4.1 Ledger Accounts

In this chapter, you will be learning the system used to maintain an up-to-date financial position. For this purpose, accountants long ago developed the account and the ledger.

An **account** is a record that documents each change to items in the accounting equation. There is one account for each asset, each liability, and each type of equity. (Currently, you know only one classification of equity, that is, capital.) All the accounts together are called the ledger. A **ledger** is a group or file of accounts.

Accounts can be prepared in different ways. They can be designed on cards to form a card ledger. They can be prepared on paper to form a paper ledger, or they can be created electronically in a software program. While all these methods may still be used, computer software accounts and ledgers now dominate the business world. The ledger illustrated in Figure 4.1 was created with an accounting software program called Sage Simply Accounting. This ledger contains 10 accounts: six assets, three liabilities, and one equity.

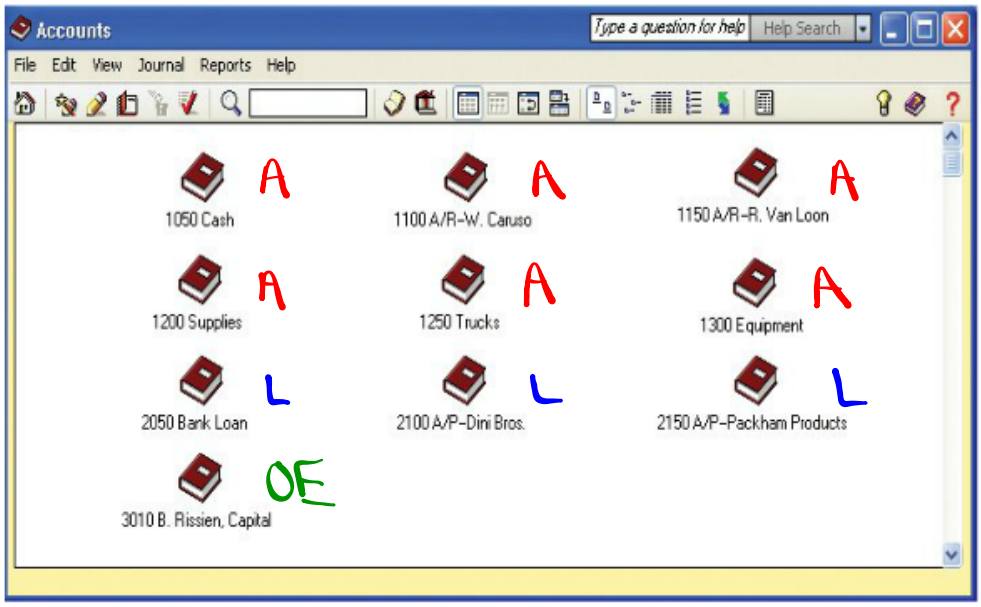


Figure 4.1
A ledger created with Sage Simply Accounting software

The accounts in Figure 4.1 refer to the records of Pacific Trucking, owned by Byron Rissien of Kelowna, British Columbia. The balance sheet of this business is shown in Figure 4.2 below.

PACIFIC TRUCKING
BALANCE SHEET
JUNE 30, 20–

Assets		*Liabilities*	
Cash	$ 3 265	Bank Loan	$18 000
A/R – W. Caruso	150	A/P – Dini Bros.	1 516
A/R – R. Van Loon	620	A/P – Packham Products	3 946
Supplies	2 465	Total Liabilities	$23 462
Trucks	55 075		
Equipment	22 174	*Owner's Equity*	
		B. Rissien, Capital	60 287
Total Assets	$83 749	Total Liabilities and Equity	$83 749

Figure 4.2
The balance sheet of Pacific Trucking

The information from this balance sheet is used to set up the separate accounts. The dollar value for each item on the balance sheet gives the beginning value for that item's account.

Using manual methods instead of electronic, we will now examine the ledger for Pacific Trucking. There are 10 accounts, one for each item on the balance sheet. These accounts are Cash; Accounts Receivable–W. Caruso; Accounts Receivable–R. Van Loon; Supplies; Trucks; Equipment; Bank Loan; Accounts Payable–Dini Bros.; Accounts Payable–Packham Products; and B. Rissien, Capital. All these accounts together form the ledger for Pacific Trucking.

