

4.7 Credit Card Costs

GOALS

- Identify important information found on credit card statements
- Verify transactions on credit card statements
- Calculate the cost of using a credit card

Start Up

When Robert receives his credit card statement each month, he simply mails a check for his payment. He decided the time it takes to verify the charges was not worth it. His feeling is that a computer prints out the statement so there will be no errors. What are the dangers in using a credit card as Robert does?



Math Skill Builder

Review these math skills and solve the exercises that follow.

- 1 Divide** money amounts and decimals by whole numbers.
Find the quotients. $\$366 \div 30 = \12.20 $18.25 \div 365 = 0.05$
1a. $\$480 \div 31$ 1b. $\$24 \div 12$ 1c. $\$745 \div 30$
- 2 Multiply** money amounts by whole numbers and decimals.
Find the product. $\$500 \times 25 \times 0.00056 = \7
2a. $\$150 \times 20 \times 0.000872$ 2b. $\$868 \times 30 \times 0.00096$
- 3 Add and subtract** money amounts.
Find the sum or difference. $\$3.45 + \$25 = \$28.45$; $\$3,298 - \$725 = \$2,573$
3a. $\$52.19 + \$78.42 + \$1.89$ 3b. $\$189 + \$92.09 + \$3.87$
3c. $\$4,098.34 - \871.36 3d. $\$1,830.43 - \792.19
- 4 Rewrite** percents as decimals.
Rewrite 45.6% as a decimal. 0.456
4a. 89.08% 4b. 0.0736% 4c. 0.0287%

Information on a Credit Card Statement

Midori Masami's credit card company sent her the statement shown on the next page. Find each italicized word below on the statement:

Transactions are events that need to be recorded on the statement. These events include *purchases*, *payments* made, and any *fees* Midori has been charged or *credits* made to her account.

Notice that Midori purchased some clothes on 2/1 from Gale's Fashions. While the sale was made on 2/1, the card company did not record, or *post* the sale to the statement until 2/3.

The statement shows that the *previous balance* from Midori's last statement was \$316.15. On 2/28, the card company received Midori's check for the previous balance. Although she paid it in full, her check was received after the due date, February 22, and she was charged a \$25 *late fee*. Many card companies allow a cushion of 3-5 days before charging a late fee.

The card company allows Midori to carry a maximum balance of \$5,000. If she spends more than that *credit limit*, the company will charge her an *over-the-limit fee*.

BUSINESS TIP

If you transfer a balance from one card to another card, you may be charged a *balance transfer fee*.

OneBank Card						
Acct. No.: 1200 1200 0000 1200			For customer service call: 1-800-555-5600			
Statement Closing Date: 02/28/--			Cash Advance Limit: \$1,500.00			
Credit Limit: \$5,000.00			Payment Must Be Received By: 03/25/--			
Transaction Date	Post Date	Reference	Transaction Description		Payments & Credits	Loans, Fees, & Purchases
2/1	2/3	T970R194	Gale's Fashions	Peoria, IL		139.89
2/5	2/7	297B9875	Superfast Gas	Peoria, IL		15.68
2/10	2/12	N978T125	Pasta Garden Restaurant	Peoria, IL		18.25
2/15	2/16	M5980922	Gale's Fashions-Return	Peoria, IL	15.99	
2/17	2/18	9780H142	Boulevard Music Store	Springfield, IL		11.31
2/20	2/20	91089478	Annual membership fee			25.00
2/28	2/28	41978573	Payment Thank You		316.15	
2/28	2/28	41827753	Late fee			25.00
Previous Balance	Purchases & Fees	Payments & Credits	Finance Charge	New Balance	Minimum Payment Due On Due Date	APR 18.000% Monthly Periodic Rate 1.575%
316.15	235.13	332.14	0.00	219.14	6.57	

On 2/15, a *credit* occurred when Midori *returned* part of the clothes she had bought from Gale's Fashions. Credits, like payments, are amounts that are subtracted from Midori's card balance.

The statement shows that Midori can borrow up to \$1,500 from the company on a *cash advance*. Midori did not take any cash advances during February.

Midori paid no *finance charges* on the previous month's balance. That's because she paid her balance in full. You are usually given a *grace period* of 25 days from the *statement closing date* to pay your credit card balance in full.

The statement closing date is the last date on which transactions are posted to the statement. That date is 2/28 for Midori.

OneBank's finance charge rate is shown in the bottom right corner of the statement. The *annual percentage rate* is 18.9%. The *monthly periodic rate* is the annual percentage rate divided by 12, or 1,575%.

