		\$240,000
Ending inventory, at cost (\$240,000 × *70%)	\$168,000	

*Retail ratio = $(\$655,200 \div 936,000) \times 100\% = 70\%$

The retail method can be used to estimate inventory at any point in time, and it is acceptable to use the retail method to calculate year-end inventory cost for financial statement and income tax purposes, although an inventory count must be done at least once per year.

DID YOU GET IT?



MyAccountingLab

To check your understanding of the material in this Learning Objective, complete these questions. The solutions appear on MyAccountingLab so you can check your progress.

- Beginning inventory is \$90,000, net purchases total \$320,000, and net sales are \$500,000. The normal gross margin is 40 percent of sales. Use the gross margin method to calculate ending inventory.

14. A beachwear shop needs to estimate the cost of its ending inventory for insurance purposes, and since it is summer, it cannot close for a physical count of inventory. The insurance company will accept an estimate using the retail method. The shop's owner knows the cost of opening inventory was \$50,000 from the previous year end's physical count and its selling price was \$120,000. From invoices, the owner knows the cost of purchases was \$200,000 and their retail selling prices totalled \$480,000. Cash register receipts show that sales from the beginning of the year totalled \$500,000. Calculate the cost of ending inventory for the insurance company.

Accounting-Cycle and Financial-Reporting Implications of IFRS

The treatment of inventories under Canadian GAAP for private enterprises is significantly the same as the treatment for companies reporting under international financial reporting standards (IFRS). There are three basic issues surrounding inventory reporting: the costs to include in inventory, the inventory costing methods that are available, and the rules for recording and reporting inventory that has a value lower than its original cost.

Costs included in the determination of inventory are the same for IFRS-reporting companies as they are for Canadian private enterprises. The main categories are purchase cost, conversion costs, and other inventoriable costs, such as freight costs to get the product to the company's facility, to make the inventory ready for sale.

The same three inventory costing methods that are permitted under Canadian GAAP are allowed under IFRS—specific identification, FIFO, and weighted average. As with Canadian GAAP, companies are free to choose whichever method they wish, but once chosen, it is expected that that method will be used on a consistent basis into the future.

Finally, both Canadian GAAP for private enterprises and IFRS require companies to reduce the value of items or categories of inventory if those items can only be sold for an amount lower than their original cost to the company. Companies must use net realizable value to determine the appropriate value of the inventory. When the circumstances that previously caused the inventories to be written down no longer exist, the amount of the write-down is reversed. Under no circumstances can inventory ever be valued higher than the lower of cost or net realizable value.



OBJECTIVE 7

Assess the inventory recording and reporting impacts of international financial reporting standards (IFRS)

DID YOU GET IT?

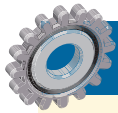


MyAccountingLab

To check your understanding of the material in this Learning Objective, complete this question. The solution appears on MyAccountingLab so you can check your progress.

15. Why are standard setters, including those setting IFRS, interested in ensuring that companies use the same inventory costing method from one year to the next?

As we conclude this chapter, we return to our opening questions: Which inventory system should a merchandiser use, and why is it important? What are the different inventory costing methods? How do they differ? Which methods can be used for income tax purposes? Which inventory costing method should a merchandiser choose? How can merchandisers estimate the cost of inventory destroyed in a fire or other disaster? The Decision Guidelines feature summarizes all of our chapter-opening questions and gives guidelines that are helpful for managing a business's inventory operations.



DECISION GUIDELINES

Guidelines for Inventory Management

Decision	Guidelines	System or Method
Which inventory system to use?	<ul style="list-style-type: none"> Expensive merchandise Cannot control inventory by visual inspection 	} → Perpetual system
	<ul style="list-style-type: none"> Can control inventory by visual inspection 	} → Periodic system
What costing method to use?	<ul style="list-style-type: none"> Unique inventory items 	} → Specific-unit cost
	<ul style="list-style-type: none"> The most current cost of ending inventory Maximizes reported income when costs are rising 	} → FIFO
	<ul style="list-style-type: none"> Middle-of-the-road approach for income tax and net income 	} → Weighted-average or moving-weighted-average
How to estimate the cost of ending inventory?	<ul style="list-style-type: none"> The cost-of-goods-sold model provides the framework 	} → Gross margin (gross profit) method
	<ul style="list-style-type: none"> Standard mark-ups from cost price to selling price are used for all inventory items 	} → Retail method

Summary Problem for Your Review

Name: Computer Parts Division,
Regal Computer Sales
Industry: Retailer
Fiscal Period: Month of
December 2010
Key Fact: Periodic inventory
system

Suppose a division of Regal Computer Sales that handles computer parts uses the periodic inventory system and has these inventory records for December 2010.

Date	Item	Quantity	Unit Cost	Sale Price
Dec. 1	Beginning inventory	100 units	\$16	
10	Purchase	60 units	18	
15	Sale	70 units		\$40
21	Purchase	100 units	20	
30	Sale	90 units		50

Company accounting records reveal that operating expenses for January were \$4,000.

Required

Prepare the December 2010 income statement in multi-step format. Show amounts for FIFO cost and weighted-average cost. Label the bottom line "Operating income." (Round the average cost per unit to three decimal places and all other figures to whole-dollar amounts.) Show your computations, and use the periodic inventory model from pages 308–309 to compute cost of goods sold.

SOLUTION

REGAL COMPUTER SALES
Income Statement for Computer Parts Division
For the Month Ended December 31, 2010

	FIFO	WEIGHTED-AVERAGE
Sales revenue.....	\$7,300	\$7,300
Cost of goods sold:		
Beginning inventory	\$1,600	\$ 1,600
Net purchases	3,080	3,080
Cost of goods available for sale.....	4,680	4,680
Ending inventory	(2,000)	(1,800)
Cost of goods sold.....	2,680	2,880
Gross margin.....	4,620	4,420
Operating expenses.....	4,000	4,000
Operating income.....	<u>\$ 620</u>	<u>\$ 420</u>
Computations		
Sales revenue: (70 × \$40) + (90 × \$50) =	\$7,300	
Beginning inventory: 100 × \$16 =	\$1,600	
Purchases: (60 × \$18) + (100 × \$20) =	\$3,080	
Ending inventory:		
FIFO: 100* × \$20 =	\$2,000	
Average cost: 100* × \$18** =	\$1,800	

*Number of units in ending inventory = 100 + 60 - 70 + 100 - 90 = 100

**Average cost per unit = \$4,680/260[†] units = \$18

[†]Number of units available = 100 + 60 + 100 = 260

The best approach to this solution is an organized one. One approach is to complete one income statement line before going to the next, until "Ending inventory." Notice that the amounts for sales revenue, beginning inventory, net purchases, and operating expenses are the same for the two inventory costing methods.

Summary

- 1. Account for perpetual inventory under the specific-unit-cost, FIFO, and moving-weighted-average-cost methods.** In a perpetual inventory system, the business keeps a continuous record for each inventory item to show the inventory on hand at all times. Inventory is debited immediately at cost when an item is purchased and inventory is credited immediately at cost when an item is sold. Businesses multiply the quantity of inventory items by their unit cost to determine inventory cost. To compute ending inventory and cost of goods sold, a cost is assigned to each inventory item. The specific-unit-cost method is typically used for unique or expensive items. Two methods of assigning costs to similar items are: *first-in, first-out (FIFO)* and *moving-weighted-average*. FIFO costing reports ending inventory at the most current cost, and moving-weighted-average costing reports ending inventory at the average cost at the time of the sale.
- 2. Compare the effects of the FIFO and moving-weighted-average-cost methods.** FIFO costing reports ending inventory at the most current cost. Moving-weighted-average costing reports ending inventory and cost of goods sold at an average amount determined by the value of all relevant units in inventory at the time of the sale. When prices are rising, moving-weighted-average costing produces the higher cost of goods sold and the lower income. When prices are rising, FIFO costing produces the higher income.
- 3. Account for periodic inventory under the FIFO and weighted-average-cost methods.** In a periodic inventory system, the business does not keep an up-to-date balance for ending inventory. Instead, at the end of the

period, the business counts the inventory on hand and updates its records. To compute ending inventory and cost of goods sold, a cost is assigned to each inventory item. Two methods of assigning costs to similar items are: *first-in, first-out (FIFO)* and *weighted-average*. FIFO costing produces identical balances for ending inventory and cost of goods sold under the periodic and perpetual inventory systems, but the weighted-average method produces a different result under the periodic and perpetual systems.

