

## Applications

*In the old days a man who saved money was a miser; nowadays he's wonder.*

Author Unknown

1. How might those words apply to what you learned in this lesson?
2. Jerome deposits \$3,700 in a certificate of deposit that pays  $6\frac{1}{2}\%$  interest, compounded annually. How much interest does Jerome earn in one year?
3. Sally deposits \$4,000 in a certificate of deposit that pays  $6\frac{3}{4}\%$  simple interest. What is her balance after one year?
4. Pierre deposits \$9,000 in a certificate of deposit that pays 8% interest, compounded semiannually. How much interest does the account earn in the first six months? What is the balance after six months?
5. Kevin has  $x$  dollars in an account that pays 2.2% interest, compounded quarterly. Express his balance after one quarter algebraically.
6. Regina deposits \$3,500 in a savings account that pays  $7\frac{1}{2}\%$  interest, compounded semiannually.
  - a. How much interest does the account earn in the first six months?
  - b. What is the balance at the end of the first six months?
  - c. How much interest does the account earn in the second six months?
  - d. What is the balance at the end of the year?
  - e. How much interest does the account earn the first year?
  - f. How much interest would \$3,500 earn in one year at  $7\frac{1}{2}\%$  interest, compounded annually?
  - g. How much more interest does Regina earn at an interest rate of  $7\frac{1}{2}\%$  compounded semiannually than compounded annually?
7. Liam deposits \$3,500 in a saving account that pays  $7\frac{1}{2}\%$  interest, compounded quarterly.
  - a. Find the first quarter's interest.
  - b. Find the first quarter's ending balance.
  - c. Find the second quarter's interest.
  - d. Find the second quarter's ending balance.
  - e. Find the third quarter's interest.
  - f. Find the third quarter's ending balance.
  - g. Find the fourth quarter's interest.
  - h. What is the balance at the end of one year?
  - i. How much interest does the account earn in the first year?
8. Janine opens a savings account with a deposit of \$720. The account pays 3.4% interest, compounded daily. What is the first day's interest? Round to the nearest cent.
9. Laura deposits \$2,000 in an account that has an annual interest rate of 3.96%, compounded monthly. How much interest will she earn at the end of 1 month?