Midori's *new balance* is \$219.14. If she had had an unpaid balance from the previous month, it would have been added to the new balance. The *minimum payment due* that Midori must make to the card company is \$6.57. Since she doesn't want to pay a finance charge, she plans to pay the new balance in full by the due date, 3/25.

EXAMPLE 1

Midori Masami received the statement shown on the previous page. What is her new balance? How much of the new balance must she repay by the due date? What is the highest balance Midori is permitted to have?

SOLUTION

Midori's new balance is \$219.14. She must make a minimum payment of \$6.57. The highest balance Midori may have is \$5,000.

CHECK YOUR UNDERSTANDING

- Look at Midori's statement. What is the due date for paying the balance? What was the amount of her last payment?
- Look at Midori's statement. What is the periodic interest rate she will pay on any unpaid balance? What is the total amount of her new purchases and fees for the month?

BUSINESS TIP

If your credit card is used by someone else illegally, you can be held responsible for up to \$50 per card. If your card is lost or stolen and you notify the card company before any purchases are made, you are not liable for any unauthorized purchases.

Verify Transactions

Each month Midori saves her credit card sales slips, like the one shown at the right. When she receives her credit card statement, she compares the sales slips with the statement transactions. She looks for purchases that are listed but were not made by her. These are called *unauthorized purchases*. She also checks to see if the sales slip amounts agree with the amounts listed on the statement.

Unauthorized purchases may occur when the credit card company mistakenly posts someone else's sales slips to her statement. Unauthorized purchases may also happen if someone has used her credit card illegally.

Midori also checks that her payments and any purchase returns are listed. Finally, she checks to make sure that there are no unauthorized fees listed.

If Midori finds errors in amounts or unauthorized purchases or fees, she will contact her credit card company immediately, before she sends any payment.

Sales Receipt	
Gale's Fashions, Inc. 2678 Furth St., Peoria, IL 61612 (309) 555-2525 THANK YOU	
MERCHANT ID: 346184688345854 One Bank Card Sale/Swiped Acct: ****3****1200 Exp: 10/12 Midori Masami	
Amount	\$ 139.89
X	<u>Midori Masami</u> Midori Masami
Date 02/01/--	Day WED Time 14:36
Authorized ticket: 564638	
TOP COPY-MERCHANT BOTTOM COPY-CUSTOMER	

EXAMPLE 2

Midori compared her sales slips with the statement transactions. She found sales slips for 2/1, 2/5, 2/10, and 2/15 and noted that the amounts were correct. She didn't find a sales slip for the 2/17 transaction and knew she did not buy anything in Springfield during February. The 2/28 payment listed agreed with her checkbook register and she knew that her check was sent late. She also verified that her membership fee was due. What is Midori's correct new balance?

SOLUTION

Subtract the unauthorized purchase from the new balance on the statement.

$$\$219.14 - \$11.31 = \$207.83 \quad \text{corrected new balance}$$

■ CHECK YOUR UNDERSTANDING

- C. When Vondel Bradshaw checked his credit card statement, he found that a sales slip dated 3/2 for \$12.49 was posted as \$12.99. He also found that a purchase for \$56.29 dated 3/19 was unauthorized. If the new balance on the statement was \$491.23, what is the correct new balance?
- D. Sonja Erickson checked her credit card statement and found a sales slip for \$48.99 that was unauthorized. She also found that a sales slip for \$17.89 had been listed as \$18.79. If the new balance shown on her statement was \$208.66, what is her correct new balance?

■ Cost of Credit Card Use

The finance charges and fees you pay on your credit card can add up. You should calculate the total cost of your credit card to see if using one is of value to you and to compare the cost of your current card to other cards.

EXAMPLE 3

Danny O'Hare switched from the Clarion credit card to the First Bank credit card in April. When he did, he paid an annual membership fee of \$50. He also paid a balance transfer fee of 2% of his old card's \$420 balance. During the next 12 months, he paid an average monthly finance charge of \$33.80 on his unpaid balance. What was Danny's total cost for using his credit card for the year?