4. **Apply the lower-of-cost-and-net-realizable-value rule to inventory.** The *lower-of-cost-and-net-realizable-value (LCNRV) rule*—an example of accounting *conservatism*—requires that businesses report inventory on the balance sheet at the lower of its cost and net realizable value or current replacement. Companies disclose their definition of “net realizable value” for purposes of applying LCNRV in notes to their financial statements.
5. **Measure the effects of inventory errors.** Although inventory overstatements in one period are counterbalanced by inventory understatements in the next period,

effective decision making depends on accurate inventory information.

6. **Estimate ending inventory by the gross margin method and the retail method.** The *gross margin method* and the *retail method* are techniques for estimating the cost of ending inventory. They are useful for preparing interim financial statements and for estimating the cost of inventory destroyed by fire or other disasters.
7. **Assess the inventory recording and reporting impacts of international financial reporting standards (IFRS).** The principles of accounting for inventories under Canadian GAAP for private enterprises and under IFRS are essentially the same. The three main issues for inventory are the costs to include in inventory, the inventory costing method to use, and accounting for inventory whose market value has fallen below its cost. The Canadian practice and IFRS rules are essentially the same.

SELF-STUDY QUESTIONS

Test your understanding of the chapter by marking the correct answer to each of the following questions:

1. Suppose a store made sales of \$1,000,000 and ended the year with inventories totalling \$100,000. Cost of goods sold was \$600,000. Total operating expenses were \$270,000. How much net income did the chain store earn for the year? (pp. 301–302)
 - a. \$130,000
 - b. \$900,000
 - c. \$400,000
 - d. \$630,000
2. Which inventory costing method assigns to ending inventory the latest—the most recent—costs incurred during the period? (p. 304)
 - a. Specific-unit cost
 - b. First-in, first-out (FIFO)
 - c. Average cost
 - d. None of the above
3. Assume Lauder Company began June with 10 units of inventory that cost a total of \$760. During June, Lauder purchased and sold goods as follows:

Jun. 8	Purchase:	30 units at \$80
14	Sale:	25 units at \$160
22	Purchase:	20 units at \$88
27	Sale:	30 units at \$160

Assume Lauder uses the FIFO inventory method and the perpetual inventory system. How much is Lauder’s cost of goods sold for the transaction on June 14? (p. 304)

 - a. \$3,160
 - b. \$4,000
 - c. \$2,000
 - d. \$1,960
4. After the purchase on June 22 in question 3, what is Lauder’s cost of the inventory on hand if the company is using the FIFO inventory costing method? (p. 304)
 - a. \$1,200
 - b. \$1,760
 - c. \$2,960
 - d. \$2,880
5. Lauder’s journal entry (entries) on June 14 is (are) (p. 305)

a. Accounts Receivable.....	1,960	
Inventory		1,960
b. Accounts Receivable.....	4,000	
Sales Revenue		4,000
c. Cost of Goods Sold	1,960	
Inventory		1,960
d. Both b and c		
6. Which inventory costing method results in the lowest net income during a period of rising inventory costs? (pp. 307–308)
 - a. Specific-unit cost
 - b. First-in, first out (FIFO)
 - c. Weighted-average cost
 - d. None of the above
7. Suppose Lauder Company used the weighted-average-cost method and the periodic inventory system. Use the Lauder data in question 3 to compute the cost of the company’s inventory on hand at June 30. Round unit cost to the nearest cent. (p. 309)
 - a. \$410.00
 - b. \$420.80
 - c. \$820.00
 - d. \$841.60
8. Which of the following is most closely linked to accounting conservatism? (p. 311)
 - a. Consistency principle
 - b. Disclosure principle
 - c. Materiality concept
 - d. Lower-of-cost-and-net-realizable-value rule

9. At December 31, 2010, McAdam Company understated ending inventory by \$20,000. How does this error affect cost of goods sold and net income for 2010? (pp. 312–314)
- Overstates cost of goods sold, understates income
 - Understates cost of goods sold, overstates net income
 - Overstates both cost of goods sold and net income
 - Leaves both cost of goods sold and net income correct because the errors cancel each other
10. Suppose a SportChek location suffered a fire loss and needs to estimate the cost of the goods destroyed. Beginning inventory was \$200,000, net purchases totalled \$1,200,000, and sales came to \$2,000,000. SportChek's normal gross margin is 45 percent. Use the gross margin method to estimate the cost of the inventory lost in the fire. (p. 315)
- \$600,000
 - \$500,000
 - \$300,000
 - \$700,000

Answers to Self-Study Questions

1. a. $(\$1,000,000 - \$600,000 - \$270,000) = \$130,000$

3. d. $(10 \times \$76) + (15 \times \$80) = \$1,960$

5. d

7. a. Cost of goods available = $\$760 + \$2,400 + \$1,760 = \$4,920$
 Number of units available = $10 + 30 + 20 = 60$
 $\$4,920 / 60 \text{ units} = \82 ; $\$82 \times 5 = \410

8. d

10. c. $\$200,000 + \$1,200,000 = \$1,400,000$
 $\$2,000,000 - (0.45 \times \$2,000,000) = \$1,100,000$
 $\$1,400,000 - \$1,100,000 = \$300,000$

2. b

4. c. $(15 \times \$80) + (20 \times \$88) = \$2,960$

6. c

9. a

ACCOUNTING VOCABULARY

- | | |
|--|--|
| Conservatism (p. 310) | Materiality concept (p. 310) |
| Consistency characteristic (p. 310) | Moving-weighted-average-cost method (p. 305) |
| Disclosure principle (p. 310) | Retail method (p. 316) |
| First-in, first-out (FIFO) method (p. 304) | Specific identification method (p. 303) |
| Gross margin method (p. 315) | Specific-unit-cost method (p. 303) |
| Gross profit method (p. 315) | Weighted-average-cost method (p. 309) |
| Lower-of-cost-and-net-realizable-value (LCNRV) rule (p. 311) | |

SIMILAR ACCOUNTING TERMS

- | | |
|-------------------------------------|---------------------|
| Cost of goods sold | Cost of sales |
| Gross margin method | Gross profit method |
| Weighted-average-cost method | Average-cost method |

Assignment Material

QUESTIONS

- Why is merchandise inventory so important to a retailer or wholesaler?
- Suppose your business deals in expensive jewellery. Which inventory system should you use to achieve good internal control over the inventory? If your business is a hardware store that sells low-cost goods, which inventory system would you be likely to use? Why would you choose this system?
- Identify the accounts debited and credited in the standard purchase and sale entries under (a) the perpetual inventory system, and (b) the periodic inventory system.

- What is the role of the physical count of inventory in (a) the perpetual inventory system and, (b) the periodic inventory system?
- If beginning inventory is \$120,000, purchases total \$270,000, and ending inventory is \$125,000, how much is cost of goods sold?
- If beginning inventory is \$88,000, purchases total \$218,000, and cost of goods sold is \$230,000, how much is ending inventory?
- What two items determine the cost of ending inventory?
- Briefly describe the two generally accepted inventory costing methods. During a period of rising prices, which method produces the higher reported income? Which produces the lower reported income?
- Which inventory costing method produces the ending inventory valued at the most current cost?
- Describe the impact on cost of goods sold of using the FIFO method as opposed to the weighted-average-cost method of valuing ending inventory when the price of inventory purchases is rising. Which method provides a more accurate value of the goods remaining in ending inventory at the end of an accounting period?
- Your accounting instructor tells you that companies should use the specific identification method to most accurately value items that have been sold and transferred to cost of goods sold, yet most companies do not use this method. Why not?
- How does the consistency characteristic affect accounting for inventory?
- Briefly describe the influence that the concept of conservatism has on accounting for inventory.
- Manley Company's inventory has a cost of \$54,000 at the end of the year, and the net realizable value of the inventory is \$65,000. At which amount should the company report the inventory on its balance sheet? Suppose the net realizable value of the inventory is \$51,000 instead of \$65,000. At which amount should Manley Company report the inventory? What rule governs your answers to these questions?
- Gabriel Products accidentally overstated its ending inventory by \$10,000 at the end of Period 1. Is the gross margin of Period 1 overstated or understated? Is the gross margin of Period 2 overstated, understated, or unaffected by the Period 1 error? Is the total gross margin for the two periods overstated, understated, or correct? Give the reason for your answers.
- Identify two important methods of estimating inventory amounts.
- A fire destroyed the inventory of Bronk Supplies, but the accounting records were saved. The beginning inventory was \$63,000, purchases for the period were \$136,500, and sales were \$240,000. Bronk's customary gross margin is 40 percent of sales. Use the gross margin method to estimate the cost of the inventory destroyed by the fire.
- The retail method of estimating inventory seems simple but in reality can be difficult to apply. Why is this so?

STARTERS

MyAccountingLab

All questions in this section appear in MyAccountingLab.

