

2. Purchase Considerations for Merchandising Business

A quick stroll through most any retail store will reveal a substantial investment in inventory. Even if a merchant is selling goods at a healthy profit, financial difficulties can creep up if a large part of the inventory remains unsold for a long period of time. Goods go out of style, become obsolete, and so forth. Therefore, a prudent business manager will pay very close attention to inventory content and level. There are many detailed accounting issues that pertain to inventory, and a separate chapter is devoted exclusively to inventory issues. This chapter's introduction is brief, focusing on elements of measurement that are unique to the merchant's accounting for the basic cost of goods.

2.1 Merchandise Acquisition

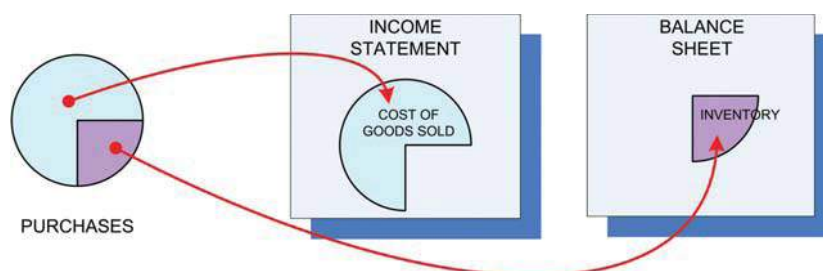
The first phase of the merchandising cycle occurs when the merchant acquires goods to be stocked for resale to customers. The appropriate accounting for this action requires the recording of the purchase. Now, there are two different techniques for recording the purchase -- depending on whether a periodic system or a perpetual system is in use. Generalizing, the periodic inventory system is easier to implement but is less robust than the "real-time" tracking available under a perpetual system. Conversely, the perpetual inventory system involves more "systemization" but is a far superior business management tool. Let's begin with the periodic system; we'll then return to the perpetual system.

2.2 Periodic Inventory System

When a purchase occurs and a periodic inventory system is in use, the merchant should record the transaction via the following entry:

7-7-X1	Purchases	3,000	
	Accounts Payable		3,000
	<i>Purchased inventory on account</i>		

The Purchases account is unique to the periodic system. The Purchases account is not an expense or asset, per se. Instead, the account's balance represents total inventory purchased during a period, and this amount must ultimately be apportioned between cost of goods sold on the income statement and inventory on the balance sheet. The apportionment is based upon how much of the purchased goods are resold versus how much remains in ending inventory. Soon, you will see the accounting mechanics of how this occurs. But, for the moment, simply focus on the concepts portrayed by this graphic:



2.3 Purchase Returns and Allowances

Recall the earlier discussion of sales returns and allowances. Now, the shoe is on the other foot. Let's see how a purchaser of inventory would handle a return to its vendor/supplier. First, it is a common business practice to contact the supplier before returning goods. Unlike the retail trade, transactions between businesses are not so easily undone. A supplier may require that you first obtain an "RMA" or "Return Merchandise Authorization." This indicates a willingness on the part of the supplier to accept the return. When the merchandise is returned to a supplier a debit memorandum may be prepared to indicate that the purchaser is to debit their Accounts Payable account; the corresponding credit is to Purchases Returns and Allowances:

7-19-X1	Accounts Payable		1,000	
	Purchase Returns and Allowances			1,000
	<i>To record the return of defective inventory to vendor</i>			

Purchase returns and allowances are subtracted from purchases to calculate the amount of net purchases for a period. The specific calculation of net purchases will be demonstrated after a few more concepts are introduced.

2.4 Cash Discount

Recall the previous discussion of cash discounts (sometimes called purchase discounts from the purchaser's perspective). Discounts are typically very favorable to the purchaser, as they are designed to encourage early payment. While discounts may seem slight, they usually represent a substantial savings and should usually be taken. Consider the calendar on the facing page, assuming a purchase was made on May 1, terms 2/10, n/30. The discount can be taken if payment is made within the "green shaded" days (or potentially one additional day, depending on the specific agreement). The discount cannot be taken during the yellow shaded days (of which there are twenty, as noted). The bill becomes past due during the "red shaded days." What is important to note here is that skipping past the discount period will only achieve a 20-day deferral of the payment. If you consider that you are "earning" a 2% return by paying 20 days early, it is indeed a large savings. Consider that there are more than 18 twenty-day periods in a year (365/20), and, at 2% per twenty-day period, this equates to over a 36% annual interest cost equivalent.