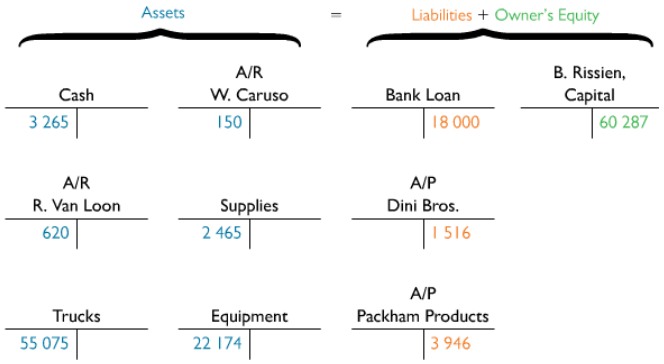


Figure 4.3
The simple ledger accounts of Pacific Trucking

Figure 4.3 above shows the information from the balance sheet of Pacific Trucking presented as accounts in a ledger. These accounts are called T-accounts because, as you can see, each one looks like a T. The T-account is a simple type of account, used mainly to help you understand accounting theory. A more formal account for recording business entries will be introduced in Chapter 6.

Since accounts are internal records and not normally shown to outsiders, dollar signs beside the beginning values are unnecessary.

- Asset balances are shown on the left or debit (DR.) side.
- Liability balances are shown on the right or credit (CR.) side.
- Owner's Equity balances are shown. like so:

→ Capital and Revenues/Sales are on the right

→ Drawings & Expenses are on the left.

Important Features of Ledger Accounts

Using the ledger shown in Figure 4.3 on page 89 as a guide, let us look at important features shared by simple ledger accounts.

1. Each individual balance sheet item is given its own T-account with the name of the item at the top. In Figure 4.3, there are 10 accounts. Learn to call them the Cash account, the R. Van Loon account, the Packham Products account, the Bank Loan account, and so on.
2. The dollar figure for each item is recorded in the account on the first line. This is the beginning value for the account.
3. For any item, the correct side for its beginning value is the side on which the item itself would appear in the accounting equation (A = L + OE). For *assets*, like cash or supplies, beginning values are on the *left* side of the T because assets are on the left side of the equation. For *liabilities* and *equity* items, like bank loan or capital, beginning values are on the *right* side of the T because liabilities and equity are on the right side of the equation.

Each account in Pacific Trucking's ledger follows these three rules, which are summarized in the diagram below.

Assets		=	Liabilities		+	Owner's Equity	
Beginning $ Value				Beginning $ Value			Beginning $ Value
left	right		left	right		left	right

DR. CR.

4.2 Debit and Credit Theory

So far, you have learned that the idea that there is a "left side" and a "right side" is important in accounting. This is especially true when using ledger accounts. The theory of accounting using ledger accounts is based entirely on the understanding that every account has these two distinct sides.

The two sides of an account are described in the same way by accountants everywhere. **Debit** is the word associated with the left side of an account. **Credit** is the word associated with the right side of an account. In accounting terms, debit means left, credit means right.

Remember that the two new terms apply to every account, as shown below.

Any Account	
left side	right side
debit (short form dr or Dr)	credit (short form cr or Cr)

The Rules of Debit and Credit

You are familiar with the simple ledger and the terms debit and credit. You have also discovered which side of the account to use to record the beginning value for each type of account. Now you are ready to learn how changes are recorded in the accounts. There is a simple set of rules for recording changes in accounts. *For each type of account, record increases on its beginning value side and decreases on the other side.* These rules are summarized, using the terms debit and credit, in the chart below.

A = L + OE

Type of Accounts	Beginning Value Side	Increases	Decreases
ASSET accounts	DEBIT	DEBIT	CREDIT
LIABILITY and OWNER'S EQUITY accounts	CREDIT	CREDIT	DEBIT

In T-account form, the rules of debit and credit can be simplified even further, using the fundamental accounting equation as shown.