Computing ending inventory—
specific-unit-cost method

1

Ending inventory \$62,900

Computing gross margin—
specific-unit-cost method

1

Gross margin \$24,400

Perpetual inventory
record—FIFO

1

Ending inventory \$1,000

Recording inventory
transactions—FIFO

1

c. COGS \$4,900

Starter 6-1 Fairhill Company has the following items in its inventory on August 1:

Serial Number	Cost
661	\$18,200
665	18,600
668	17,400
675	21,900

The company uses the specific-unit-cost method for costing inventory. During August, it sold units 661 and 668 for \$30,000 each, and purchased unit 676 for \$22,400. What is the value of the ending inventory at August 31?

Starter 6-2 Refer to the information in Starter 6-1. Calculate the gross margin for the month of August.

Starter 6-3 Casio Cycles uses the FIFO inventory method. Casio started June with 10 bicycles that cost \$190 each. On June 16, Casio bought 20 bicycles at \$200 each. On June 30, Casio sold 25 bicycles. Prepare Casio's perpetual inventory record.

Starter 6-4 Use the Casio Cycles data in Starter 6-3 to journalize

- The June 16 purchase of inventory on account.
- The June 30 sale of inventory on account. Casio sold each bicycle for \$240.
- Cost of goods sold under FIFO.

Starter 6-5 Use the Casio Cycles' data in Starter 6-3 to prepare a perpetual inventory record for the moving-weighted-average-cost method. Round average cost per unit to the nearest cent and all other amounts to the nearest dollar.

Perpetual inventory record—moving-weighted-average cost
1

Starter 6-6 Use the Casio Cycles data in Starter 6-3 to journalize

- The June 16 purchase of inventory on account.
- The June 30 sale of inventory on account. Casio sold each bicycle for \$240.
- Cost of goods sold under the moving-weighted-average-cost method.

Ending inventory \$983
Recording inventory transactions—moving-weighted-average method
1

Starter 6-7 Answer these questions in your own words:

- Why does FIFO produce the lower cost of goods sold during a period of rising prices?
- Why does moving-weighted-average costing produce the higher cost of goods sold during a period of rising prices?
- Which inventory costing method—FIFO or moving-weighted-average—results in the higher, and the lower, cost of ending inventory? Prices are rising. Exhibits 6-4 and 6-5, on pages 304 and 306, provide the needed information.

c. COGS \$4,917
Comparing cost of goods sold and ending inventory under FIFO and moving-weighted-average-cost methods
2

Starter 6-8 Park Dry Goods uses a periodic inventory system. Park completed the following inventory transactions during April, its first month of operations:

Apr. 1	Purchased 10 shirts at \$50 each
7	Sold 6 shirts for \$80 each
13	Purchased 3 shirts for \$55 each
21	Sold 2 shirts at \$85 each

Computing FIFO and weighted-average amounts in a periodic system
3
Gross margin FIFO \$250

Compute Park's ending inventory and cost of goods sold under FIFO costing. Then compute ending inventory and cost of goods sold under the weighted-average-cost method. Round average unit cost to the nearest cent. Compute gross margin under both methods. Which method results in the higher gross margin?

Starter 6-9 Van Dyke Cycles uses a periodic inventory system. The inventory data for the year ended December 31, 2010, follow.

Sales revenue.....	\$150,000
Cost of goods sold:	
Beginning inventory	22,000
Net purchases	80,000
Cost of goods available for sale	102,000
Less: Ending inventory.....	(24,000)
Cost of goods sold.....	78,000
Gross margin.....	<u>\$ 72,000</u>

Effect of an inventory error—one year only
5

Assume that the ending inventory was accidentally overstated by \$2,000. What are the correct amounts of cost of goods sold and gross margin?

Starter 6-10 Refer back to the Van Dyke Cycles' inventory data in Starter 6-9. The ending inventory balance is stated correctly at the end of 2011. What would be the effect on cost of goods sold and gross margin for the year ended December 31, 2011?

Next year's effect of an inventory error
5

Starter 6-11 Dream Carpets began the year with inventory of \$700,000. Inventory purchases for the year totalled \$3,200,000. Sales revenue for the year was \$7,000,000 and the gross margin was 50 percent. How much is Dream Carpets' estimated cost of ending inventory? Use the gross margin method.

Estimating ending inventory by the gross margin method
6
Ending inventory \$400,000

Starter 6-12 Thorne Industries began the year with inventory of \$80,000 and purchased \$350,000 of goods during the year. Sales for the year are \$600,000, and Thorne Industries' gross margin is 55 percent of sales. Compute the estimated cost of ending inventory by the gross margin method.

Estimating ending inventory by the gross margin method
6
Est. cost of ending inventory \$160,000

EXERCISES

Computing gross margin—specific-unit-cost method

1

2. Gross margin \$34,100

Exercise 6–1

Reguly Company buys transformers from manufacturers and sells them to utility companies. The units are costly, and the company keeps track of them by using serial numbers. On April 1, the company had two transformers in stock:

Serial Number	Unit Cost
2010901	\$27,500
2010905	29,600

During the month, the company purchased the following two transformers:

Serial Number	Unit Cost
20101001	\$25,500
20101002	28,400

Reguly Company sold two transformers—serial numbers 2010901 and 20101002—during the month of April. The selling price of the transformers was \$45,000 per unit.

Required

1. Reguly Company uses the specific-unit-cost method for costing inventory. Why would the company prefer to use this method?
2. Compute the gross margin for Reguly Company for the month of April.

Exercise 6–2

Measuring ending inventory and cost of goods sold in a perpetual system—FIFO

1

Cost of goods sold \$5,190

The Music Store carries a large inventory of guitars and other musical instruments. The store uses the FIFO method and a perpetual inventory system. Company records indicate the following for a particular line of guitars:

Date	Item	Quantity	Unit Cost
May 1	Balance	5	\$450
6	Sale.....	3	
8	Purchase.....	10	420
17	Sale.....	4	
30	Sale.....	5	

Required Prepare a perpetual inventory record for the guitars. Then determine the amounts The Music Store should report for ending inventory and cost of goods sold by the FIFO method.

Exercise 6–3

Recording perpetual inventory transactions

1

Applying the moving-weighted-average-cost method in a perpetual inventory system

1

Cost of goods sold \$5,175

Calculating gross margin under FIFO and the moving-weighted-average-cost method in a perpetual inventory system

2

Gross margin: Moving-weighted-average-cost method, \$4,425

After preparing the FIFO perpetual inventory record in Exercise 6–2, journalize The Music Store’s May 8 purchase of inventory on account and the cash sale on May 17 (sale price of each guitar was \$800).

Exercise 6–4

Refer to The Music Store inventory data in Exercise 6–2. Assume that the store uses the moving-weighted-average-cost method. Prepare The Music Store’s perpetual inventory record for the guitars on the moving-weighted-average-cost basis. Round average cost per unit to the nearest cent and all other amounts to the nearest dollar.

Exercise 6–5

Use your results from Exercises 6–2 and 6–4 to calculate the gross margin for The Music Store under both the FIFO and the moving-weighted-average-cost methods. Explain why the gross margin is higher under the moving-weighted-average-cost method.

Exercise 6–6

Carson Tackle Shop’s accounting records yield the following data for the year ended December 31, 2010.

Inventory: January 1, 2010	\$ 24,000
Purchases of inventory (on account)	147,000
Sales of inventory—80 percent on account, 20 percent for cash (cost \$123,000)	225,000
Inventory at FIFO cost December 31, 2010	?

Recording perpetual inventory transactions

1

2. Gross margin \$102,000

Required

1. Journalize Carson Tackle Shop’s inventory transactions for the year in the perpetual system.
2. Report ending inventory, sales, cost of goods sold, and gross margin on the appropriate financial statement.

Exercise 6–7

Refer to the Carson Tackle Shop data in Exercise 6–6. Assume that Carson is using a periodic inventory system. Inventory on hand at December 31, 2010, was \$48,000, based on the physical count.

Recording periodic inventory transactions

3

2. Gross margin \$102,000

Required

1. Journalize Carson Tackle Shop’s inventory transactions for the year in the periodic system.
2. Report ending inventory, sales, cost of goods sold, and gross margin on the appropriate financial statement. How do these amounts compare to the same amounts in the perpetual inventory system calculated in Exercise 6–6, Requirement 2?

Exercise 6–8

Balkin Office Products markets the ink used in inkjet printers. Balkin started the year with 10,000 containers of ink (moving-weighted-average cost of \$9 each; FIFO cost of \$8 each). During the year, Balkin purchased 80,000 containers of ink at \$11 on the first day of its fiscal year and sold 70,000 units for \$23 each, with all transactions on account. Balkin paid operating expenses throughout the year, a total of \$500,000.