Discount terms vary considerably. Here are some examples:

- 1/15, n/30 -- 1% if paid within 15 days, net in 30 days
- 1/10, n/eom -- 1% if paid within 10 days, net end of month
- .5/10, n/60 -- ½% if paid within 10 days, net in 60 days

Occasionally, a company may opt to skip a discount. In the case of the half-percent discount example, notice that the net amount is not due until the 60th day. Perhaps the purchaser would conclude that the additional 50 days is worth forgoing the half-percent savings, as the annual interest cost equivalent is only about 3.65% ($365/50 = 7.3$ “periods” per year -- times 0.5% per “period”). But, this is the exception rather than the rule. In short, taking the discounts usually makes good economic sense!

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
April 30	May 1	2	3	4	5	6
	DATE OF PURCHASE					
7	8	9	10	11	12	13
			LAST DATE FOR DISCOUNT	1	2	3
14	15	16	17	18	19	20
4	5	6	7	8	9	10
21	22	23	24	25	26	27
11	12	13	14	15	16	17
28	29	30	31	June 1	2	3
18	19	20 DUE	PAST DUE!			

A business should set up its accounting system to timely process and take advantage of all reasonable discounts. In a small business setting, this might entail using a hanging-file system where invoices are filed for payment to match the discount dates. A larger company will usually have an automated payment system where checks are scheduled to process concurrent with invoice discount dates. Very large payments, and global payments, are frequently set up as “wire transfers.” This method enables the purchaser to retain use of funds (and the ability to generate investment income on those funds) until the very last minute. This is considered to be a good business practice.

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However, there is an ethical issue for you to consider. Many vendors will accept a “discounted payment” outside of the discount period. In other words, a purchaser might wait 30, 60, or 90 days and still take the discount! Some vendors are glad to receive the payment and will still grant credit for the discount. Others will return the payment and insist on the full amount due. Is it a good business practice to “bend the terms” of the agreement to take a discount when you know that your supplier will stand for this practice? Is it ethical to “bend the terms” of the agreement? If you discuss this with your classmates, you will find a diversity of opinion.

2.5 Gross Recording of Purchases/Discounts

A fundamental accounting issue is how to account for purchase transactions when discounts are offered. One technique is the gross method of recording purchases. This technique records purchases at their total gross or full invoice amount:

11-5-X7	Purchases		5,000	
	Accounts Payable			5,000
	<i>Purchased inventory on account, terms 2/10, n/30</i>			

If payment is made within the discount period, the purchase discount is recognized in a separate account. The Purchase Discounts account is similar to Purchases Returns & Allowances, as it is deducted from total purchases to calculate the net purchases for the period:

11-13-X7	Accounts Payable		5,000	
	Purchase Discounts			100
	Cash			4,900
	<i>Paid outstanding payable within discount period, discount taken ($\\$5,000 \times 2\% = \\100)</i>			

If payment is made outside the discount period, the entry is quite straightforward:

11-29-X7	Accounts Payable		5,000	
	Cash			5,000
	<i>Paid outstanding payable outside of the discount period</i>			

2.6 Net Recording of Purchases/Discounts Lost

Rather than recording purchases gross, a company may elect to record the same transaction under a net method. With this technique, the initial purchase is again recorded by debiting Purchases and crediting Accounts Payable, but only for the net amount of the purchase (the purchase less the available discount):

11-5-X7	Purchases		4,900	
	Accounts Payable			4,900
	<i>Purchased \$5,000 of inventory on account, terms 2/10,n/30</i>			

If payment is made within the discount period, the entry is quite straightforward because the payable was initially established at net of discount amount:

11-13-X7	Accounts Payable		4,900	
	Cash			4,900
	<i>Paid accounts payable within discount period</i>			

