Name Date

Enrichment and Extension

6.7

Buying the Car of Your Dreams

People who sell cars are usually good negotiators. So, being an educated consumer
is important. Most car loans are based on *compound interest*, which means that you pay interest on your interest. You will be better able to negotiate a good deal on a
car if you understand how compound interest is calculated.

**Example:** A loan for $15,560 is taken out for 5 years at a yearly interest rate of 7.2% that is compounded annually. (a) What is the balance after 5 years?
(b) What is the monthly payment?

 a.  
 

  Substitute 15,560 for *P*, 0.072 for *r*, and 5 for *t*.

  Add.

  Simplify.

 The balance after 5 years is $22,028.43.

 b. There are 60 months in 5 years. So, divide the balance by 60.

 

 The monthly payment is $367.14.

 1. A salesman offers two discount options on the car in the example. He can decrease the initial cost of the car by $500 or decrease the interest rate by 0.5%. Find the final cost of both options. Which is the better deal?

 2. Find the final cost of the loan in the example if the interest were compounded monthly instead of annually. (*Hint:* Divide the yearly interest rate by 12 to find the monthly interest rate.) Why are some loans compounded monthly
and even daily?

 3. Find the price of your dream car on the Internet, in the newspaper, or from another source. Then research the current interest rate at a dealership or other lender and how often their interest is compounded. Calculate the final cost and monthly payment for your dream car on a 5-year loan.