Applying the moving-weighted-average and FIFO methods in a perpetual inventory system

1

Cost of goods sold: Moving-weighted-average cost \$754,600

Journalize Balkin’s purchases, sales, and operating expense transactions under the following format. Balkin uses the perpetual inventory system to account for inkjet printer ink.

Accounts	DEBIT/CREDIT AMOUNTS	
	Moving-Weighted-Average*	FIFO

*Round moving-weighted-average unit cost to the nearest cent.

Exercise 6–9

Kelso Electrical’s inventory records for industrial switches indicate the following at November 30, 2010:

Nov. 1	Beginning inventory	14 units at \$80
8	Purchase	4 units at \$85
15	Purchase	11 units at \$90
26	Purchase	5 units at \$95

The physical count of inventory at November 30, 2010, indicates that six units remain in ending inventory, and the company owns them.

Required Compute ending inventory and cost of goods sold using each of the following methods, assuming the periodic inventory system:

1. Specific-unit cost, assuming three \$85 units and three \$90 units are on hand on November 30, 2010.
2. Weighted-average cost.
3. First-in, first-out (FIFO).



Excel Spreadsheet Template

Computing ending inventory by applying four inventory costing methods in a periodic inventory system

3

3. FIFO cost of goods sold \$2,360

Determining amounts for the income statement: periodic system

3

(a) \$28,000 (c) \$13,200

Exercise 6-10

1. Supply the missing income statement amounts for each of the following companies for the year ended December 31, 2010:

Company	Net Sales	Beginning Inventory	Net Purchases	Ending Inventory	Cost of Goods Sold	Gross Margin
Arc Co.	\$ 46,500	\$ 6,300	\$31,400	\$ 9,700	(a)	\$18,500
Bell Co.	(b)	13,700	46,500	(c)	\$47,000	26,300
Court Co.	47,000	(d)	27,900	11,300	28,700	(e)
Dolan Co.	51,200	5,400	(f)	4,100	(g)	23,700

2. Prepare the income statement for Dolan Co., which uses the periodic inventory system. Dolan's operating expenses for the year were \$8,700.

Exercise 6-11

Identifying income and other effects of the inventory methods

2

This exercise tests your understanding of the three inventory methods. In the space provided, write the name of the inventory method that best fits the description. Assume that the cost of inventory is rising.

- _____ a. Provides the same result for ending inventory in a periodic and in a perpetual inventory system.
- _____ b. Maximizes reported net income when inventory purchase prices are falling.
- _____ c. Results in a cost of ending inventory that is close to the current cost of replacing the inventory.
- _____ d. Maximizes reported net income when inventory purchase prices are rising.
- _____ e. Used to account for automobiles, jewellery, and art objects.
- _____ f. Provides a smoother measure of ending inventory and cost of goods sold over time.

Exercise 6-12

Applying the lower-of-cost-and-net-realizable-value rule to inventories: perpetual system

1 4

Robertson Garden Supplies, which uses a perpetual inventory system and the FIFO method, has these account balances at December 31, 2010, prior to releasing the financial statements for the year:

Inventory		Cost of Goods Sold		Sales Revenue	
Beg. bal.	50,000				
End. bal.	84,000	Bal.	500,000	Bal.	940,000

The company has determined that the net realizable value of the December 31, 2010, ending inventory is \$70,000.

Required Prepare Robertson Garden Supplies' balance sheet at December 31, 2010, to show how Robertson would apply the lower-of-cost-and-net-realizable-value rule to inventories. Include a complete heading for the statement.

Exercise 6-13

Valley Tool Company's income statement for the month ended August 31, 2010, reported the following data:

Income Statement		
Sales revenue		\$320,000
Cost of goods sold:		
Beginning inventory	\$ 62,000	
Net purchases	243,700	
Cost of goods available for sale	305,700	
Ending inventory	85,700	
Cost of goods sold		<u>220,000</u>
Gross margin		<u>\$100,000</u>

Excel Spreadsheet Template

Applying the lower-of-cost-and-net-realizable-value rule to inventories: periodic system

3 4

Gross margin \$94,100

Before the financial statements were released, it was discovered that the current net realizable value of ending inventory was \$79,800. Adjust the preceding income statement to apply the lower-of-cost-and-net-realizable-value rule to Valley Tool Company's inventory. Also, show the relevant portion of Valley Tool Company's balance sheet. The net realizable value of the beginning inventory was \$85,000.

Exercise 6–14

Provence Bakery reported sales revenue of \$128,000 and cost of goods sold of \$71,000. Compute Provence Bakery's correct gross margin if the company made each of the following accounting errors. Show your work.

- Ending inventory is overstated by \$3,000.
- Ending inventory is understated by \$3,000.

Measuring the effect of an inventory error

5

a. Gross margin \$54,000

Exercise 6–15

Maple Bay Marine Supply reported the comparative income statement for the years ended September 30, 2010 and 2009, shown below.

Correcting an inventory error

5

Net income before taxes 2009 \$34,000

MAPLE BAY MARINE SUPPLY
Income Statement
For the Years Ended September 30, 2010 and 2009

	2010	2009
Sales revenue	\$165,000	\$146,000
Cost of goods sold:		
Beginning inventory.....	\$ 16,500	\$15,400
Net purchases.....	91,000	78,000
Cost of goods available.....	107,500	93,400
Ending inventory.....	23,600	16,500
Cost of goods sold	<u>83,500</u>	<u>76,900</u>
Gross margin	81,100	69,100
Operating expenses	36,400	31,500
Net income before taxes	<u>\$ 44,500</u>	<u>\$ 37,600</u>

During 2010, accountants for the company discovered that ending 2009 inventory was overstated by \$3,600. Prepare the corrected comparative income statement for the two-year period, complete with a heading for the statement. What was the effect of the error on net income for the two years combined? Explain your answer.

Exercise 6–16

Janet Klein, accountant of Portage Electronics Ltd., learned that Portage Electronics' \$24 million cost of inventory at the end of last year was overstated by \$3.6 million. She notified the company president, Eric Moffat, of the accounting error and the need to alert the company's lenders that last year's reported net income was incorrect. Moffat explained to Klein that there is no need to report the error to lenders because the error will counterbalance this year. This year's error will affect this year's net income in the opposite direction of last year's error. Even with no correction, Moffat reasons, net income for both years combined will be the same whether or not Portage Electronics Ltd. corrects its errors.

Assessing the effect of an inventory error on two years' statements

5

Required

- Was last year's reported net income of \$37.0 million overstated, understated, or correct? What was the correct amount of net income last year?
- Is this year's net income of \$41 million overstated, understated, or correct? What is the correct amount of net income for the current year?
- Whose perspective is better, Klein's or Moffat's? Give your reason. Consider the trend of reported net income both without the correction and with the correction.

Exercise 6–17

Determine whether each of the actions on the next page in buying, selling, and accounting for inventories is ethical or unethical. Give your reason for each answer.

Ethical implications of inventory actions

3 5 6

1. Spartan Corporation knowingly overstated purchases to produce a high figure for cost of goods sold (low amount of net income). The real reason was to decrease the company's income tax payments to the government.
2. In applying the lower-of-cost-and-net-realizable-value rule to inventories, Kerr Industries recorded an excessively low realizable value for ending inventory. This allowed the company to pay no income tax for the year.
3. In a period of decreasing prices, Sparrow Distributors purchased lots of inventory shortly before year end to decrease the moving-weighted-average cost of goods sold and increase reported income for the year to reach the level of profit demanded by the company's investors.
4. During a period of rising prices, Callais Electrical Products delayed the purchase of inventory until after December 31, 2010, in order to keep 2010's moving-weighted-average cost of goods sold from growing too large. The delay in purchasing inventory helped net income of 2010 to reach the level of profit demanded by the company's investors.
5. Lacombe Sales Company deliberately overstated ending inventory in order to report higher profits (net income).

Exercise 6–18

Estimating inventory by the gross margin method

6

Est. inventory cost \$260,000

Bathurst Company began April with inventory of \$200,000. The business made net purchases of \$600,000 and had net sales of \$900,000 before a fire destroyed the company's inventory. For the past several years, Bathurst Company's gross margin on sales has been 40 percent. Estimate the cost of the inventory destroyed by the fire. Identify another reason owners and managers use the gross margin method to estimate inventory on a regular basis.

Exercise 6–19

Estimating inventory by the retail method

6

Est. ending inventory cost,
Teenage line \$125,000

Tanya's Designs has three lines of women's sportswear: Teenage, Young Woman, and Mature. The selling price of each item is double its cost price. On May 18, 2010, Tanya's Designs had a fire that destroyed the entire inventory. Sales for the period January 1 to May 18 were: Teenage, \$420,000; Young Woman, \$560,000; and Mature, \$750,000. Inventory at January 1, 2010, was: Teenage, \$95,000; Young Woman, \$130,000; and Mature, \$170,000. Purchases made from January 1 to May 18, at cost, were: Teenage, \$240,000; Young Woman, \$220,000; and Mature, \$310,000.