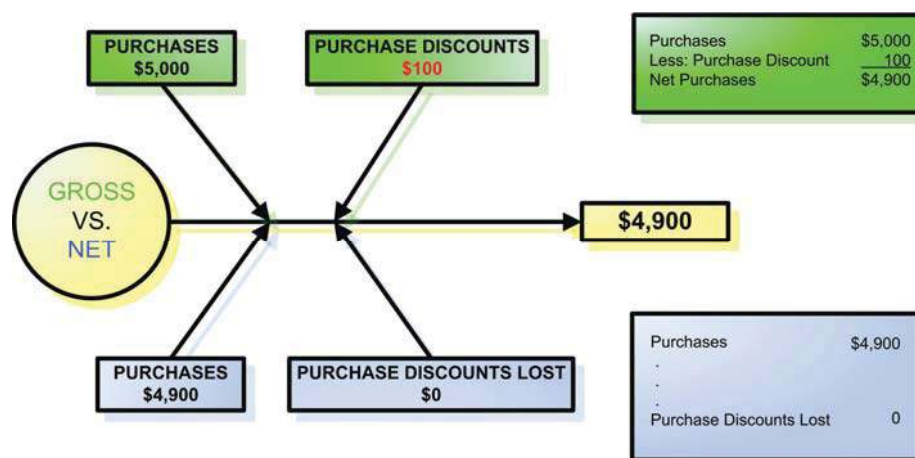
If payment is made outside the discount period, the lost discounts are recorded in a separate account. The Purchase Discounts Lost account is debited to reflect the added cost associated with missing out on the available discount amount:

11-29-X7	Accounts Payable		4,900	
	Purchase Discounts Lost		100	
	Cash			5,000
	<i>Paid outstanding payable outside of the discount period</i>			

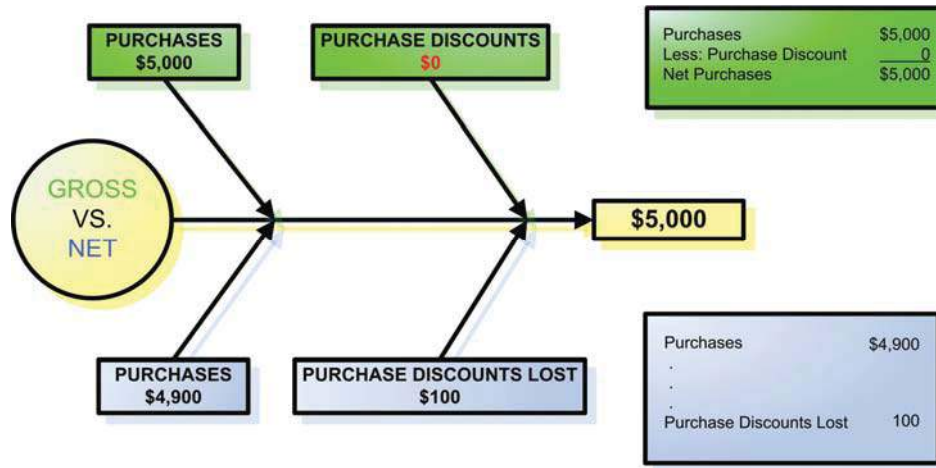
2.7 Comparison of Gross vs. Net

In evaluating the gross and net methods, notice that the Purchase Discounts Lost account (used only with the net method) indicates the total amount of discounts missed during a particular period. The presence of this account draws attention to the fact that discounts are not being taken; frequently an unfavorable situation. The Purchase Discounts account (used only with the gross method) identifies the amount of discounts taken, but does not indicate if any discounts were missed. For reporting purposes, purchases discounts are subtracted from purchases to arrive at net purchases, while purchases discounts lost are recorded as an expense following the gross profit number for a particular period.

The following diagram contrasts the gross and net methods for a case where the discount is taken. Notice that \$4,900 is accounted for under each method. The Gross method reports the \$5,000 gross purchase, less the applicable discount. In contrast, the net method only shows the \$4,900 purchase amount.