Assets		=	Liabilities		+	Owner's Equity	
Debit	Credit		Debit	Credit		Debit	Credit
+	−		−	+		−	+

TRANSACTION 1 The company purchases $200 worth of supplies from Packham Products, to be paid for later.

Analysis

When learning to analyze a transaction correctly, it is helpful to use a transaction analysis sheet. This sheet, shown below, provides a place to organize your thoughts about the transaction. Proceed according to the following steps:

(A) Account Names	(B) Asset, Liability, or Owner's Equity	(C) Increase (+) or Decrease (−)	(D) Debit or Credit	(E) Amount
Supplies	Asset	+	Dr	200
A/P – Packham Products	Liability	+	Cr	200

This final step completes what is known as the accounting entry for the transaction. An **accounting entry** may be defined as all of the changes in the accounts caused by one business transaction, expressed in terms of debits and credits.

An accountant would express the accounting entry for transaction 1 in the following way: debit Supplies and credit A/P–Packham Products, $200. Notice that the debited account is stated first. The credited account is stated second. After the changes are recorded in the appropriate accounts, the two accounts affected appear as shown below.

Supplies	
2 465	
① 200	

A/P Packham Products	
	3 946
	200 ①

← Transaction #1

Notice that the transaction includes both a debit and a credit, and that the totals of the debit and credit amounts are equal. This is the case with every transaction. The accounting equation remains in balance after the transaction is recorded, as shown in the illustration on the next page.

TRANSACTION 2 The company pays $500 to Dini Bros. in partial payment of the amount owed to them.

Analysis

This transaction is recorded on a transaction analysis sheet as follows:

(A) Account Names	(B) Asset, Liability, or Owner's Equity	(C) Increase (+) or Decrease (−)	(D) Debit or Credit	(E) Amount
A/P – Dini Bros.	*Liability*	–	*Dr*	② *500–*
Cash	*Asset*	–	*Cr*	② *500–*

Transaction #2

An accountant would express the accounting entry as follows: debit A/P–Dini Bros. and credit Cash, $500.

After the changes are recorded, the two accounts affected appear as shown below.

Cash	
3 265	500 ②

A/P Dini Bros.	
② 500	1 516

TRANSACTION 3 The company receives $200 cash from R. Van Loon in partial payment of her debt.

Analysis

The accounting entry for this transaction is worked out on the transaction analysis sheet as follows:

(A) Account Names	(B) Asset, Liability, or Owner's Equity	(C) Increase (+) or Decrease (–)	(D) Debit or Credit	(E) Amount
Cash	*Asset*	+	*Dr*	③ *200–*
A/R – R. Van Loon	*Asset*	–	*Cr*	③ *200–*

Read the changes as follows: debit Cash and credit A/R–R. Van Loon, $200.

After the changes are recorded, the two accounts affected appear as shown below.

Cash	
3 265	500 ②
③ 200	

A/R R. Van Loon	
620	200 ③

TRANSACTION 4 A delivery service is provided for a customer at a price of $400. The customer pays cash at the time the service is completed.

Analysis

The accounting entry for this transaction is worked out on the transaction analysis sheet as follows:

(A) Account Names	(B) Asset, Liability, or Owner's Equity	(C) Increase (+) or Decrease (−)	(D) Debit or Credit	(E) Amount
Cash	*Asset*	+	*Dr*	④ *400–*
B. Rissien, Capital	*Owner's Equity*	+	*Cr*	④ *400–*

Read the changes as follows: debit Cash and credit B. Rissien, Capital, $400.

After the changes are recorded, the two accounts affected appear as shown below.

Cash		B. Rissien, Capital	
3 265	500 ②		60 287
③ 200			400 ④
④ 400			

There is an increase in assets. Since the liabilities are unaffected, the owner gets to claim this increase. As a result, the accounting equation remains in balance, as seen below.

