SPECIAL CREDIT PLANS

1. Since stores must pay credit card companies 4–7% of the purchase price of each item they sell on credit, many customers feel that they are entitled to discounts on their cash purchases. By law, retailers have the right to offer **cash discounts** to customers who pay for their purchases in cash as long as the discounts are offered to all potential customers. However, the law prohibits retailers from adding extra charges to credit card purchases to cover their credit card expenses.

2. The **rent-to-own plan** enables you to purchase expensive items now and pay for them with small payments over a specified period of time. These payments often add up to a larger amount than they would have if you had financed the purchase outright. If you decide to buy the items, then your rental fees are applied to the purchase price. However, if you decide that you cannot afford the items or do not want them, you take them back to the store, which then keeps all the money you have already paid. This is the price you pay for renting. You are spared the embarrassment of breaking an installment loan contract and having your credit rating blemished, but you have lost the money you paid to rent the items.

3. One particularly attractive incentive that is used to promote sales is the extension of credit terms at an interest rate that is lower than the **market rate**, which is the rate currently available on the open market. Automobile companies use this device extensively. Since the dealers can offer to finance your loan through the company's subsidiary finance corporation, they can offer you a lower interest rate than one that might be available through your bank.

4. Some automobile dealers offer an alternative to a low-interest-rate loan called a **rebate** or cash-back plan. When you purchase the car, you receive cash back to be applied to the purchase price, thereby lowering the purchase price.

Ask Yourself

1. Why would a merchant be willing to offer a discount for a cash purchase?

2. What is a rent-to-own plan?

3. What companies frequently offer credit at interest rates that are lower than those offered by banks?

Maria has just discovered the ad shown for a new luxury model car. She observes that the $1000 cash-back plan offers no financing. Therefore she assumes that she will have to apply for her own bank financing at 13.75% over 48 months if she selects this plan.

New Luxury Model

$1000 CASH BACK

— OR —

$750 CASH BACK **Plus**

6.9% APR

— OR —

2.9% APR Available

FACTORY AIR

- Wide Vinyl Bodyside Mold
- AM/FM 4 Speaker Stereo
- Tinted Glass
- Power Steering
- Interval Wipers
- Rear Window Defroster

- Instrumentation Group
- Digital Clock w/over Console Light/Security Group
- Dual Elect. Mirrors
- Luxury Wheel Covers
- 1.9L EFI Engine

MSRP	$10,154
FACTORY DISC.	−744
FACTORY REBATE	−1000
OUR DISC.	−1035

YOUR PRICE	$ 7375

EXAMPLE 1 Plan 1 offers a purchase price of $7375 and a $1000 rebate with no financing. (13.75% bank financing is available.)

Plan 2 offers a purchase price of $7625 and a $750 rebate at 6.9% over 48 months.

Plan 3 offers a purchase price of $8375 and no rebate at 2.9% over 48 months.

QUESTION Which plan yields the lowest total financed price to the consumer?

SOLUTION

Use the monthly payment formula and your calculator to find the monthly payment and total financed price for the car under each plan.

	Plan 1	Plan 2	Plan 3
Rebate	$1000	$750	0
Rate	13.75%	6.9%	2.9%
Time	48 months	48 months	48 months
Loan amount	$7375	$7625	$8375
Monthly payment	$200.61	$182.24	$185.01
Total financed price	$9629.24	$8747.35	$8880.24

The lowest total financed price of $8747.35 results from Plan 2 with a rebate of $750 and financing at 6.9%. Maria must carefully consider the details of each financing deal. Looking at the lowest purchase price, the lowest interest rate, or the highest rebate is not enough!

─────── **SKILL 2** ───────

EXAMPLE 2 Maria realizes that the automobile company and its financing subsidiary would save money if she did not take either rebate. She wonders which plan the company would prefer her to select.

QUESTION Which plan yields the highest profit to the company?

SOLUTION

Calculate how much the company would save if the customer did not take the rebate and how much interest income it would make for each plan. This represents profit *over the profit built into the price of the car.* The company earns interest income only in Plans 2 and 3, and the amount of that interest is equal to the difference between the total financed price and the amount borrowed.