Use the retail method to calculate the cost of the inventory lost in the fire.

SERIAL EXERCISE

This exercise continues the Haupt Consulting situation from Exercise 5–28 of Chapter 5. If you did not complete Exercise 5–28, you can still complete Exercise 6–20 as it is presented.

Exercise 6–20

Accounting for both merchandising and service transactions under the perpetual inventory system

1 2

1. Cost of goods sold \$3,887

Consider the January 2011 transactions for Haupt Consulting Company that were presented in Chapter 5.

- | | | |
|------|----|--|
| Jan. | 2 | Completed a consulting engagement and received cash of \$7,200. |
| | 2 | Prepaid three months' office rent, \$3,000. |
| | 7 | Purchased 100 units of software inventory on account, \$1,900, plus freight in, \$100. |
| | 16 | Paid employee salary, \$1,400. |
| | 18 | Sold 70 software units on account, \$3,100. |
| | 19 | Consulted with a client for a fee of \$900 on account. |
| | 21 | Paid on account, \$2,000. |
| | 22 | Purchased 200 units of software inventory on account, \$4,600. |
| | 24 | Paid utilities, \$300. |
| | 28 | Sold 100 units of software for cash, \$4,000. |
| | 31 | Recorded the following adjusting entries: |
| | | Accrued salary expense, \$1,400. |
| | | Prepaid rent expired, \$1,000. |
| | | Amortization of office furniture, \$60, and of equipment, \$33. |
| | | Physical count of inventory, 120 units |

Required

1. Prepare perpetual inventory records for January for Haupt Consulting Company using the moving-weighted-average perpetual method. Round average cost per unit to the nearest cent and all other amounts to the nearest dollar. (Note: You must calculate cost for the January 18, 22, 28, and 31 transactions.)
2. Journalize and post to T-accounts the January transactions using the perpetual inventory record created in Requirement 1. Key all items by date. Use the opening balances given in Serial Exercise 5-28 on page 282. Compute each account balance, and denote the balance as *Bal.*
3. Journalize and post to T-accounts the adjusting entries. Denote each adjusting amount as *Adj.* After posting all adjusting entries, prove the equality of debits and credits in the ledger.

CHALLENGE EXERCISES

Exercise 6-21

For each of the following situations, identify the inventory method that you are using or would prefer to use, or, given the use of a particular method, state the strategy that you would follow to accomplish your goal.

- a. Inventory costs are increasing. Your business uses the FIFO method and is having an unexpectedly good year. It is near year end, and you need to keep net income from increasing too much.
- b. Inventory costs have been stable for several years, and you expect costs to remain stable for the indefinite future. (Give your reason for your choice of method.)
- c. Inventory costs are decreasing, and you want to maximize income.
- d. Company management prefers an inventory policy that avoids extremes.
- e. Your inventory turns over very rapidly, and the business uses a perpetual inventory system. Inventory costs are increasing, and the business prefers to report high income.

Inventory policy decisions



Exercise 6-22

Central Glass Products Ltd. is a leading provider of bottles for the brewing industry. Suppose the company recently reported these figures.

Evaluating a company's profitability



CENTRAL GLASS PRODUCTS LTD.
Income Statement
For the Years Ended December 31, 2010 and 2009 (amounts in thousands)

	2010	2009
Sales.....	\$135,000	\$103,000
Cost of sales	<u>97,200</u>	<u>77,700</u>
Gross margin	<u>37,800</u>	<u>25,300</u>
Cost and expenses		
Selling, general and administrative.....	27,800	21,100
Amortization	2,750	1,170
Restructuring charges	<u>9,050</u>	<u>—</u>
	<u>39,600</u>	<u>22,270</u>
Operating income (loss).....	(1,800)	3,030
Other items (summarized)	(800)	(1,700)
Net income (loss)	<u>\$ (2,600)</u>	<u>\$ 1,330</u>

Required Evaluate Central Glass's operations during 2010 in comparison with 2009. Consider sales, gross margin, operating income, and net income. In the annual report, Central Glass's management describes the restructuring charges in 2010 as a one-time event that is not expected to recur. How does this additional information affect your evaluation?

BEYOND THE NUMBERS

The inventory costing method chosen by a company can affect the financial statements and thus the decisions of the users of those statements.

Assessing the impact of the inventory costing method on the financial statements



Required

1. A leading accounting researcher stated that one inventory costing method reports the more recent costs in the income statement, while another method reports the more recent costs in the balance sheet. In this person's opinion, this results in one or the other of the statements being "inaccurate" when prices are rising. What did the researcher mean?
2. Conservatism is an accepted accounting concept. Would you want management to be conservative in accounting for inventory if you were (a) a shareholder, and (b) a prospective shareholder? Give your reason.
3. Premier Cycle Shoppe follows conservative accounting and writes the value of its inventory of bicycles down to net realizable value, which has declined below cost. The following year, an unexpected cycling craze results in a demand for bicycles that far exceeds supply, and the net realizable value increases well above the previous cost. What effect will conservatism have on the income of Premier Cycle Shoppe over the two years?

ETHICAL ISSUE

During 2009, Bryant Electronics changed to the weighted-average-cost method of accounting for inventory. Suppose that during 2010, Bryant Electronics changes back to the FIFO method, and in the following year switches back to the weighted-average-cost method again.

Required

1. What would you think of a company's ethics if it changed accounting methods every year?
2. What accounting principle would changing methods every year violate?
3. Who can be harmed when a company changes its accounting methods too often? How?

PROBLEMS (GROUP A)

MyAccountingLab

All questions in this section appear in MyAccountingLab.

Problem 6-1A

Using the perpetual inventory system—FIFO



2. Cost of goods sold \$9,280

Markham Leather, a distributor of leather products, uses the FIFO method for valuing inventories. It began August with 50 units of an inventory item that cost \$80 each. During August, the store completed these inventory transactions:

			Units	Unit Cost	Unit Sale Price
Aug.	3	Sale	40		\$140
	8	Purchase	80	\$88	
	21	Sale	70		150
	30	Purchase	10	96	

Required

1. Prepare a perpetual inventory record for this item.
2. Determine the store's cost of goods sold for August.
3. Compute gross margin for August.

Problem 6-2A

Accounting for inventory using the perpetual system—FIFO



1. Cost of goods sold \$38,350

Acme Distributors purchases inventory in crates of merchandise.

Assume the company began January with an inventory of 20 units that cost \$300 each. During the month, the company purchased and sold merchandise on account as shown.

Jan.	10	Purchased 30 units at \$320.
	15	Sold 40 units at \$600.
	22	Purchased 70 units at \$350.
	29	Sold 75 units at \$700.

Assume Acme Distributors uses the FIFO cost method for valuing inventories. The company uses a perpetual inventory system.

Cash payments on account totalled \$20,000. Company operating expenses for the month were \$15,000. The company paid two-thirds in cash, with the rest accrued as Accounts Payable.

Required

1. Prepare a perpetual inventory record, at FIFO cost, for this merchandise.
2. Make journal entries to record the company's transactions.

Problem 6-3A

Refer to the Acme Distributors situation in Problem 6-2A. Keep all the data unchanged, except assume that Acme uses the moving-weighted-average-cost method.

Accounting for inventory in a perpetual system—moving-weighted-average cost



1. Cost of goods sold \$38,374

Required

1. Prepared a perpetual inventory record at moving-weighted-average cost. Round the average unit cost to the nearest cent and all other amounts to the nearest dollar.
2. Prepare a multi-step income statement for Acme Distributors for the month of January.

Problem 6-4A

Prairie Hardware operates a store in Red Deer, Alberta. The company began 2010 with an inventory of 50 power nailers that cost \$4,000 in total. During the year, the company purchased merchandise on account as follows:

Accounting for inventory in a perpetual system—FIFO



3. Gross margin \$16,420

March (60 units at \$85).....	\$ 5,100
August (40 units at \$87).....	3,480
October (180 units at \$90).....	<u>16,200</u>
Total purchases.....	<u>\$24,780</u>

Cash payments on account during the year totalled \$22,000.

During November 2010, the company sold 300 units of merchandise for \$42,500, of which \$26,000 was for cash and the balance was on account. Prairie uses the FIFO method for inventories.

Required

1. Make summary journal entries to record the company's transactions for the year ended December 31, 2010. The company uses a perpetual inventory system.
2. Determine the FIFO cost of the company's ending inventory at December 31, 2010. Use a T-account.
3. Calculate Prairie Hardware's gross margin for the year ended December 31, 2010.