TRANSACTION 5 **A used truck costing $8000 is purchased from Dini Bros. A cash down payment of $2500 is made at the time of the purchase and the balance is to be paid at a later date.**

Analysis

This transaction affects three accounts. The accounting entry for the transaction is worked out on the transaction analysis sheet as follows:

(A) Account Names	(B) Asset, Liability, or Owner's Equity	(C) Increase (+) or Decrease (−)	(D) Debit or Credit	(E) Amount
Trucks	*Asset*	+	*Dr*	⑤ *8 000–*
Cash	*Asset*	–	*Cr*	⑤ *2 500–*
A/P – Dini Bros.	*Liability*	+	*Cr*	⑤ *5 500–*

total credits 8000

Read these changes: debit Trucks, $8000; credit Cash, $2500; credit A/P–Dini Bros., $5500.

After the changes are recorded, the three accounts affected appear as shown below.

Trucks

55 075	
⑤ 8 000	

Cash

3 265	500 ②
③ 200	2 500 ⑤
④ 400	

A/P Dini Bros.

② 500	1 516
	5 500 ⑤

TRANSACTION 6 **A delivery service is completed for R. Van Loon at a price of $350. Van Loon does not pay for the service at the time it is provided, but agrees to pay within 30 days.**

Analysis

The accounting entry for this transaction is worked out on the transaction analysis sheet as follows:

(A) Account Names	(B) Asset, Liability, or Owner's Equity	(C) Increase (+) or Decrease (–)	(D) Debit or Credit	(E) Amount
A/R – R. Van Loon	*Asset*	+	*Dr*	⑥ *350–*
B. Rissien, Capital	*Owner's Equity*	+	*Cr*	⑥ *350–*

Read these changes: debit A/R–R. Van Loon and credit B. Rissien, Capital, $350.

After the changes are recorded, the two accounts affected appear as shown below.

A/R. Van Loon

620	200 ③
⑥ 350	

B. Rissien, Capital

	60 287
	400 ④
	350 ⑥

The business is better off as a result of this transaction. There are more assets for the owner to claim, as demonstrated in the illustration on the next page.

TRANSACTION 7 One of the lifting machines (part of Equipment) breaks down. The company spends $650 cash to have the machine repaired.

A common mistake made by students dealing with this type of transaction is to increase the Equipment account. This action would give the impression that the equipment had somehow increased in value by being repaired. Clearly, this is not the case. To help you to avoid this mistake, here is a clue: the business is worse off financially as a result of this transaction. Equity will therefore decrease.

Analysis

This transaction is worked out on the transaction analysis sheet as follows:

(A) Account Names	(B) Asset, Liability, or Owner's Equity	(C) Increase (+) or Decrease (–)	(D) Debit or Credit	(E) Amount
Cash	*Asset*	–	*Cr*	⑦ 650–
B. Rissien, Capital	*Owner's Equity*	–	*Dr*	⑦ 650–

Read the changes: debit B. Rissien, Capital and credit Cash, $650.

After the changes are recorded, the two accounts affected appear as shown below.

Cash	
3 265	500 ②
③ 200	2 500 ⑤
④ 400	650 ⑦
215	

B. Rissien, Capital	
⑦ 650	60 287
	400 ④
	350 ⑥
	61387

The business has fewer assets for the owner to claim. Both assets and owner's equity decrease, leaving the accounting equation in balance, as shown below.

Double-Entry System of Accounting

Whenever a transaction occurs, changes must be made in the accounts. For each transaction, all of the account changes together must balance. These are known as the accounting entry for the transaction.

In this chapter so far, there have been seven transactions. They are summarized in Figure 4.4.

Transaction	Account Names	Account Classifications A, L, OE	Debit or Credit	Amount
1	Supplies A/P – Packham Products	A L	Dr Cr	$ 200 $ 200
2	A/P – Dini Bros. Cash	L A	Dr Cr	$ 500 $ 500
3	Cash A/R – R. Van Loon	A A	Dr Cr	$ 200 $ 200
4	Cash B. Rissien, Capital	A OE	Dr Cr	$ 400 $ 400
5	Trucks Cash A/P – Dini Bros.	A A L	Dr Cr Cr	$8 000 $2 500 $5 500
6	A/R – R. Van Loon B. Rissien, Capital	A OE	Dr Cr	$ 350 $ 350
7	B. Rissien, Capital Cash	OE A	Dr Cr	$ 650 $ 650

8000

The double-entry system using debits and credits is crucial to your understanding of accounting. For a review of this system, visit the *Accounting 1* website.