SOLUTION

Multiply the monthly finance charge by 12 months.

$$12 \times \$33.80 = \$405.60 \quad \text{total finance charge for year}$$

Multiply the Clarion card balance by the balance transfer fee rate.

$$\$420 \times 0.02 = \$8.40 \quad \text{balance transfer fee}$$

Add the total finance charge, balance transfer fee, and membership fee.

$$\$405.60 + \$8.40 + \$50 = \$464 \quad \text{total cost of credit card for year}$$

BUSINESS TIP

Stores are charged a fee by the credit card company for accepting credit card purchases. The fee may range between 1.5%–6% of the sale. The store may also be charged a fee for every credit card transaction.

■ CHECK YOUR UNDERSTANDING

- E. Lili Favre opened a SkyMail credit card in January. She paid a membership fee of \$45 and a balance transfer fee of \$29 when she moved the balance of her old card to her SkyMail card. During the year, she paid these finance charges: Jan., \$2.68; Feb., \$7.28; June, \$9.22; Oct., \$3.98. What was the total annual cost of the card to Lili?
- F. Derwood Kant's credit card statement for May showed a membership fee of \$25, a late fee of \$29, a finance charge of \$3.15, and an over-the-limit fee of \$16. What was the total cost of the card to Derwood in May?

Wrap Up

Look at the Start Up question at the beginning of this lesson. As you have seen by following Midori's verification process, Robert may be paying for charges he did not make or fees he should not have to pay. Even though a computer does print the statements, unauthorized use of a credit card does occur. Robert should always check his statements.

WORKPLACE WINDOW

CREDIT CARD AUTHORIZERS review digital transactions from retailers and return an approval code that allows a retail store to allow you to purchase an item using a credit card. You have probably noticed how a cashier will swipe a credit card, then wait for a receipt to print that has an authorization code printed on it.

1. What other job titles may a credit card authorizer have?
2. What skills are necessary for a credit card authorizer?
3. What is the job outlook for credit card authorizers?



EXERCISES

Perform the indicated operation.

- | | | |
|--------------------|------------------------------------|------------------------------------|
| 1. $660 \div 26$ | 2. $38.41 + 93.26 + 9.52$ | 3. $252 + 63.14 + 6.62$ |
| 4. $48 \div 8$ | 5. $478 \times 30 \times 0.000628$ | 6. $350 \times 15 \times 0.000491$ |
| 7. $1,060 \div 20$ | 8. $2,617.84 - 491.53$ | 9. $3,205.33 - 1,493.59$ |

Rewrite as a decimal.

10. 9.17% 11. 0.0316%

12. Lannie Ickerson checked her credit card statement and found a sales slip for \$27.79 that was unauthorized. She also found that a sales slip for \$11.29 had been listed as \$12.19. If the new balance shown on her statement was \$107.09, what is her correct new balance?

13. John Rawlings credit card statement for June 30 showed a previous balance of \$248.67 and new purchases of \$59.89 on 6/10, \$15 on 6/15, \$28.97 on 6/17, and a new balance of \$352.53 for the month. John found that the slip dated 6/10 was for \$58.99 and that there was no slip dated 6/17. He was certain this purchase was unauthorized by him. What is John's correct new balance?

Use the credit card statement for Ana Guzman to answer Exercises 14–16.

UniBank Card						
Acct. No. 0200 0200 0000 0200 Statement Closing Date: 11/30/-- Credit Limit: \$3,500				Ana Guzman 123 Presidents Place El Paso, Tx 79915		
Transaction Date	Post Date	Reference	Transaction Description	Payments & Credits	Loans, Fees, & Purchases	
11/3	11/4	59219781	Crestwood Gym			49.99
11/7	11/9	297B9875	Broadway Videos			12.79
11/10	11/12	N978T125	The Corner Gas Station			24.59
11/17	11/18	M5980922	Regal Department Store-Return	38.29		
11/21	11/23	91089478	Annual membership fee			45.00
11/24	11/24	41978573	Payment Thank You	100.00		
11/30	11/30	41827753	Balance from Transcredit Card			267.88
11/30	11/30	41827756	Balance transfer fee			29.00
For customer service call: 1-800-555-7800 Cash Advance Limit: \$1,000.00 Payment Must Be Received By: 12/25/--						
Previous Balance	Purchases & Fees	Payments & Credits	Finance Charge	New Balance	Minimum Payment Due On Due Date	APR 18.0% Monthly Periodic Rate 1.5%
249.25	429.25	138.29	3.74	543.95	10.88	

14. By what date must she make the minimum payment? What was the date and amount of her last payment? What is her credit limit?
15. How much finance charge does she owe? How much money did she transfer from the Transcredit card to her UniBank card? What fee did she pay for the balance transfer?
16. When Ana Guzman checked her credit card statement, she found that a sales slip dated 11/7 for \$11.79 was posted as \$12.79. She also found that a purchase for \$24.59 dated 11/10 was unauthorized. The new balance on the statement was \$543.95. What is her correct new balance?
17. Sandra Beal opened a new credit card in January. She paid a membership fee of \$15 and a balance transfer fee of \$20 when she moved the balance of her old card to her new card. During the year, she paid these finance charges: Feb., \$3.56; May, \$5.82; July, \$4.92; Sept., \$2.18. What was the total annual cost of the card to Sandra?