Problem 6-5A

Sharpe Framing Co. began March with 73 units of inventory that cost \$50 each. During the month, Sharpe made the following purchases:

Computing inventory by two methods—periodic system



2. Gross margin: Weighted-avg. \$10,471

Mar.	4	113 units at \$48
	12	81 units at \$49
	19	167 units at \$52
	25	44 units at \$54

The company uses the periodic inventory system, and the physical count at March 31 includes 51 units of inventory on hand.

Required

1. Determine the ending inventory and cost-of-goods-sold amounts for the March financial statements under (a) weighted-average cost, and (b) FIFO cost. Round average cost per unit to the nearest cent and all other amounts to the nearest dollar.
2. Sales revenue for March totalled \$32,000. Compute Sharpe's gross margin for March under each method.
3. Which method will result in the lowest income taxes for Sharpe? Why?
4. Which method will result in the highest net income for Sharpe? Why?

Using the periodic inventory system—weighted-average and FIFO

3

2. Cost of goods sold, weighted average \$274,260

Problem 6–6A

Rupert Products, which uses a periodic inventory system, began 2010 with 6,000 units of inventory that cost a total of \$90,000. During 2010, Rupert Products purchased merchandise on account as follows:

Purchase 1 (10,000 units at \$14 per unit).....	\$140,000
Purchase 2 (20,000 units at \$12 per unit).....	240,000

At year end, the physical count indicated 15,000 units of inventory on hand.

Required

- How many units did Rupert Products sell during the year? The sale price per unit was \$28. Determine Rupert's sales revenue for the year.
- Compute cost of goods sold by the weighted-average method. Round average cost per unit to the nearest cent and all other amounts to the nearest dollar. Then determine gross margin for the year.
- Compute cost of goods sold by the FIFO method. Then determine gross margin for the year.
- Compare the gross margins you calculated for each inventory method in Requirements 2 and 3. What conclusions can you draw when the purchase prices for inventory are falling?

Problem 6–7A

Using the perpetual and periodic inventory systems

1 3

3. Gross margin \$4,100

Thunder Performance Tire began June with 50 units of inventory that cost \$132 each. During June, Thunder Performance Tire completed these inventory transactions:

			Unit	Unit Cost	Unit Selling Price
Jun.	2	Purchase	12	\$135	
	8	Sale	27	132	\$180
	13	Sale	23	132	180
		Sale	3	135	185
	17	Purchase	24	135	
	22	Sale	31	135	185
	29	Purchase	24	140	

Required

- The above data are taken from Thunder Performance Tire's perpetual inventory records. Which cost method does Thunder Performance Tire use?
- Compute Thunder Performance Tire's cost of goods sold for June under the
 - Perpetual inventory system
 - Periodic inventory system
- Compute gross margin for June.

Problem 6–8A

Applying the lower-of-cost-and-net-realizable-value rule to inventories

4

Cost of goods sold \$66,300,000

Chesley Home Furniture has recently been plagued with lacklustre sales. The rate of inventory turnover has dropped, and some of the business's merchandise is gathering dust. At the same time, competition has forced the business to lower the selling prices of its inventory. It is now December 31, 2010. Assume the net realizable value of a Chesley Home Furniture store's ending inventory is \$1,100,000 below what Chesley Home Furniture paid for the goods, which was \$10,300,000. Before any adjustments at the end of the period, assume the store's Cost of Goods Sold account has a balance of \$65,200,000.

Required

- What action should Chesley Home Furniture take in this situation, if any?
- Give any journal entry required.
- At what amount should Chesley Home Furniture report Inventory on the balance sheet?
- At what amount should the business report cost of goods sold on the income statement?
- Discuss the accounting principle or concept that is most relevant to this situation.

Problem 6–9A

The accounting records of Webb Music Stores show these data (in thousands):

	2010	2009	2008
Net sales revenue	\$426	\$366	\$378
Cost of goods sold:			
Beginning inventory	\$ 36	\$ 60	\$ 96
Net purchases	276	240	216
Cost of goods available	312	300	312
Less ending inventory	72	36	60
Cost of goods sold	240	264	252
Gross margin	186	102	126
Operating expenses	148	92	110
Net income	<u>\$ 38</u>	<u>\$ 10</u>	<u>\$ 16</u>

In early 2011, a team of auditors discovered that the ending inventory of 2008 had been understated by \$10 thousand. Also, the ending inventory for 2010 had been overstated by \$8 thousand. The ending inventory at December 31, 2009, was correct.

Required

1. Show corrected comparative income statements for the three years.
2. State whether each year's net income as reported here and the related owner's equity amounts are understated or overstated. For each incorrect figure, indicate the amount of the understatement or overstatement.

Problem 6–10A

Sweeney Stores estimates its inventory by the gross margin method when preparing monthly financial statements (Sweeney Stores uses the periodic method otherwise). For the past two years, gross margin has averaged 30 percent of net sales. The business's inventory records for its stores reveal the following data:

Inventory: July 1, 2010	\$ 240,000
Transactions during July:	
Purchases	7,890,000
Purchases returns	230,000
Sales	11,250,000
Sales returns	125,000

Required

1. Estimate the July 31, 2010, inventory using the gross margin method.
2. Prepare the July 2010 income statement through gross margin for Sweeney Stores.

Problem 6–11A

Burrows Shoe Company has a periodic inventory system and uses the gross margin method of estimating inventories for interim financial statements. The company had the following account balances for the fiscal year ended August 31, 2010:

Inventory: Sept. 1, 2009	\$ 195,000
Purchases	1,157,000
Purchases Returns and Allowances	23,000
Freight In	11,000
Sales	1,922,000
Sales Returns and Allowances	22,000

Required

1. Use the gross margin method to estimate the cost of the business's ending inventory, assuming the business has an average gross margin rate of 35 percent.

Correcting inventory errors over a three-year period

5

1. Net income 2010 \$30 thou.



Excel Spreadsheet Template

Estimating inventory by the gross margin method, preparing the income statement

6

2. Gross margin \$3,337,500

Accounting for inventory by the periodic system, estimating inventory by the gross margin method

3 6

1. Est. inventory, Aug. 31, 2010 \$105,000

- The business has done a physical count of the inventory on hand on August 31, 2010. For convenience, this inventory was calculated using the retail selling prices marked on the goods, which amounted to \$152,000. Use the information from Requirement 1 to calculate the cost of the inventory counted.
- What is the cost of the business's estimated inventory overage or shrinkage?
- Give the summary journal entries required at August 31, 2010. Also record any overage or shrinkage.

Problem 6–12A

Computing ending inventory by applying two inventory costing methods in a periodic inventory system

3

2. Gross margin (a) \$238,033

Sherman Office Supplies distributes office furniture. The company's fiscal year ends on December 31, 2010. On September 30, 2010, one department in the company had in inventory 20 office suites that cost \$1,800 each. During the quarter, the department purchased merchandise on account as follows:

	Units	Unit Cost	Total
October	60	\$1,850	\$111,000
November	40	1,900	76,000
December	30	1,950	58,500

Sales for each month in the quarter were as follows:

	Units	Selling Price	Total
October	50	\$3,600	\$180,000
November	20	3,700	74,000
December	60	3,800	228,000

Operating expenses in the quarter were \$210,000.

Required

- Determine the cost of the department's ending inventory at January 31, 2010, under (a) weighted-average costing, and (b) FIFO costing. Assume the company uses the periodic inventory system and determines cost of goods sold at the end of each quarter.
- Prepare the department's income statement for the quarter ended December 31, 2010, under each method described in Requirement 1. Show gross margin and operating income.

Problem 6–13A

Computing ending inventory by applying two inventory costing methods in a perpetual inventory system

1

2. Gross margin (a) \$238,540

Refer to the information in Problem 6–12A. Assume that the company uses a perpetual inventory system. Also assume that monthly purchases of inventory occur on the first day of each month.

Required

- Determine the cost of the department's ending inventory at December 31, 2010, under (a) moving-weighted-average costing, and (b) FIFO costing.
- Prepare the department's income statement for the quarter ended December 31, 2010, under each method described in Requirement 1. Show gross margin and operating income.