Figure 4.4
Seven accounting entries for Pacific Trucking

As you have noticed, each of the above seven transactions balances within itself. For each transaction, the total of the debit amounts equals the total of the credit amounts. This is basic to the whole accounting process and is true for every possible transaction. If you ever find an accounting entry that does not balance within itself, you can be certain that it is not correct. On the other hand, a balanced entry is not necessarily a correct entry. If the entry balances, that means that it is probably correct. If it does not balance, there is no chance that it is correct.

Now you can understand why the system you have been working with is known as the **double-entry system of accounting**. In the double-entry system of accounting, every transaction is recorded in the accounts in two steps. It is recorded first as a debit (or debits) and second as a credit (or credits), so that the total of the debit entries equals the total of the credit entries. The double-entry system of accounting is in general use throughout the business world.

Account Balances and Terminology

◀ 4.3

You started working with the accounts of Pacific Trucking on page 89. Then you worked out the accounting entries for seven transactions. After these accounting entries are entered in the accounts, the ledger appears as shown in Figure 4.5.

Assets = Liabilities + Equity

Cash

3 265	500 ②
③ 200	2 500 ⑤
④ 400	650 ⑦

A/R W. Caruso

150	

Bank Loan

	18 000

B. Rissien, Capital

⑦ 650	60 287
	400 ④
	350 ⑥

A/R R. Van Loon

620	200 ③
⑥ 350	

Supplies

2 465	
① 200	

A/P Dini Bros.

② 500	1 516
	5 500 ⑤

Trucks

55 075	
⑤ 8 000	

Equipment

22 174	

A/P Packham Products

	3 946
	200 ①

Figure 4.5

The ledger of Pacific Trucking after recording the accounting entries for seven transactions. Opening balances appear in blue.

In the ledger of Pacific Trucking, there are 10 accounts. The following information is stored in each account:

1. the name of the account, which is written at the top
2. the dollar value of the account and an indication of whether the value of the account is a debit or a credit

Calculating the Balance of an Account

The **account balance** gives the dollar value of an account and shows whether it is a debit or credit value. Calculating the account balance should be easy for you because you now realize that debits and credits have opposite effects in accounts. If debits increase an account, then credits decrease it. Conversely, if credits increase an account, then debits decrease it.

If you are working without the benefit of a calculator, follow the steps below to calculate the balance of a T-account.

Step 1 Add the two sides of the account separately. Use tiny pencil figures to write down these two subtotals, one beneath the last item on each side. Traditionally, these tiny totals have been referred to as **pin totals** or **pencil footings**.

Step 2 A. Subtract the smaller total from the larger total.
B. Write the result beside or beneath the larger of the two pin totals from Step 1. For now, circle this final amount.

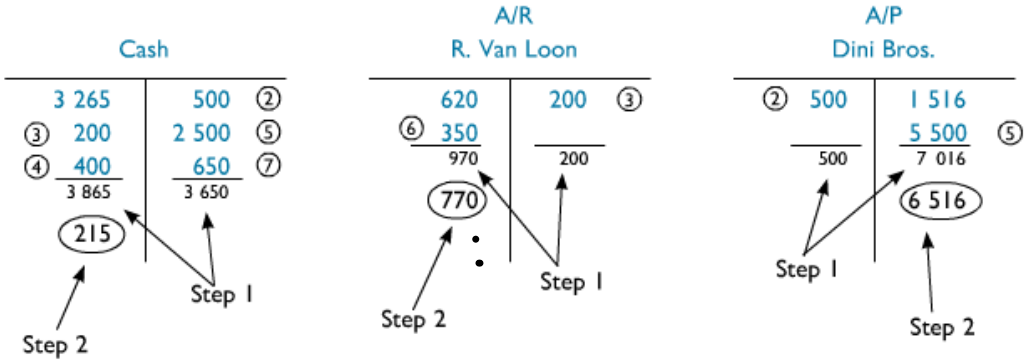
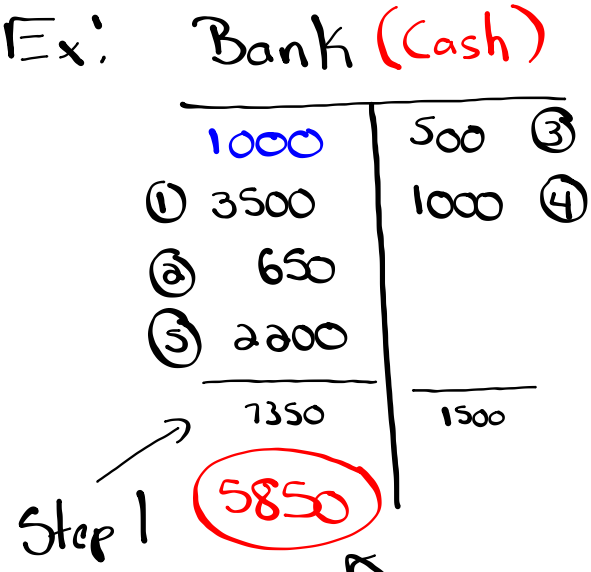