18. Rick Chandler's credit card statements for the year showed a membership fee of \$75, two late fees of \$25, and an average finance charge of \$23.75 a month. What was the total annual cost of the card to Rick?
19. Heng-che Pai's credit card statement for May showed a previous balance of \$289.16, new purchases of \$107.99, a membership fee of \$35, a finance charge of \$5.96, and a payment of \$100. What is her new balance?
20. The credit card of Salizar Mendoza for April listed a previous balance of \$419.65, new purchases of \$283.15, a payment of \$300, a finance charge of \$7.23, and a late fee of \$20. What is his new balance?
21. **STRETCHING YOUR SKILLS** BankNote Credit Card Company must pay a store \$409,800 this month for sales the store's customers made using the BankNote credit card. Before paying, BankNote will deduct from the store's check a 3.5% merchant discount fee from the total sales. BankNote will also deduct a \$0.20 transaction processing fee for each of the 21,283 BankNote credit card transactions made at the store during the month. What net amount will the store receive from BankNote?
22. **STRETCHING YOUR SKILLS** Roslynn Rheinart bought a wood chipper priced at \$575 and received a 4% discount for paying cash instead of using a credit card. What did Roslynn pay for the chipper?
23. **CRITICAL THINKING** Think about what you have learned about interest in this chapter. What common elements are there between interest paid on savings accounts and interest owed on loans?



MIXED REVIEW

24. $5 + 894 + 1.9 + 34.6$
25. Write $302\frac{1}{4}\%$ as a decimal.
26. \$4.90 is what percent greater than \$4.20?
27. What amount is $62\frac{1}{2}\%$ smaller than \$88?
28. Gary Feliciano borrowed \$720 from a finance company and repaid the loan in 18 monthly payments of \$50.80 each. What was the finance charge?
29. Carmen Dize used an ATM to deposit a check for \$361.90 and to withdraw \$250 in cash. If her starting bank balance was \$739.18, what is her new balance?
30. On June 30, Tina Nader's check register balance was \$452.88 and her bank statement balance was \$697.55. Checks outstanding were 561, \$39.28; 562, \$121.31; 564, \$83.19. The statement showed earned interest of \$0.89. Reconcile the check register and bank statement.
31. Ira Morganstein's tax return last year showed gross income of \$56,312 and adjustments to income of \$2,184. What was Ira's adjusted gross income last year?
32. **DECISION MAKING** Assume you have \$15,000 earning interest in a 3-year time-deposit savings account compounded yearly at the rate of 6%. You want to buy a car for \$15,000. A car manufacturer's special offer is a 3-year car loan with no money down at a 4% APR. Should you borrow the money or pay cash using your savings account? Why?

4.8

Credit Card Finance Charges

GOALS

- Calculate finance charges using previous balance method
- Calculate finance charges using adjusted balance method
- Calculate finance charges using average daily balance method
- Calculate the finance charge on cash advances

Start Up

Holly Winter's credit card balance for April is \$250. The minimum amount that she is required to repay of that balance is \$3.75. The monthly finance charge on the same balance is 2%. If she continues to pay the minimum amount on her monthly balance, how many months will it take her to pay off the balance?

Math Skill Builder

Review these math skills and solve the exercises that follow.

- 1 Add and subtract money amounts.

Find the sum. $\$209.34 + \$345.12 + \$16.54 - \$516.89 - \$28.76 = \25.35

1a. $\$507.22 + \$397.28 - \$44.20 - \579.93

1b. $\$183.02 + \$97.38 - \$88.73 - \38.99

- 2 Multiply money amounts by decimals.

Multiply: $\$62.58 \times 0.0021 = \0.13

2a. $\$398.77 \times 0.000673$

2b. $\$220.81 \times 0.01975$

2c. $\$710.29 \times 0.2978$

2d. $\$1,297.55 \times 0.008271$

■ Previous Balance Method

If you don't pay your card balance in full by the due date, you will be assessed a finance charge. You also will lose the *grace period* for new purchases. Finance charges will be charged on new purchases from the day they are made.