Problem 6–14A

Accounting for inventory by the perpetual inventory system, applying the moving-weighted-average and FIFO costing methods, estimating inventory by the gross margin method

1 5 6

1. Cost of goods sold (a) Moving avg. \$676,170

Toffler Auto Parts uses the perpetual inventory system for the purchase and sale of inventory and had the following information available on November 30, 2010:

Purchases and Sales	Number of Units	Cost or Selling Price per Unit
Nov. 1 Balance of inventory	3,900	\$20
7 Purchased	6,000	28
8 Sold	4,500	38
12 Purchased	7,500	26
16 Sold	9,000	42
21 Purchased	4,500	26
25 Purchased	10,500	24
29 Sold	13,500	42

Required

1. Calculate the cost of goods sold and the cost of the ending inventory for November under each of the following inventory costing methods: (a) moving-weighted-average cost, and (b) FIFO cost.
2. Prepare the journal entries required to record the transactions using the perpetual inventory system with FIFO costing.
3. An internal audit has discovered that a new employee—an accounting clerk—had been stealing merchandise and covering up the shortage by changing the inventory records. For example, if 120 units were purchased at \$20 per unit, he would record it as 100 units purchased at \$24 per unit and then steal the other 20 units.

The external auditors examined the accounting records prior to the employment of the individual and noted that the company has an average gross margin rate of 40 percent. They estimate that 95 percent of the incorrectly costed units have been sold.

Use the gross margin method to estimate the cost of the inventory shortage (under the FIFO costing method) and give the journal entry required to correct it.

4. What would be the effect on the net income for the year ending November 30, 2010, if the inventory shortage had not been discovered? For the year ending November 30, 2011?

PROBLEMS (GROUP B)

MyAccountingLab

All questions in this section appear in MyAccountingLab.

Problem 6–1B

Ferrell Lawn Supply, which uses the FIFO method, began March with 200 units of inventory that cost \$20 each. During March, Ferrell completed these inventory transactions:

Using the perpetual inventory system—FIFO

1

			Units	Unit Cost	Unit Sale Price
Mar.	2	Purchase	48	\$25	
	8	Sale	160		\$72
	17	Purchase	96	30	
	22	Sale	124		80

Required

1. Prepare a perpetual inventory record for the lawn supply merchandise.
2. Determine Ferrell's cost of goods sold for March.
3. Compute gross margin for March.

Problem 6–2B

Pierce Imports is a furniture distributor. The following information is for one item of inventory, kitchen chairs, for the month of February. The store purchased and sold merchandise on account as follows:

Accounting for inventory in a perpetual system—FIFO

1

Feb.	1	Opening inventory	50 chairs at \$ 50
	3	Purchase	60 chairs at \$ 55
	10	Sale	100 chairs at \$100
	22	Purchase	90 chairs at \$ 60
	24	Sale	70 chairs at \$120

Assume that Pierce Imports uses the FIFO cost method. All sales were made on account. Operating expenses were \$12,400, with two-thirds paid in cash and the rest accrued in Accounts Payable.

Required

1. Prepare a perpetual inventory record, at FIFO cost, for this merchandise.
2. Make journal entries to record the company's transactions.

Problem 6–3B

Refer to the Pierce Imports situation in Problem 6–2B. Keep all the data unchanged, except that Pierce uses the moving-weighted-average-cost method.

Accounting for inventory in a perpetual system—moving-weighted-average cost

1

Accounting for inventory in a perpetual system—FIFO

1

Required

1. Prepare a perpetual inventory record at moving-weighted-average cost. Round the average unit cost to the nearest cent and all other amounts to the nearest dollar.
2. Prepare a multi-step income statement for Pierce Imports for the month of February.

Problem 6–4B

Chen Hardware Store purchases inventory in crates of merchandise, so each unit of inventory is a crate of tools or building supplies. Assume you are dealing with a single department in the store. Assume the department began the year with an inventory of 40 units that cost a total of \$6,000. During the year, the department purchased merchandise on account as follows:

April 30 (60 units at \$145)	\$ 8,700
July 31 (100 units at \$145)	14,500
October 31 (200 units at \$140)	<u>28,000</u>
Total purchases	<u>\$51,200</u>

Cash payments on account during the year totalled \$38,000.

During the year, the department sold 380 units of merchandise for \$115,000, as follows:

March 31:	30 units
June 30:	50 units
September 30:	90 units
December 31:	210 units

Of the sales revenue, \$103,000 was from cash sales and the balance was on account. Assume Chen uses the FIFO method for inventories. Department operating expenses for the year were \$56,000. The department paid two-thirds of the operating expenses in cash and accrued the rest.

Required

1. Make summary journal entries to record the department transactions for the year ended December 31, 2010. Chen uses a perpetual inventory system.
2. Determine the FIFO cost of the store’s ending inventory at December 31, 2010. Use a T-account.
3. Prepare the department’s income statement for the year ended December 31, 2010. Include a complete heading, and show totals for the gross margin and net income.

Problem 6–5B

Computing inventory by two methods—periodic system

3

Comet Appliances and Supply began December with 280 units of inventory that cost \$180 each. During December, the store made the following purchases:

Dec. 3	430 units at \$182
12	190 units at \$184
18	420 units at \$186
24	426 units at \$184

The store uses the periodic inventory system, and the physical count at December 31 indicates that 458 units of inventory are on hand.

Required

1. Determine the ending inventory and cost-of-goods-sold amounts for the December financial statements under the weighted-average-cost and FIFO methods. Round the average cost per unit to the nearest cent and all other amounts to the nearest dollar.
2. Sales revenue for December totalled \$384,000. Compute Comet Appliances and Supply’s gross margin for December under each method.
3. Which method will result in the lower income taxes for Comet? Why? Which method will result in the higher net income for Comet? Why?

Problem 6–6B

Ball Hardware Company, which uses a periodic inventory system, began 2010 with 9,000 units of inventory that cost a total of \$45,000. During 2010, Ball purchased merchandise on account as follows:

Using the periodic inventory system—FIFO and weighted average

3

Purchase 1 (15,000 units)	\$ 90,000
Purchase 2 (30,000 units)	210,000

At year end, the physical count indicated 10,000 units of inventory on hand.

Required

- How many units did Ball sell during the year? The sale price per unit was \$14. Determine Ball's sales revenue for the year.
- Compute cost of goods sold by both the FIFO and the weighted-average-cost method. Then determine gross margin for the year under each method.

Problem 6–7B

The Canvas Company (TCC) began August 2010 with 100 units of inventory that cost \$60 each. The sale price of each of those units was \$120. During August, TCC completed these inventory transactions:

Using the perpetual and periodic inventory systems

1 3

		Units	Unit Cost	Units Sales Price
Aug. 3	Sale	32	\$60	\$120
8	Purchase	160	62	124
11	Sale	68	60	120
19	Sale	18	62	124
24	Sale	70	62	124
30	Purchase	36	64	126
31	Sale	12	62	124

Required

- The above data are taken from TCC's perpetual inventory records. Which cost method does the company use?
- Compute TCC's cost of goods sold for August 2010 under the
 - Perpetual inventory system
 - Periodic inventory system
- Compute the gross margin for August 2010.

Problem 6–8B

Deck Building Supplies has recently been plagued with declining sales. The rate of inventory turnover has dropped, and some of the company's merchandise is gathering dust. At the same time, competition has forced Deck Building Supplies to lower the selling prices of its inventory. It is now December 31, 2010, and the net realizable value of Deck Building Supplies' ending inventory is \$1,092,000 below what the business actually paid for the goods, which was \$7,644,000. Before any adjustments at the end of the period, Deck Building Supplies' Cost of Goods Sold account has a balance of \$44,928,000.

Applying the lower-of-cost-and-net-realizable-value rule to inventories

4

What action should Deck Building Supplies take in this situation, if any? Give any journal entry required. At what amount should Deck Building Supplies report Inventory on the balance sheet? At what amount should the company report Cost of Goods Sold on the income statement? Discuss the accounting principle or concept that is most relevant to this situation.

Correcting inventory errors over a three-year period

5

Problem 6–9B

The books of Hayes Windows and Siding show these data (in thousands):

	2010	2009	2008
Net sales revenue	\$270	\$205	\$180
Cost of goods sold:			
Beginning inventory	\$ 49	\$ 41	\$ 52
Net purchases	<u>146</u>	<u>101</u>	<u>98</u>
Cost of goods available	195	142	150
Less ending inventory	<u>52</u>	<u>49</u>	<u>41</u>
Cost of goods sold	143	93	109
Gross margin	<u>127</u>	<u>112</u>	<u>71</u>
Operating expenses	<u>89</u>	<u>82</u>	<u>54</u>
Net income	<u>\$ 38</u>	<u>\$ 30</u>	<u>\$ 17</u>

In early 2011, a team of Canada Revenue Agency auditors discovered that the ending inventory of 2008 had been overstated by \$9 thousand. Also, the ending inventory for 2010 had been understated by \$4 thousand. The ending inventory at December 31, 2009, was correct.

Required

1. Show corrected comparative income statements for the three years.
2. State whether each year's net income as reported here and the related owner's equity amounts are understated or overstated. For each incorrect figure, indicate the amount of the understatement or overstatement.