Figure 4.6
Calculating the balance of a T-account using pin totals

Step 2:

3865 - 3650 = 215

Ex:



Step 2:

7350 − 1500 = 5850

Step 3 Enter the amounts from the opposite side of the T-account. Press the minus symbol after all amounts except the last one. When you enter the last amount, press the equals symbol. The result on the calculator is the account balance.

Figure 4.7 shows the steps to take for balancing the Cash account of Pacific Trucking using an electronic calculator. Notice that pin totals are ignored in this example. Your calculator might be slightly different, and you might want to use your own variations, such as storing the balance of each side of the account in your calculator's temporary memory.

If you start entering amounts from the normal side of account, the balance on your calculator should be a positive number. If it is negative, you have either made an error or the account has an exceptional balance.

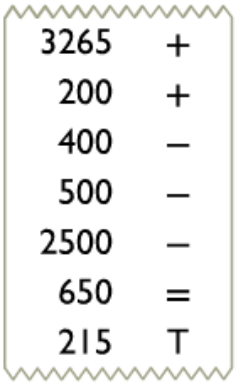


Figure 4.7
Calculating the balance of Pacific Trucking's Cash account using an electronic calculator

Exceptional Account Balances

ASSETS

Occasionally, an account that would normally have a debit balance ends up with a credit balance, or vice versa. An opposite balance is not necessarily the result of a mistake, although that possibility should certainly be checked out. There may be a good reason for an account to end up with a balance opposite to its normal one.

For example, suppose that Jack Evans, a customer, owes us $50. Suppose also that he sends a cheque for $55 in payment. His account will end up with a credit balance of $5, even though he is a customer and normally has a debit balance. The account balance is correct. It shows that the business owes Jack Evans $5. The account is temporarily a liability account.

A similar situation can affect the Bank account. Many businesses and people have overdraft agreements with their banks. An overdraft agreement is a financial contract that allows a deposit account to go below zero. Wise business people use overdraft protection to avoid the embarrassment and service charges that occur when there are non-sufficient funds (NSF) in the bank account to cover the cheques written.

If the total of the credit entries are greater than the total of the debit entries, we end up with a credit balance in the Bank account. This balance would show up as a negative amount on your calculator. What does this credit balance mean? It means that the Bank account is temporarily in a liability position and that we are in debt to the bank.

Other transactions can bring about exceptional balances as well. Consider the following:

- your business overpays an account payable
- a customer with no account balance returns unsatisfactory merchandise for credit
- a purchaser returns goods for credit to a supplier with whom there is no account balance

Exceptional balances do not last long. Ordinary business activity usually causes them to return quickly to normal.

A = L + OE

ASSETS → Normally have a debit balance

LIABILITIES → Normally have a credit balance

OWNER'S EQUITY → " " " " "

Interpreting the Balance of an Account

The existence of exceptional balances should make it clear to you that it is not enough to simply find the account balances. You should now learn to analyze and interpret the information stored in the accounts. They must mean something to you. Look back at the accounts in Figure 4.6, on page 106, and see what you can learn from them.