A credit card finance charge is found by multiplying the card balance by the finance charge rate, or **periodic rate**. The finance charge rate is typically a daily or monthly rate found by dividing the annual percentage rate (APR) by either 365 or 12. Thus, an APR of 24% is a daily periodic rate of 0.0658% (rounded to the nearest ten thousandth) or a monthly periodic rate of 2%.

BUSINESS TIP

The monthly finance charge rate on a credit card balance is often called the *periodic rate*. The month for which you are billed is often called the *billing period*.

The amount of the finance charge depends on how the card company figures the balance in your account. This balance can be found by several methods.

The finance charge, new balance, and minimum payment due boxes in the statement are gray because these amounts will vary with the method used to find the balance on which the finance charge will be applied.

Transaction Date	Post Date	Reference	Transaction Description		Payments & Credits	Loans, Fees, & Purchases
10/3	10/4	3165813T	Cardinal Shoe Stores, Inc	Detroit, MI		128.99
10/7	10/9	4381R211	Vorax Gas Stations, Inc.	Detroit, MI		21.89
10/10	10/12	4Y659762	The Pasta Barn, Inc.	Detroit, MI		27.79
10/17	10/18	4897W544	Cardinal Shoe Stores-Return	Detroit, MI	35.99	
10/18	10/19	81976534	Annual membership fee			35.00
10/24	10/24	94681322	Payment Thank You		75.00	

Previous Balance	Purchases & Fees	Payments & Credits	Finance Charge	New Balance	Minimum Payment Due On Due Date	APR 18.000% Monthly Periodic Rate 1.5%
225.60	213.67	110.99				

The **previous balance method** charges interest on the balance in the account on the last billing date of the previous month. Any payments, credits, or new purchases in the current month are not included in the previous balance. Use the formula below to find the new balance.

$$\text{Finance Charge} = \text{Previous Balance} \times \text{Periodic Rate}$$

$$\text{New Balance} =$$

$$\text{Previous Balance} + (\text{Finance Charge} + \text{New Purchases} + \text{Fees}) - (\text{Payments} + \text{Credits})$$

EXAMPLE 1

Laura Solon's card company uses the previous balance method to find the balance and to figure the finance charge. Find the finance charge for the month and the new balance.

SOLUTION

Rewrite the monthly periodic rate as a decimal and multiply by the previous balance to find the finance charge.

$$0.015 \times \$225.60 = \$3.384, \text{ or } \$3.38 \text{ finance charge for month}$$

Add to find the new balance.

$$\$225.60 + \$3.38 + \$213.67 - \$110.99 = \$331.66$$

■ CHECK YOUR UNDERSTANDING

- A. John Olden's credit card statement for April showed a previous balance of \$309.20, new purchases and fees of \$128.45, and payments and credits of \$75. The card's annual percentage rate is 24%. What is John's finance charge for April and new balance using the previous balance method?
- B. Sandra Minoro's credit card company uses the previous balance method to calculate finance charges. Its APR is 21%. Sandra's credit card statement for June showed a previous balance of \$488.32, new purchases and fees of \$264.89, and payments and credits of \$300. What is Sandra's finance charge for June and her new balance?

■ Adjusted Balance Method

The **adjusted balance method** subtracts payments and credits during this month from the balance at the end of the previous month. Purchases and fees made during the current month are not included in the adjusted balance.

$$\text{Adjusted Balance} = \text{Previous Balance} - (\text{Payments} + \text{Credits})$$

$$\text{Finance Charge} = \text{Adjusted Balance} \times \text{Periodic Rate}$$

$$\text{New Balance} = \text{Adjusted Balance} + \text{Finance Charge} + \text{New Purchases} + \text{Fees}$$

EXAMPLE 2

Suppose that Laura's card company uses the adjusted balance method to find the balance and figure the finance charge. Find the finance charge for the month and the new balance.