	Plan 1	Plan 2	Plan 3
Interest	0	$1122.35	$ 505.24
Rebate not paid	0	250.00	1000.00
Profit	0	1372.35	1505.24

In Plan 1, the company gets to keep none of its factory rebate. In Plan 2 it keeps $250 of the rebate, paying out $750. In Plan 3 it keeps all of the $1000 rebate. The most advantageous plan for the company is Plan 3. An automobile company may give its dealers incentives to encourage you to select the plan that is most profitable for the company.

Rent-to-own plans are especially attractive to young people who have not yet established a credit rating and would not qualify for an installment loan. In addition, people who have already overextended their credit and are not eligible for any more may decide to extend themselves even further by using this plan. This plan has the downside risk that all rental money is forfeited if the customer decides not to keep the item.

EXAMPLE 3 Charro wants to buy a TV/VCR, but she cannot afford it at this time. The Houston Home Company offers a rent-to-own credit plan that will allow her to rent it now at $30 per month for 24 months. If she decides to buy it, her rental fees will be applied to the purchase price. If she does not choose the rent-to-own plan, she can purchase the TV/VCR for $600 with an installment loan at 12% interest over 2 years.

QUESTION How much money does she save by obtaining the installment loan rather than using the rent-to-own plan? How much will she lose if she can no longer afford the TV/VCR after 9 months?

SOLUTION
With the rent-to-own plan, she will pay 24(30) = $720.

To determine her total payments with the installment loan, Charro used her calculator and the monthly payment formula. She will pay $677.86.

This is a savings of 720 − 677.86 = $42.14 over the rent-to-own plan.

She will lose 9(30) = $270 if she can no longer afford the rental payments after 9 months.

TRY YOUR SKILLS

A car company is offering a new car priced at $34,600. The following financing plans are available. Assume the loans in Plan 1 are from a bank or other lending institution and that the loans in Plans 2 and 3 are from the car manufacturer's financing subsidiary.

	Plan 1	Plan 2	Plan 3
Rebate	$2000	$1000	0
Rate	10.5%	7.5%	3.0%
Time	48 months	48 months	48 months

1. Determine which plan yields the lowest total financed price to the consumer by completing the table below.

	Plan 1	Plan 2	Plan 3
Rebate	$2000	$1000	0
Rate	10.5%	7.5%	3.0%
Time	48 months	48 months	48 months
Loan amount	$32,600		
Monthly payment	$834.67		
Total financed price			

2. Determine which plan yields the highest profit to the company by completing the table below.

	Plan 1	Plan 2	Plan 3
Interest		$5395.73	
Rebate not paid		1000.00	
Profit			

3. How much money would you save if you financed a $1200 item at 8% for 3 years rather than accepting a rent-to-own plan for which you pay $40 per month for 3 years?
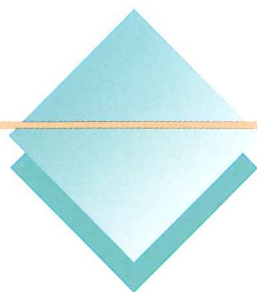
KEY TERMS

cash discounts
market rate
rebate
rent-to-own plan

1. If you were offered a discount for paying cash, would you still use a credit card for a purchase? Why or why not?

2. Under what circumstances would you use a rent-to-own plan?

3. Why is it important to shop around for loan terms when you are buying a car?

Determine the plan that would provide the lowest total financed price for each car by completing each table in Exercises 4–8. Assume that the loans in Plan 1 are from a bank or other lending institution and that the loans in Plans 2 and 3 are from the car manufacturer's financing subsidiary.