It should be clear what the account balances are. The Cash account has a balance of $215, and it is a debit balance because it is entered on the left side. Similarly, the R. Van Loon account has a balance of $770, debit, and the Dini Bros. account has a balance of $6516, a credit.

So far, you are familiar with three types of accounts: assets, liabilities, and capital. At this stage, all accounts fall into one of these categories. You already know that assets have debit balances and that liabilities and capital have credit balances.

It follows therefore that

- the Cash account is an asset because it has a debit balance
- the R. Van Loon account is an asset (an account receivable) because it has a debit balance
- the Dini Bros. account is a liability (an account payable) because it has a credit balance and is not the capital account

On Account

The term "on account" is used extensively in business. It is an essential part of business vocabulary. The term is used in four specific ways.

1. If an item is purchased on credit, this means that it is not paid for at the time of purchase. This is a **purchase on account**.
2. When an item is sold on credit, cash is not received at the time it is sold. This is a **sale on account**.
3. If money is paid out to a creditor to decrease the amount owed, it is a **payment on account**.
4. When money is received from a debtor to reduce the amount owed, it is a **receipt on account**.

Your ability to analyze transactions will improve by learning the four ways "on account" is used. Figure 4.8 shows the account titles that are typically involved with "on account" transactions. Notice that all four uses of "on account" affect either accounts receivable or accounts payable.

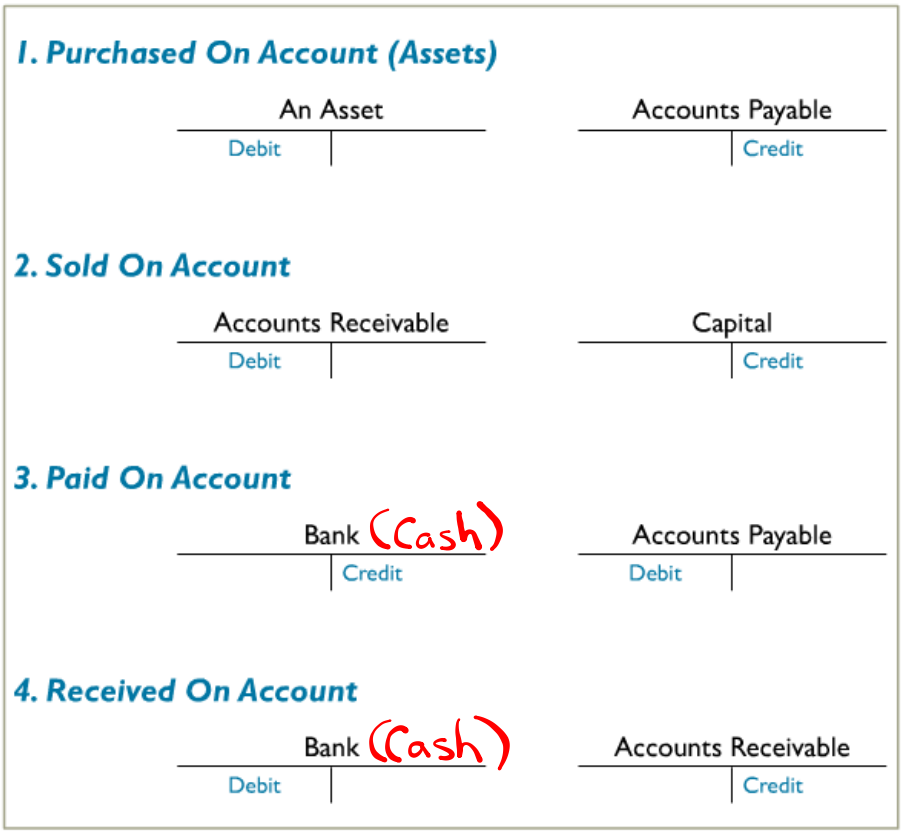


Figure 4.8

Typical accounting entries generated by "on account" transactions

Homework

Section 4.3 on page 110

Review Questions 1-10

Exercises 1-5

SECTION 4.3 REVIEW QUESTIONS (page 110)