SOLUTION

Subtract the payments and credits from the previous balance to find the adjusted balance.

$$\$225.60 - \$110.99 = \$114.61 \quad \text{adjusted balance}$$

Write the monthly APR as a decimal and multiply by the adjusted balance to find the finance charge.

$$0.015 \times \$114.61 = \$1.719, \text{ or } \$1.72 \quad \text{finance charge}$$

Add the adjusted balance, finance charge, and new purchases and fees to find the new balance.

$$\$114.61 + \$1.72 + \$213.67 = \$330 \quad \text{new balance}$$



■ CHECK YOUR UNDERSTANDING

- C. Yossi Hussein uses a credit card that carries an 18% APR and uses the adjusted balance method for calculating finance charges. Yossi's statement listed these facts: previous balance, \$310.33; purchases, \$219.67; fees, \$75; payments, \$150; credits, \$62.69. What is Yossi's finance charge and new balance?
- D. Ricky Luciano's credit card statement showed a previous balance of \$166.98, purchases and fees of \$201.88, and payments and credits of \$75. If his card carried an APR of 21% and used the adjusted balance method to calculate finance charges, what is Ricky's finance charge and new balance?

■ Average Daily Balance Method

The **average daily balance method** is the most commonly used method for calculating the finance charge. When this method is used, the periodic rate is applied to the average daily balance in the account during the billing period. The dates used are the *post* dates. The card company starts with the beginning balance for each day.

The company subtracts any payments or credits posted during that day from the beginning balance. New purchases and fees posted for that day are added to the balance. The ending balances for every day are then totaled and divided by the number of days in the billing period to get the *average daily balance*.

$$\text{Daily Balance} = \text{Beginning Balance} - (\text{Payments} + \text{Credits}) + (\text{Purchases} + \text{Fees})$$

$$\text{Average Daily Balance} = \frac{\text{Sum of Daily Balances}}{\text{Number of Days in Billing Period}}$$

$$\text{Finance Charge} = \text{Average Daily Balance} \times \text{Monthly Periodic Rate}$$

$$\text{New Balance} = \text{Beginning Balance} - (\text{Payments} + \text{Credits}) + (\text{Finance Charges} + \text{New Purchases} + \text{Fees})$$

EXAMPLE 3

Suppose that Laura's card company uses the average daily balance method to figure the finance charge. Find the finance charge for the month and the new balance.

SOLUTION

Create a chart like the one below. A transaction is either a payment or a credit and subtracted from the balance, or purchase or fee and added to the balance. The balance at the end of a day is the previous balance plus or minus any additions or deductions. The Number of Days is the number of days that the balance is in effect. The Sum of Daily Balances is the balance multiplied by the number of days.

Post Date	Transactions	Balance at End of Day	Number of Days	Sum of Daily Balances
10/1 (Bal.)	0.00	225.60	1	225.60
10/2-10/3	225.60	225.60	2	451.20
10/4	+128.99	354.59	1	354.59
10/5-10/8	0.00	354.59	4	1,418.36
10/9	+21.89	376.48	1	376.48
10/10-10/11	0.00	376.48	2	752.96
10/12	+27.79	404.27	1	404.27
10/13-10/17	0.00	404.27	5	2,021.35
10/18	-35.99	368.28	1	368.28
10/19	+35.00	403.28	1	403.28
10/20-10/23	0.00	403.28	4	1,613.12
10/24	-75.00	328.28	1	328.28
10/25-10/31	0.00	328.28	7	2,297.96

BUSINESS TIP

Some companies figure the average daily balance without adding the new purchases and fees. Check how your card company figures finance charges.

PROBLEM SOLVING TIP

Finding the average daily balance is another use of weighted averages.

Add the column, "Sum of Daily Balances," and divide by 31, the number of days the statement covers.

$$\begin{aligned} & \$225.60 + \$451.20 + \$354.59 + \$1,418.36 + \$376.48 + \$752.96 + \$404.27 \\ & + \$2,021.35 + \$368.28 + \$403.28 + \$1,613.12 + \$328.28 + \$2,297.96 = \$11,015.73 \\ & \$11,015.73 \div 31 = \$355.346, \text{ or } \$355.35 \text{ average daily balance} \end{aligned}$$

Write the monthly APR percentage as a decimal and multiply by the average daily balance: $0.015 \times \$355.35 = \5.33 finance charge

Subtract the payments and credits, and add the finance charges, purchases, and fees to previous balance.

$$\$225.60 - (\$35.99 + \$75) + (\$5.33 + \$213.67) = \$333.61 \text{ new balance}$$

■ CHECK YOUR UNDERSTANDING

- E. Jade Hameed's credit card statement for August showed these items: 8/1, previous balance, \$108.15; 8/5, purchase, \$56.89; 8/10, purchase, \$61.88; 8/14, purchase, \$190.23; 8/25, payment, \$150. Jade's card company uses a 1.6% monthly periodic rate and the average daily balance method. What is Jade's finance charge for August and the new balance?
- F. The credit card statement of Gloria Herrera for January listed these items: 1/1, previous balance, \$89.27; 1/5, purchase, \$159.34; 1/9, purchase, \$108.45; 1/24, payment, \$150; 1/28, fee, \$25. The card company uses the average daily balance method and a daily periodic rate of 0.000575. What is Gloria's finance charge for January and what is her new balance?