Problem 6–10B

Assume Falcon Linen Stores estimates its inventory by the gross margin method when preparing monthly financial statements (it uses the periodic method otherwise). For the past two years, the gross margin has averaged 40 percent of net sales. Assume further that the company's inventory records for its stores reveal the following data:

Inventory: June 1, 2010	\$ 240,000
Transactions during June:	
Purchases	2,460,000
Sales	4,180,000

Required

1. Estimate the June 30, 2010, inventory using the gross margin method.
2. Prepare the June income statement through gross margin for Falcon Linen Stores.

Problem 6–11B

Kenora Supplies has a periodic inventory system and uses the gross margin method of estimating inventories for interim financial statements. The business had the following account balances for the fiscal year ended August 31, 2010:

Inventory: September 1, 2009	\$ 68,000
Purchases	590,000
Purchases Returns and Allowances	18,000
Freight In	12,000
Sales	1,050,000
Sales Returns and Allowances	25,000

Required

1. Use the gross margin method to estimate the cost of the business's ending inventory, assuming the business has an average gross margin rate of 45 percent.
2. The business has done a physical count of the inventory on hand on August 31, 2010. For convenience, this inventory was calculated using the retail selling prices marked on the goods, which amounted to \$84,750. Use the information from Requirement 1 to calculate the cost of the inventory counted.



Excel Spreadsheet Template

Estimating ending inventory by the gross margin method, preparing the income statement

7

Accounting for inventory by the periodic system, estimating inventory by the gross margin method

3 6

- What is the cost of the business's estimated inventory shortage?
- Give the summary journal entries required at August 31, 2010, and the adjustment required for the shortage.
- Of what other use would the information in Requirement 4 be to the business?

Problem 6–12B

Pinton Industrial Supplies distributes industrial equipment. The company's fiscal year ends on December 31, 2010. One department in the company had 50 items that cost \$540 each on hand at October 1, 2010. During the quarter, the department purchased merchandise on account as shown here.

Computing ending inventory by applying two inventory costing methods in a periodic inventory system

3

	Units	Unit Cost	Total
October	120	\$585	\$70,200
November	24	360	8,640
December	48	450	21,600

Sales for each month in the quarter were as follows:

	Units	Selling Price	Total
October	36	\$1,260	\$ 45,360
November	108	1,080	116,640
December	60	990	59,400

Operating expenses in the quarter were \$60,000.

Required

- Determine the cost of the department's ending inventory at December 31, 2010, under (a) the weighted-average-cost method, and (b) the FIFO method. Assume the company uses the periodic inventory system and determines cost of goods sold at the end of the quarter.
- Prepare the department's income statement for the quarter ended December 31, 2010, under each method described in Requirement 1. Show totals for gross margin and operating income.

Problem 6–13B

Refer to the information in Problem 6–12B. Assume that the company uses a perpetual inventory system. Also assume that monthly purchases of inventory occur on the first day of each month.

Computing ending inventory by applying two inventory costing methods in a perpetual inventory system

1

Required

- Determine the cost of the department's ending inventory at December 31, 2010, under (a) moving-weighted-average cost, and (b) FIFO cost.
- Prepare the department's income statement for the quarter ended December 31, 2010, under each method described in Requirement 1. Show totals for gross margin and operating income.

Problem 6–14B

Booth Sales uses the perpetual inventory system for the purchase and sale of inventory and had the following information available on August 31, 2010:

Accounting for inventory by the perpetual inventory system, applying the moving-weighted-average and FIFO costing methods estimating inventory by the gross margin method

1 5 6

Purchases and Sales	Number of Units	Cost or Selling Price per Unit
Aug. 1 Balance of inventory	810	\$15
7 Purchased	2,250	14
8 Sold	1,800	25
12 Purchased	1,575	15
16 Sold	2,600	26
21 Purchased	1,800	17
25 Purchased	2,700	19
29 Sold	3,600	27

Required

1. Calculate the cost of goods sold and the cost of the ending inventory for August under each of the following inventory costing methods: (a) moving-weighted-average cost, and (b) FIFO cost.
2. Prepare the journal entries required to record the August transactions using the perpetual inventory system with FIFO costing.
3. An internal audit has discovered that two new employees—an accounting clerk and an employee from the purchasing department—have been stealing merchandise and covering up the shortage by changing the inventory records. For example, if 130 units were purchased at \$10 per unit, they would record it as 100 units purchased at \$13 per unit and then steal the other 30 units.

The external auditors examined the accounting records prior to the employment of the two individuals and noted that the company had an average gross margin rate of 50 percent. They estimate that 90 percent of the incorrectly costed units have been sold.

Use the gross margin method to estimate the cost of the inventory shortage (under the FIFO costing method) and give the journal entry required to correct it.

4. What would be the effect on the net income for the year ending August 31, 2010, if the inventory shortage had not been discovered? For the year ending August 31, 2011?

CHALLENGE PROBLEMS

Problem 6-1C

Inventory measurement
and income

2

An anonymous source advised Canada Revenue Agency (CRA) that Jim Chaney, owner of Chaney Grocery Store, has been filing fraudulent tax returns for the past several years. You, a tax auditor with CRA, are in the process of auditing Chaney Grocery Store for the year ended December 31, 2010. The tax returns for the past five years show a decreasing value for ending inventory from 2006, when Williams bought the business, to 2009; the return for 2010 shows the same sort of decrease. You have performed a quick survey of the large store and the attached warehouse and observed that both seemed very well stocked.

Required Does the information set forth above suggest anything to you that might confirm the anonymous tip? What would you do to confirm or deny your suspicions?

Problem 6-2C

Estimating inventory from
incomplete records

6

It is Monday morning. You heard on the morning news that a client of your public accounting firm, Mainland Electronics, had a fire the previous Friday night that destroyed its office and warehouse, and you concluded that inventory records as well as inventory probably perished in the fire. Since you had been at Mainland Electronics on the previous Friday preparing the monthly income statement for the previous month that ended on Thursday, you realize you probably have the only current financial information available for Mainland Electronics.

Upon arrival at your firm's office, you meet your partner who confirms your suspicions. Mainland Electronics lost its entire inventory and its records. She tells you that the company wants your firm to prepare information for a fire loss claim for Mainland Electronics' insurance company for the inventory.

You know the audit file for the fiscal year that ended three months earlier contains a complete section dealing with inventory and the four product lines Mainland Electronics carried, including the most recent gross margin rate for each line. The file will show total inventory and how much inventory there was by product line at the year end. You also recall that the file contains an analysis of sales by product line for the past several years and that Mainland Electronics used a periodic inventory system.

Required Explain how you would use the information available to you to calculate the fire loss by product line.

Extending Your Knowledge

DECISION PROBLEM

Alpine Camping Supplies is nearing the end of its first year of operations. The company uses the periodic inventory method and made inventory purchases of \$176,250 during the year as follows:

January	150	units at \$165	=	\$ 24,750
July	600	units at \$195	=	117,000
November	150	units at \$230	=	34,500
Totals	900			\$176,250

Sales for the year will be 750 units for \$290,000 revenue. Expenses other than cost of goods sold will be \$65,000. The owner of the company is undecided about whether to adopt FIFO or weighted-average costing as the company's method.

The company has storage capacity for 600 additional units of inventory. Inventory prices are expected to stay at \$230 per unit for the next few months. The president is considering purchasing 150 additional units of inventory at \$230 each before the end of the year. He wishes to know how the purchase would affect net income before taxes under both the FIFO and weighted-average-costing methods.

Required

1. To help the owner make the decision, prepare income statements under FIFO costing and under weighted-average costing, both without and with the year-end purchase of 150 units of inventory at \$230 per unit.
2. Compare net income before taxes under FIFO costing without and with the year-end purchase. Make the same comparison under weighted-average costing. Under which method does the year-end purchase have the greater effect on net income before taxes?
3. If the company wanted to manipulate net income for the year, is one method more manipulative than the other?

FINANCIAL STATEMENT CASE

The notes are an important part of a company's financial statements, giving valuable details that would clutter the tabular data presented in the statements. This problem will help you learn to use a company's inventory notes. Refer to the Sun-Rype Products Ltd. financial statements and the related notes in Appendix B. Answer the following questions:

1. What types of inventory does Sun-Rype have? What was the value of each category at December 31, 2008? At December 31, 2007?
2. What valuation method does Sun-Rype use for valuing each category of inventory?
Hint: Refer to the significant accounting policies in Note 1.
3. What costs are included in the calculation of finished goods inventory?

Assessing the impact of a year-end purchase of inventory—periodic system

3

1. Without purchase:
FIFO gross margin \$116,250
Weighted-average gross margin \$108,000

Inventories

1 4