The next diagram contrasts the gross and net methods for the case where the discount is lost. Notice that \$5,000 is accounted for under each method. The gross method simply reports the \$5,000 gross purchase, without any discount. In contrast, the net method shows purchases of \$4,900 and an additional \$100 charge pertaining to lost discounts.



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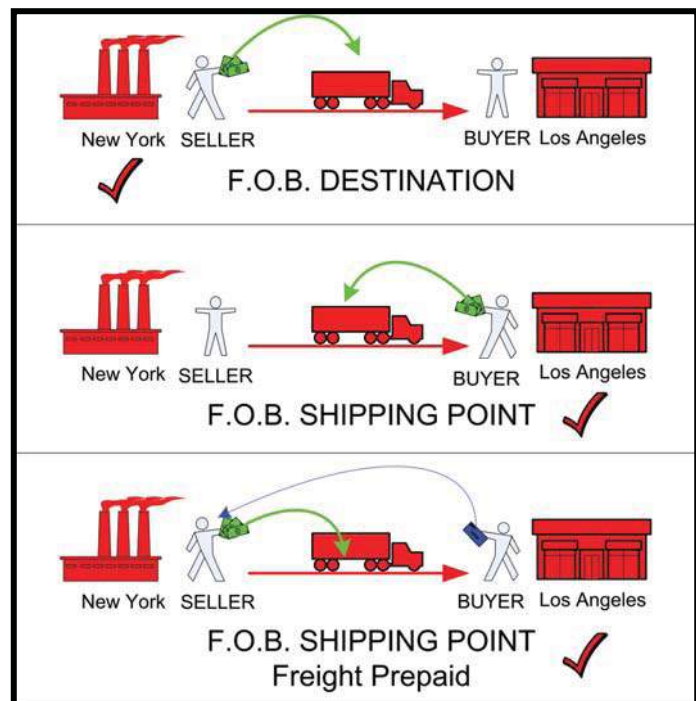


2.8 Freight Charges

A potentially significant inventory-related cost pertains to freight. The importance of considering this cost in any business transaction cannot be understated. The globalization of commerce, rising energy costs, and the increasing use of overnight delivery via more expensive air transportation vehicles all contribute to high freight costs. Freight costs can easily exceed 10% of the value of a transaction. As a result, business negotiations relate not only to matters of product cost, but must also include consideration of freight terms. Freight agreements are often described by abbreviations that describe the place of delivery, when the risk of loss shifts from the seller to the buyer, and who is to be responsible for the cost of shipping. One very popular abbreviation is F.O.B. This abbreviation stands for “free on board.” Its historical origin apparently related to a seller’s duty to place goods on some shipping vessel without charge to the buyer. Whether that historical explanation is exactly correct or not is unclear. What is important to know is that F.O.B. is a common term.

The F.O.B. point is normally understood to represent the place where ownership of goods transfers. Along with shifting ownership comes the responsibility for the purchaser to assume the risk of loss, a duty to pay for the goods, and the understanding that freight costs beyond the F.O.B. point will be borne by the purchaser.

In the drawing at right, notice that money is paid by the seller to the transport company in the top illustration. This is the case where the terms called for F.O.B. Destination – the seller had to get the goods to the destination. This situation is reversed in the middle illustration: F.O.B. Shipping Point -- the buyer had to pay to get the goods delivered. The third illustration calls for the buyer to bear the freight cost (F.O.B. Shipping Point). However, the cost is prepaid to the trucker by the seller as an accommodation. Notice that the buyer then sends a check (in blue) to the seller to reimburse for the prepaid freight; ultimately the buyer is still bearing the freight cost. Of course, other scenarios are possible. For example, terms could be F.O.B. St. Louis, in which case the seller would pay to get the goods from New York to St. Louis, and the buyer would pay to bring the goods from St. Louis to Los Angeles.