PROBLEM SOLVING TIP

If your card company charges a daily periodic rate, the formula for figuring the finance charge is: Finance Charge = Average Daily Balance \times Number of Days in Billing Period \times Daily Periodic Rate.

■ Cash Advances

You can get cash from an ATM using your credit card. However, you are borrowing money from the credit card company. Transactions of this type are called **cash advances**. Your credit card company will charge you a finance charge on the cash advance starting from the day you withdraw the money. There is no grace period for cash advances.

Card companies often charge you a one-time fee for the cash advance in addition to the finance charge. They often charge a higher periodic rate for cash advances than for regular balances.

To find the interest, multiply the amount of the advance (principal) by the daily periodic interest rate (rate) and number of days of the loan (time). To find the finance charge, add the interest to any fees paid. The cash advance and finance charge are added to find the amount needed to pay off the cash advance.

$$\text{Interest} = \text{Cash Advance} \times \text{Daily Periodic Rate} \times \text{Term of Advance in Days}$$

$$\text{Finance Charge} = \text{Interest} + \text{Fees}$$

$$\text{Payoff Amount} = \text{Cash Advance} + \text{Finance Charge}$$

PROBLEM SOLVING TIP

Remember that finance charges include interest plus fees.

EXAMPLE 4

Benito Moya borrowed \$500 for 20 days on his credit card using a cash advance. His card company charged a cash advance fee of \$29 and a daily periodic interest rate of 0.0573%. What was the total finance charge on the cash advance?

SOLUTION

Multiply the amount borrowed by the number of days for the advance and daily periodic rate to find the interest on the loan.

$$\$500 \times 20 \times 0.000573 = \$5.73 \quad \text{interest on cash advance}$$

Add to find the total finance charge.

$$\$5.73 + \$29 = \$34.73$$

■ CHECK YOUR UNDERSTANDING

G. Vera Millay used her credit card in an ATM to borrow \$200 on a cash advance. Her card company charged a cash advance fee of \$5 and a daily periodic interest rate of 0.0487%. If Vera paid the loan back at the end of 25 days, what was the total finance charge on the cash advance?

H. Akbar Assam borrowed \$150 on a cash advance from his credit card company. The card company charged a cash advance fee of \$20 and a daily periodic interest rate of 0.058% for the 35 days the loan ran. What total amount did Akbar need to pay off the loan?



Wrap Up

Look at the Start Up problem at the beginning of the lesson. The monthly finance charge on Holly's balance is \$5 ($2\% \times \250). Her minimum required payment is only \$3.75. Her minimum payment does not even fully cover the finance charge. At that rate, Holly's balance will grow each month and she will never pay it off.

TEAM MEETING

In most bank lobbies, there is a place where brochures about bank services are available free to the public. Among these brochures is usually a stack of brochures explaining how to apply for a credit card, including the credit card features and terms. With two other students,

- Obtain copies of these brochures from several banks or visit bank websites for information.
- After reading the brochures, make a chart listing the features common to all credit cards offered by these banks, such as balance transfer fees, late charges, and the method of calculating the bank balance and finance charge.
- Create columns to let you enter data for each credit card's features.
- Prepare a brief explanation of the chart that includes a discussion of the differences among the cards.

EXERCISES

Find the result.

1. $\$98.62 + \$978.22 - \$34.15 - \98.18
2. $\$789.23 + \$98.21 - \$44.63 - \641.09

Find the product.