4. Car price: $15,500

	Plan 1	Plan 2	Plan 3
Rebate	$1200	$600	0
Rate	10.25%	7.9%	4.9%
Time	36 months	36 months	36 months
Loan amount			
Monthly payment			
Total financed price			

5. Car price: $12,000

	Plan 1	Plan 2	Plan 3
Rebate	$1500	$800	0
Rate	13%	8.75%	5%
Time	36 months	36 months	36 months
Loan amount			
Monthly payment			
Total financed price			

6. Car price: $9400

	Plan 1	Plan 2	Plan 3
Rebate	$1500	$1200	0
Rate	13%	8.75%	5%
Time	48 months	48 months	48 months
Loan amount			
Monthly payment			
Total financed price			

7. Car price: $7800

	Plan 1	Plan 2	Plan 3
Rebate	$1000	$250	0
Rate	10%	7.75%	6%
Time	48 months	48 months	48 months
Loan amount			
Monthly payment			
Total financed price			

8. Car price: $13,800

	Plan 1	Plan 2	Plan 3
Rebate	$2000	$1000	0
Rate	12%	6.25%	3%
Time	48 months	48 months	48 months
Loan amount			
Monthly payment			
Total financed price			
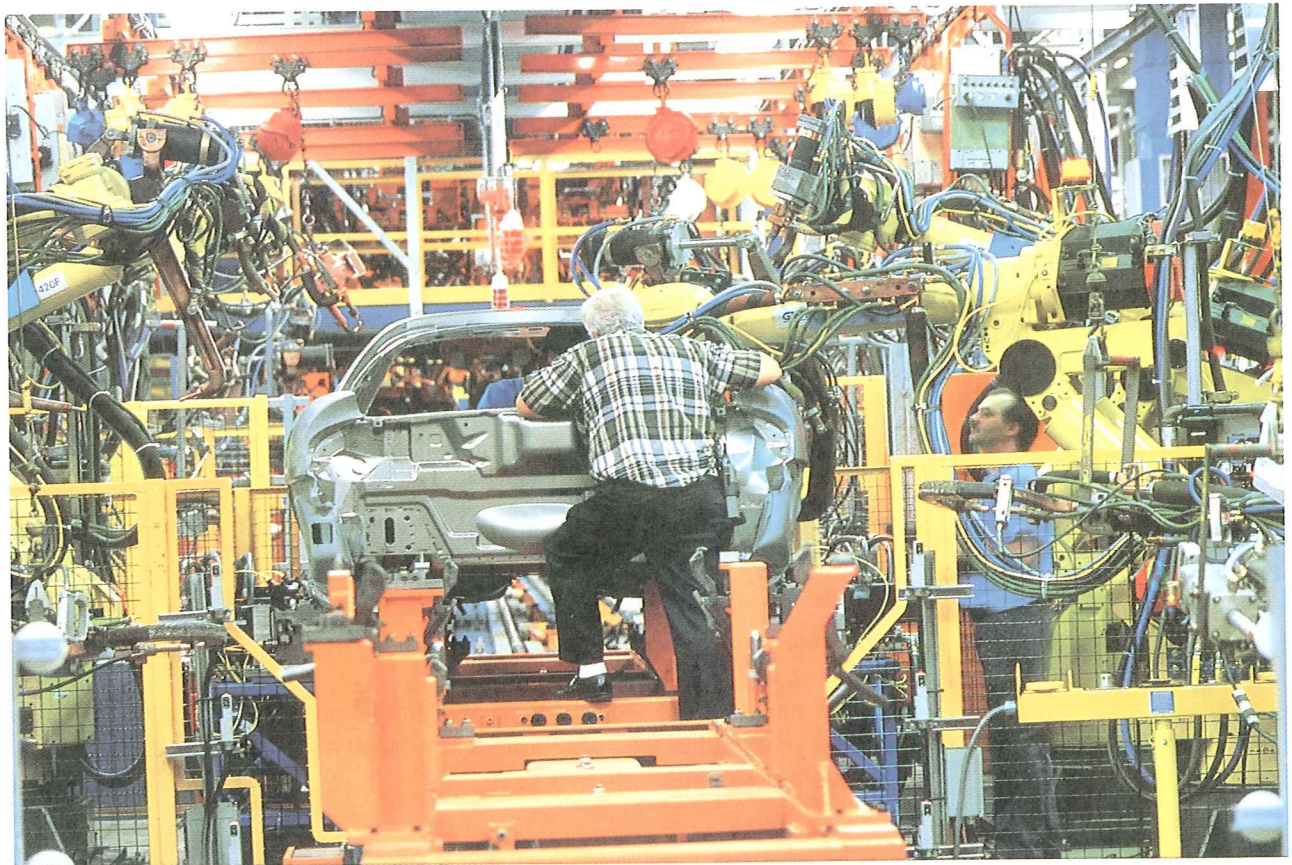
9. Determine which plan yields the highest profit to the company in Exercise 4 by completing the table below.