Take a moment and look at the invoice presented earlier in this chapter for Barber Shop Supply. You will notice that the seller was in Chicago and the purchaser was in Dallas. Just to the right of the invoice date, you will note that the terms were F.O.B. Dallas. This means that Barber Shop Supply is responsible for getting the goods to the customer in Dallas. That is why the invoice

included \$0 for freight; the purchaser was not responsible for the freight cost. Had the terms been F.O.B. Chicago, then Hair Port Landing would have to bear the freight cost; the cost might be added to the invoice by Barber Shop Supply if they prepaid the cost to a transportation company, or Hair Port might be expected to prepare a separate payment to the transport company. Next are presented appropriate journal entries to deal with alternative scenarios.

- If goods are sold F.O.B. destination, the seller is responsible for costs incurred in moving the goods to their destination. Freight cost incurred by the seller is called freight-out, and is reported as a selling expense that is subtracted from gross profit in calculating net income.

Seller's entry:

5-11-X4	Accounts Receivable		7,000	
	Freight-out		400	
	Cash			400
	Sales			7,000
	<i>Sold merchandise on account for \$7,000, terms F.O.B. destination, and paid the freight bill of \$400</i>			

Buyer's entry:

5-11-X4	Purchases		7,000	
	Accounts Payable			7,000
	<i>Purchased \$7,000 of inventory, terms F.O.B. destination</i>			

- If goods are sold F.O.B. shipping point, the purchaser is responsible for paying freight costs incurred in transporting the merchandise from the point of shipment to its destination. Freight cost incurred by a purchaser is called freight-in, and is added to purchases in calculating net purchases:

Seller's entry:

6-6-X4	Accounts Receivable		8,000	
	Sales			8,000
	<i>Sold merchandise on account for \$8,000, terms F.O.B. shipping point</i>			

Buyer's entry:

6-6-X4	Purchases	8,000	
	Freight-in	1,500	
	Cash		1,500
	Accounts Payable		8,000
	<i>Purchased \$8,000 of inventory, terms F.O.B. shipping point, and paid the shipping freight bill of \$1,500</i>		

- If goods are sold F.O.B. shipping point, freight prepaid, the seller prepays the trucking company as an accommodation to the purchaser. This prepaid freight increases the accounts receivable of the seller. That is, the seller expects payment for the merchandise and a reimbursement for the freight. The purchaser would record this transaction by debiting Purchases for the amount of the purchase, debiting Freight-In for the amount of the freight, and crediting Accounts Payable for the combined amount due to the seller.

Seller's entry:

3-10-X8	Accounts Receivable	10,400	
	Cash		400
	Sales		10,000
	<i>Sold merchandise on account for \$10,000, terms F.O.B. shipping point, \$400 freight prepaid</i>		



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Buyer's entry:

3-10-X8	Purchases	10,000	
	Freight-in	400	
	Accounts Payable		10,400
	<i>Purchased merchandise on account for \$10,000, terms F.O.B. shipping point, \$400 freight prepaid</i>		

Importantly, cash discounts for prompt payment are not usually available on the freight charges. For example, if there was a 2% discount on the above purchase, it would amount to \$200 (\$10,000 X 2%), not \$208 (\$10,400 X 2%).

2.9 The Calculation of Net Purchases

A number of new accounts have been introduced in this chapter. Purchases, Purchase Returns and Allowances, Purchase Discounts, and Freight-in have all been illustrated. Each of these accounts is necessary to calculate the “net purchases” during a period.

Notice that the table at right reveals total purchases of \$400,000 during the period. This would be based on the total invoice amount for all goods purchased during the period, as identified from the Purchases account in the ledger. The cost of the purchases is increased for the




Add: Purchases		\$400,000
Freight-in		<u>40,000</u>
		\$440,000
Less: Purchase discounts	\$ 6,000	
Purchase returns & allowances	<u>14,000</u>	<u>20,000</u>
Net purchases		<u>\$420,000</u>

freight-in costs. Purchase discounts and purchase returns and allowances are subtracted. The result is that the “net purchases” are \$420,000. Net purchases reflect the actual costs that were deemed to be ordinary and necessary to bring the goods to their location for resale to an end customer.

Importantly, storage costs, insurance, interest and other similar costs are considered to be period costs that are not attached to the product. Instead, those ongoing costs are simply expensed in the period incurred as an operating expense of the business.