1. *An account contains the following three pieces of information: the account name, the dollar value or balance of the account, and whether the account balance is debit or credit.*
2. *To calculate the balance of a T-account, first, add up the totals of the two columns of the T-account and write the amounts in pin totals. Next, calculate the difference between the two pin totals, write the amount of the difference on the same side as the larger of the two totals, and then circle the amount.*
3. *You can tell which type of balance an account has by looking at the column totals in the T-account. If the debit side has the larger total, the account has a debit balance. If the credit side has the larger total, the account has a credit balance.*
4. *An asset account has a debit balance.*
5. *A liability account and a capital account have a credit balance.*
6. *An account with an exceptional balance has a balance that is opposite to the normal one. For an asset account, this means it has a credit balance. For a liability or capital account, this means it has a debit balance.*
7. *Examples will vary. A customer overpays their account, resulting in a credit balance when the account normally has a debit balance. The owner withdraws funds from her bank account before several cheques have cleared, resulting in a credit balance when the bank account normally has a debit balance.*
8. *Overdraft protection allows a bank account balance to go below zero. This allows businesses to avoid service charges and embarrassment if their account is overdrawn.*
9. *Businesses prefer to make purchases on credit because it is convenient and it allows them to check that the merchandise is in good condition before paying for it.*
10. *A purchase on account means the goods or services are not paid for at the time of purchase and will be paid for later. A sale on account means the goods or services are sold on credit and will be paid for later. A payment on account is a sum of money paid to a creditor for an amount owing for a purchase on account. A receipt on account is a sum of money paid by a debtor for an amount owing for a sale on account.*

Exercise 1, p. 110

A.

Bank		A/R—H. Devrie		A/P—P. Helka		R. Smart, Capital	
250	190	25	175	30	75	150	3 140
1 210	48	150		45	40		
360	512	70			175	*150*	*3 140*
29		35					*2 990*
1 849	*750*	*280*	*175*	*75*	*290*		
1 099		*105*			*215*		

B. *The debit balance in the H. Devrie account means that this account is an asset.*

C. *The credit balance in the P. Helka account means that this account is a liability.*

Exercise 2, p. 110

A. *The Bank account and A/R—P. Chu account are both unusual because they have a credit balance when asset accounts usually have debit balances. The A/P—J. Reicher account is unusual because it has a debit account and liability accounts usually have credit balances.*

B. *The Bank account might have a credit balance because the business temporarily withdrew more money than there was in the account. For the Account Receivable, P. Chu may have overpaid the account balance and the business has yet to issue a refund. For the Account Payable, the business might have returned merchandise to J. Reicher and gotten a refund, which shows as a debit balance.*

Exercise 3, p. 110

	Debit	Credit
A. The left side of an account.	✓	
B. The balance of an account receivable.	✓	
C. The balance of a supplier's account.		✓
D. A decrease in a liability.	✓	
E. An exceptional balance in the Bank account.		✓
F. The balance in the equipment account.	✓	
G. The right side of an account.		✓
H. The balance in the Bank Loan account.		✓
I. An exceptional balance in an account payable.	✓	
J. The larger side of a liability account.		✓
K. A creditor's account.		✓
L. A customer's account.	✓	
M. An increase in an asset.	✓	
N. A debtor's account.	✓	
O. The effect on accounts receivable when we sell on account.	✓	
P. The effect on accounts payable when we pay on account.	✓	
Q. The effect on accounts receivable when we have a receipt on account.		✓
R. The effect on accounts payable when we purchase on account.		✓

Exercise 4, p. 111

Cash			A/R—K. Mak			Supplies			Equipment		
6 000	3 000	①	1 000	600	②	5 000	400	⑦	10 000		
② 600	250	⑤	1 000	600		5 000	400		③ 980		
④ 1 000	750	⑥	(400)			(4 600)			10 980		
⑧ 375									(10 980)		
7 975	4 000										
(3 975)											

A/P—Heiden Fashions			A/P—Parry Supply Co.			Bank Loan			B. Chan, Capital		
① 3 000	3 000			500			9 000		⑤ 250	9 500	
0				980	③		1 000	④	⑥ 750	375	⑧
				1 480			10 000		⑦ 400		
				(1 480)			(10 000)		1 400	9 875	
										(8 475)	

Exercise 5, p. 111