	Plan 1	Plan 2	Plan 3
Interest			
Rebate not paid			
Profit			

10. Determine which plan yields the highest profit to the company in Exercise 5 by completing the table below.

	Plan 1	Plan 2	Plan 3
Interest			
Rebate not paid			
Profit			

11. Determine which plan yields the highest profit to the company in Exercise 6 by completing the table below.

	Plan 1	Plan 2	Plan 3
Interest			
Rebate not paid			
Profit			

12. Determine which plan yields the highest profit to the company in Exercise 7 by completing the table below.

	Plan 1	Plan 2	Plan 3
Interest			
Rebate not paid			
Profit			

13. Determine which plan yields the highest profit to the company in Exercise 8 by completing the table below.

	Plan 1	Plan 2	Plan 3
Interest			
Rebate not paid			
Profit			

14. How much money would you save if you financed a $1500 item at 9% for 4 years rather than accepting a rent-to-own plan for which you pay $39.95 per month for 4 years?

15. How much money would you lose if you returned the item in Exercise 14 after 18 months?

16. How much money would you save if you financed a $2500 item at 6.75% for 2 years rather than accepting a rent-to-own plan for which you pay $119.95 per month for 2 years?

17. How much money would you lose if you returned the item in Exercise 16 after 5 months?

MIXED REVIEW

1. What are your weekly earnings if you work 38 hours at $12.75 per hour?

2. Calculate the compound interest for one year on a $775 deposit earning 5.5% if interest is paid quarterly.

3. If you earn $920.00 and your FICA withholding is 7.65% of your earnings, how much do you pay for FICA taxes?

4. If you can afford a monthly payment of $320, how much money can you borrow at 8.25% for 3 years?

5. Calculate the simple interest for 1 year on a $775 deposit from which the interest is withdrawn by the depositor immediately following the posting of the interest at the end of each quarter. The quarterly rate of interest is 1%.

Three students are selling bumper stickers. It takes 20 hours to produce 100 stickers. The cost of labor is $5.35 per hour and the materials for each sticker cost $0.85. Fixed costs such as advertising and energy cost $44.00. Find the cost of producing the given number of stickers.

6. 300 bumper stickers

7. 1100 bumper stickers

Suppose that you plan to buy a computer system for $3000 and to finance it by paying it off in monthly installments over 2 years at an annual rate of 12%. You plan to make a down payment of 10%. How much will you save if you change the loan terms as indicated below?

8. Make a down payment of 25% instead of 10%

9. Finance at an annual rate of 9.5% instead of 12%

Some students selling caps for $4.00 at a sports event had these expenses.

Fixed costs: 35 hours of labor at $5.75 per hour
Advertising, energy, and transportation: $38.50

Variable costs: caps, at $1.50 each

10. Write an equation for the cost function.

11. Write an equation for the revenue function.

12. Find the break-even point.

Determine the monthly payment on each loan.

1. $25,750 at 9% for 10 years
2. $7200 at 9% for 4 years
3. $1725 at 6.5% for 3 years
4. $99,900 at 8.5% for 30 years
5. Determine the monthly and total payments for a loan of $250,000 at 7% for 25 years.

If you can afford a monthly payment of $475 per month, determine how much money you can borrow for each interest rate and length of loan.

6. 10% for 5 years
7. 8% for 8 years
8. 6% for 25 years

Determine the total cost of each loan.

9. $36,500 at 8.5% for 5 years
10. $88,000 at 7.5% for 15 years

Complete the chart below to determine how much money you can save by borrowing $35,000 at 8% for 3 years or 4 years instead of 5 years.