2.10 Cost of Goods Sold

Early in this chapter, it was indicated that the cost of purchases must ultimately be allocated between cost of goods sold and inventory, depending

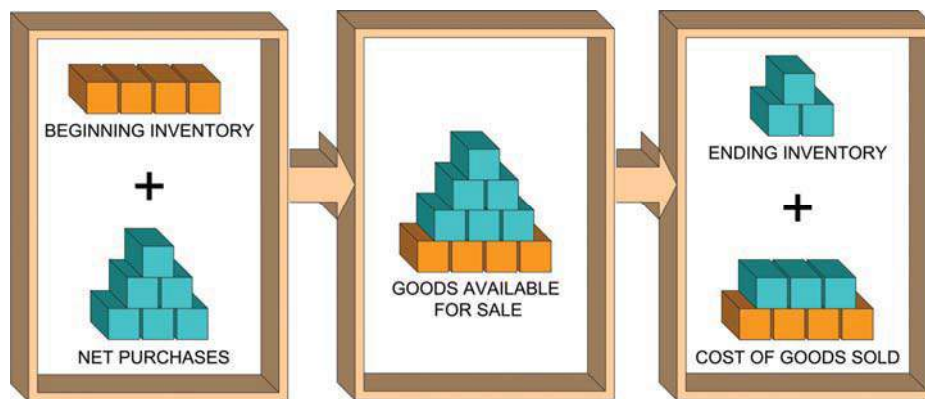
Beginning inventory, Jan. 1	\$115,000	 From end of prior period
Plus: Net purchases	<u>420,000</u>	 From calculations above
Goods available for sale	\$535,000	
Less: Ending inventory, Dec. 31	<u>91,000</u>	 From physical count
Cost of goods sold	<u>\$444,000</u>	

on the portion of the purchased goods that have been resold to end customers. This allocation must also take into consideration any beginning inventory that was carried over from prior periods.

Very simply, goods that remain unsold at the end of an accounting period should not be “expensed” as cost of goods sold. Therefore, the calculation of cost of goods sold requires an assessment of total goods available for sale, from which ending inventory is subtracted.

With a periodic system, the ending inventory is determined by a physical count. In that process, the goods held are actually counted and assigned cost based on a consistent method. The actual methods for assigning cost to ending inventory is the subject of considerable discussion in the inventory chapter. For now, let’s just take it as a given that the \$91,000 shown represents the cost of ending inventory.

Understanding the allocation of costs to ending inventory and cost of goods sold is very important and is worthy of additional emphasis. Consider the following diagram:



The beginning inventory is equal to the prior year’s ending inventory, as determined by reference to the prior year’s ending balance sheet. The net purchases is extracted from this year’s ledger (i.e., the balances of Purchases, Freight-in, Purchase Discounts, and Purchase Returns & Allowances). Goods available for sale is just the sum of beginning inventory and net purchases. Goods available for sale is not an account, per se; it is merely an abstract result from adding two amounts together. Now, the total cost incurred (cost of goods available for sale) must be “allocated” according to its nature at the end of the year -- if the goods are still held, those costs become an asset amount (inventory), and to the extent the goods are not still held, those costs are attributed to the cost of goods sold expense category.

2.11 Detailed Income Statement for Merchandise Operation

Wow, what a lot of activity to consider -- net sales, net purchases, cost of sales, gross profit, etc.! How do you keep all this straight? A detailed income statement provides the necessary organization of data in an understandable format. Study the following detailed income statement for Bill’s Sporting Goods.