3. $\$879.43 \times 0.00526$
4. $\$2,097.46 \times 0.0002978$
5. The October credit card statement for Genaro Rios had a previous balance of \$175.30, new purchases and fees of \$108.85, and payments and credits of \$125. The card's annual percentage rate is 21% and the previous balance method is used to figure the finance charge. What is Genaro's finance charge for October and new balance?
6. Toni Bando's credit card has an APR of 18% figured on the previous balance. The previous balance on Toni's credit card statement for July was \$308.88. During July she had new purchases and fees of \$276.49, and payments and credits of \$400. What is her finance charge for July and her new balance?
7. Otto Schein's credit card company charges an APR of 21% and applies it to the previous balance. Otto's December statement showed: previous balance, \$397.90; new purchases, \$341.89; fees, \$55; payments, \$500; purchase return, \$56.99. What is his finance charge for December and new balance?
8. A credit card company uses an APR of 15% and the adjusted balance method of computing finance charges. A credit card statement from the company lists the following: previous balance, \$601.87; purchases, \$209.88; fees, \$75; payments, \$400; credits, \$25. What was the finance charge for the month and new balance?
9. June Christo has a credit card statement that shows a previous balance of \$598.61, new purchases and fees of \$127.88, and payments and credits of \$250. Her card company charges an APR of 12% on the adjusted balance. What is June's finance charge and new balance?
10. **INTEGRATING YOUR KNOWLEDGE** You have two credit cards. The Banker's Card has a previous balance of \$301.55, carries an APR of 18%, and uses the previous balance method of figuring finance charges. The MallCard lists a previous balance of \$260.61 and payments and credits of \$175. It uses the adjusted balance method to find finance charges and carries an APR of 21%. Find the finance charge on both cards.
11. **DECISION MAKING** Your credit card statement shows a previous balance of \$231.86, payments and credits of \$125, and purchases and fees of \$175.66. Your current card company uses an APR of 15% and the adjusted balance method. Another credit card company that sent you an application in the mail also uses an APR of 15% but uses the previous balance method. Should you switch companies? Why or why not?
12. When Gorica Batic received her May credit card statement she found these items listed: 5/1, previous balance, \$281.59; 5/7, purchase, \$168.99; 5/10, purchase, \$57.98; 5/25, payment, \$200. Gorica's card company uses a 1.8% monthly periodic rate and the average daily balance method. What is Gorica's finance charge for May and her new balance?

13. The credit card statement of Luiz Lopea for June listed these items: 6/1, previous balance, \$193.29; 6/11, purchase, \$175.39; 6/15, purchase, \$71.84; 6/24, payment, \$75. The card company uses the average daily balance method and a daily periodic rate of 0.056%. What is Luiz's finance charge for June and what is his new balance?
14. Jareen Knabe borrowed \$800 for 30 days from her credit card company using a cash advance. The daily finance charge was 0.0543%. What was the finance charge on her loan?

Yvonne Clark used her credit card in an ATM for a \$325 cash advance. Her card company charges a daily periodic interest rate of 0.06% and charged a cash advance fee of \$19. Yvonne repaid the loan in 15 days.

15. What total finance charge did Yvonne pay for the cash advance?
16. How much did she pay to the card company to end the loan?

Isabel Aponte borrowed \$150 on a cash advance from her credit card company. The company charges a cash advance fee of \$20 and a daily periodic interest rate of 0.045%. If Isabel borrowed the money for 26 days

17. What was the total finance charge on the cash advance?
18. What total amount did Isabel pay to end the loan?

MIXED REVIEW

19. Divide 21.5% by 365, to the nearest hundredth.
20. $\$4,298 \times 50 \times 0.00042$
21. Find the average of these numbers: 8, 9, 11, 7, 8.
22. Write the ratio of 16 to 236 as a fraction.
23. Write $\frac{8}{24}$ as a percent.
24. Write 175% as a decimal.
25. Bella Tuller bought a tool chest and tools on the installment plan for a total cost of \$900. She paid \$200 down and the rest in monthly installments of \$28 each. How many months did it take Bella to pay for the tool chest and tools?
26. Rosa Rinaldi's total job benefits for the previous year were estimated to be \$62,976. However, her job expenses for the same job were: licenses, \$475; commuting costs, \$2,108; tools, \$197. What were her net job benefits for the year?
27. Maria Hernandez deposited these items on January 11: (bills) 15 twenties, 11 tens, 20 fives, 89 ones, (coins) 35 quarters, 65 dimes, 135 pennies, (checks) \$53.69, \$138.98. She received one \$100 bill back. What was her net deposit?
28. Sheila Wiggins' regular-time pay rate is \$12.60 an hour, time-and-a-half for overtime, and double time for work on Saturdays or Sundays. What is her overtime rate? What is her double-time rate?
29. Lung Shen used his credit card in an ATM to borrow \$300 on a cash advance. His card company charged a cash advance fee of \$15 and a daily periodic interest rate of 0.049%. Lung paid the loan back at the end of 15 days. What was the total finance charge on the cash advance?