	Number of Years	Monthly Payment	Total Payment	Savings from 5 Years
11.	3			
12.	4			
13.	5			

Complete the chart below to find the total payments at 10% and 7% and the savings associated with the 7% interest rate for each loan.

	Loan Amount	Number of Years	Total Payment 10%	Total Payment 7%	Total Savings
14.	$2325	3			
15.	5535	5			
16.	7600	4			
17.	9975	6			

18. Graph the results of Exercises 14–17.

Complete the chart below to determine how much money you can save on a loan of $9360 at 11% for 4 years if you make a down payment of 20% or 30% instead of 10%.

	Percent Down	Down Payment	Loan Amount	Total Amount	Savings Over 10% Down
19.	10				
20.	20				
21.	30				

22. Create an amortization schedule to show the interest due, note reduction, and unpaid balance for the first six months on an $8500 loan for 2 years at 7.5% for which the monthly payments are $382.50.

23. How much money will you save by prepaying 13 months early a loan of $37,000 at 9% for 3 years for which the monthly payment is $1176.59? Assume that there are no prepayment penalties.

A $900.00 stereo system purchase is financed at 14% per year with no down payment at a store that applies the Rule of 78. It must be paid in 12 equal installments. Determine the prepayment savings under each condition.

24. It is prepaid after 5 months.   25. It is prepaid after 8 months.

26. Determine the plan that would provide the lowest total financed price for a car priced at $19,500 by completing the table below. Assume that the loan in Plan 1 is from a bank or other lending institution and that the loans in Plans 2 and 3 are from the car manufacturer's financing subsidiary.

	Plan 1	Plan 2	Plan 3
Rebate	$1750.00	$1250.00	0
Rate	10.75%	9.9%	3%
Time	36 months	36 months	36 months
Loan amount			
Monthly payment			
Total financed price			

27. Determine which plan yields the highest profit to the company in Exercise 24 by completing the table below.

	Plan 1	Plan 2	Plan 3
Interest			
Rebate not paid			
Profit			

Use the information that you learned in this chapter to answer each of the following.

28. Name three indicators that a borrower is experiencing credit overload.

29. Is it always better to choose a shorter amortization period? Explain your answer.

30. What are three ways to reduce the cost of installment loans?

31. Why does the interest portion of a monthly payment decrease each month?

32. Will the financing plan with the largest rebate always yield the lowest total financed price? Why or why not?

Find the monthly payment and total payment on each loan.

1. $13,333 at 5% for 4 years
2. 87,500 at 7.5% for 25 years

3. How much money can you borrow at 5% for 5 years if you can afford a monthly payment of $340?

4. Make a chart with the headings below to determine how much money you can save by borrowing $10,000 at 12% for 3 years or 4 years instead of 5 years.

Number of Years	Monthly Payment	Total Payment	Savings from 5 Years

5. Determine the total cost of a loan for $12,222 at 9.5% for 6 years.

Complete the chart below to find the total payments at 9% and 6% and the savings associated with the 6% interest rate for each loan.

	Loan Amount	Number of Years	Total Payment 9%	Total Payment 6%	Total Savings
6.	$4500	3			
7.	6750	4			

8. Make a chart with the headings below to determine how much money you can save on a loan of $6550 at 7.5% for 3 years if you make a down payment of 20% or 30% instead of 10%.

Percent Down	Down Payment	Loan Amount	Total Amount	Savings Over 10% Down

9. Determine the interest due, note reduction, and unpaid balance for the first two months on a $3600 loan for 3 years at 6% for which the monthly payments are $109.50.

10. How much money will you save by prepaying a loan of $25,000 at 6% for 5 years for which the monthly payment is $483.32 if you prepay it 20 months early? Assume that there are no prepayment penalties.

11. Determine the plan that would provide the lowest total financed price for a car priced at $27,500. Assume the loan in Plan 1 is from a bank and the loans in Plans 2 and 3 are from the car manufacturer's financing subsidiary.