As you do so, focus on the following points:

- Note the calculation of net sales
- Note the inclusion of the details about net purchases
- Note the cost of sales
- Note the gross profit amount
- Note that freight-out is reported in the expense section

BILL'S SPORTING GOODS Detailed Income Statement For the Year Ending December 31, 20X5			
REVENUES			
Sales			\$750,000
Less: Sales discounts	\$ 7,000		
Sales returns & allowances	<u>3,000</u>	<u>10,000</u>	
Net sales			\$740,000
COST OF GOODS SOLD			
Beginning inventory, Jan. 1			\$115,000
Add: Purchases	\$400,000		
Freight-in	<u>40,000</u>		<u>\$440,000</u>
Less: Purchase discounts	\$ 6,000		
Purchase returns & allow.	<u>14,000</u>	<u>20,000</u>	
Net purchases			<u>420,000</u>
Goods available for sale			\$535,000
Less: Ending inventory, Dec. 31			<u>91,000</u>
Cost of goods sold			<u>444,000</u>
GROSS PROFIT			\$296,000
EXPENSES			
Advertising	\$ 60,000		
Freight-out	32,000		
Depreciation	18,000		
Utilities	29,000		
Salaries	134,000		
Rent	<u>12,000</u>		<u>285,000</u>
NET INCOME			\$ 11,000

Sales			\$750,000
Less: Sales discounts	\$ 7,000		
Sales returns & allowances	<u>3,000</u>	<u>10,000</u>	
Net sales			\$740,000

Add: Purchases			\$400,000
Freight-in		<u>40,000</u>	<u>\$440,000</u>
Less: Purchase discounts	\$ 6,000		
Purchase ret. & allow.	<u>14,000</u>	<u>20,000</u>	
Net purchases			\$420,000

Beginning inventory, Jan. 1			\$115,000
Net purchases			<u>420,000</u>
Goods available for sale			\$535,000
Less: Ending inventory, Dec. 31			<u>91,000</u>
Cost of goods sold			\$444,000

Net sales			\$740,000
Cost of goods sold			<u>444,000</u>
Gross profit			\$296,000

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Be aware that the income statement you see for a merchandising company may not present all of this detail. Depending on the materiality of the individual line items, it may be sufficient to only present line items for the key elements, like net sales, cost of sales, gross profit, various expense accounts, and net income.

2.12 Closing Entries

Because of all the new income statement related accounts that were introduced for the merchandising concern, it is helpful to revisit the closing process. Recall the importance of closing; to transfer the net income to retained earnings, and reset the income statement accounts to zero in preparation for the next accounting period. As a result, all income statement accounts with a credit balance must be debited and vice versa. The closing entries for Bill's Sporting Goods appear on the following page. Several items are highlighted in these journal entries, and are discussed further in the next paragraph.

These closing entries are a bit more complex than that from the earlier chapter. In particular, note that the closing includes all of the new accounts like purchases, discounts, etc. In addition, it is very important to update the inventory records. You may be confused to see inventory being debited and credited in the closing process. After all isn't inventory a balance sheet (real) account? And, don't we only close the temporary accounts? Why then is inventory included in the closing? The answer is that inventory must be updated to reflect the ending balance on hand. Remember that the periodic system resulted in a debit to purchases, not inventory. Further, as goods are sold, no entry is made to reduce inventory. Therefore, the Inventory account would continue to carry the beginning of year balance throughout the year. As a result, Inventory must be updated at the time of closing. The following entries accomplish just that objective by crediting/removing the beginning balance and debiting/establishing the ending balance. If you study these entries carefully, you will note that they include causing the Income Summary account to be reduced by the cost of sales amount (beginning inventory + net purchases - ending inventory).

12-31-X5	Sales	750,000	
	Purchase Discounts	6,000	
	Purchase Returns & Allowances	14,000	
	Inventory	91,000	
	Income Summary		861,000
	<i>To close income statement accounts with a credit balance, and establish ending inventory balance</i>		
12-31-X5	Income Summary	850,000	
	Sales Discounts		7,000
	Sales Returns & Allowances		3,000
	Purchases		400,000
	Freight-in		40,000
	Advertising Expense		60,000
	Freight-out		32,000
	Depreciation Expense		18,000
	Utilities Expense		29,000
	Salaries Expense		134,000
	Rent Expense		12,000
	Inventory		115,000
	<i>To close income statement accounts with a debit balance, and remove the beginning inventory balance</i>		
12-31-X5	Income Summary	11,000	
	Retained Earnings		11,000
	<i>To close Income Summary to retained earnings (note that the balance is equal to the net income)</i>		