	Plan 1	Plan 2	Plan 3
Rebate	$1950.00	$1000.00	0
Rate	12.75%	9.9%	4.9%
Time	48 months	48 months	48 months

12. Determine which plan yields the highest profit to the company in Exercise 11.

CUMULATIVE REVIEW

1. Tyrone's monthly check costs are $0.035 per check for the first 20 checks and $0.15 for each check over 20. If he writes 42 checks this month, how much will the checks cost him?

2. Joanie buys a CD for $450 that matures in 1 year, earning 8% simple interest. Every time the CD matures, she withdraws the interest and buys another $450 CD at the same interest rate. If she does this for 3 years in a row, how much interest will she earn in that time?

3. Olga earns $7.75 per hour. She works 35 hours per week for 50 weeks and receives two weeks of paid vacation. Her other benefits cost her employer $3500 per year. What is the annual cost to the company of her salary and benefits?

4. If David can afford a monthly payment of $485, how much can he afford to borrow at a yearly interest rate of 9% for 10 years?

5. Use the Rule of 72 to determine how long it will take your $2300 savings account to double in value if it is growing at an annual rate of 4.5%.

6. You are a real-estate agent who has sold a house for $275,000. Determine your total commission if you earn 6% on the first $100,000 and 7.5% on any amount over $100,000.

7. You have $1546.68 in your checking account, and then you write a check for $597.99. Show how you would enter this check in your check register.

8. Determine the interest for 9 months if the principal is $1775, the rate is 6%, and the interest is compounded quarterly.

9. Determine the prepayment savings on a bank loan of $75,000 at 7.5% for 25 years for which you have been paying $554.24 per month if it is prepaid 5 years early. Assume that there is no prepayment penalty.

10. Determine which of the following loans has a greater total cost:
    a. $20,000 at 10% for 5 years   b. $25,000 at 12% for 3 years

11. Drucilla has $25,500 in a CD that pays 8% interest, compounded quarterly. How much is her CD worth at the end of 2 years?

12. Jacquie earns $1325 in gross income each week. How much will her employer withhold for FICA taxes?

13. Use the Rule of 78 to determine how much interest can be saved by prepaying a one-year loan of $1375 at 8% after 7 months.

14. How much do you save by financing a $65,000 loan at 7% for 5 years instead of 10 years?

15. Explain why making a large down payment decreases the total financed price of a loan.

PROJECT 5–1: Buying a Car

You are about to leave for college, and you need a car. You will have to buy a used car because you cannot afford a new one. Start by looking at newspaper advertisements to find the prices of some of the cars in which you might be interested.

1. Cut out six classified ads for cars that are for sale in your area. Attach the ads in a column along the left-hand side of a large sheet of paper.

2. Divide the remainder of your sheet of paper into columns to record the following information: loan amount, monthly payment, total payments, and total cost.

3. Find the loan amount by subtracting a 10% down payment from the price of each of the six cars you chose.

4. Use the monthly payment formula to find the monthly payment for a loan of 5 years for each of the six cars.

5. Find the total payments made over 5 years for each of the six cars.

6. Find the total cost for each of the six cars you chose.

7. Estimate your possible savings and income by the time you will be ready for college. Will you be able to afford to buy one of these cars?

8. Visit the car dealers that are offering the cars in which you are interested. Compare the values of each of the cars to the sale price. Write a report explaining which of the cars is the best deal.

PROJECT 5–2: Selecting a Loan

Suppose you buy a car for $5000 and have $1000 for a down payment. You must finance $4000. To find the best terms for a loan, you investigate possible sources of credit in your neighborhood. Possible sources of credit are a bank, a finance company, the car dealer, and a credit union. Also, remember that not all banks have the same terms for financing loans, so it is wise to check out several.

1. Select four sources of credit.

2. Complete a chart with the following headings for each of the sources.

Source of Credit	Monthly Payment	Number of Payments	Amount Paid	Finance Charges	Total Cost

3. Compare the total cost of the car for each source.

4. Which source of credit saves you the most money?

5. How much money can you save by using this source of credit?

6. Compare your findings with those of your classmates.