

1. Starting during the first month after she graduates from high school, Karen puts aside \$10 four times each month and, then, she deposits the money at the end of the month in a savings account paying 1.1% compounded monthly.
  - (a) If she continues to do so while she is in college, how much money has she saved by the time she graduates if she graduates in four years? How much interest does she earn?
  - (b) If she doubles the amount that she puts aside and deposits, how much money has she saved by the time she graduates? How much interest does she earn?
2. Suppose you save \$25 each month in an account paying 1.92% compounded monthly.
  - (a) How much money can you save during five years? How much interest would you earn?
  - (b) How much money can you save during ten years? How much interest would you earn?
3. After paying her school expenses for the year, Wanda deposits the remaining \$1,000 from her summer savings in a 5-year CD paying 1.92% compounded monthly.
  - (a) How much money has she saved by the time the CD matures?
  - (b) How much interest does she earn?
4. What size monthly payment will enable you to repay a \$7,500 federal student loan with an interest rate of 4.66% compounded monthly in four years?
5. Michael wants to buy new tires for his car in sixteen months. He estimates that he will need approximately \$750 for the tires, an alignment, and a maintenance check at that time. How much money should he deposit at the end of each month in an account paying 1.3% compounded monthly so that he can save the money that he needs in fifteen months?
6. Elise deposits \$2,350 into an account paying 3.1% compounded every two weeks. How much money is in the account after  $7\frac{1}{2}$  years? How much interest does she earn?
7. Michael needs \$798 in order to repair his car. At *The Money Store*, he takes out a loan at a rate of 17.6% compounded monthly. If he agrees to repay the loan in 39 months, how much money must he have at that time? How much interest does he pay?
8. Determine the effective annual yield for 17.99% compounded monthly.
9. Regina invests her \$7,500 raffle winnings in an thirty-month certificate of deposit paying 3.1% compounded monthly. How much interest does she earn on her investment?
10. Wanda deposits some money into an account paying 1.8% for 947 days. How much money did she deposit if she earned \$75 as interest?
11. Jalene buys a Toyota *Prius* LE AWD-e for \$27,235. At the time of the purchase, she pays the various taxes and fees and she finances the price of the car with Middlesex Savings Bank at a rate of 4.5% compounded monthly for five years. What is her monthly payment? How much interest does she pay?
12. Janine opens an account paying 3.7% compounded every two weeks. After five years, she puts the money into an eighteen month certificate of deposit paying 4.3% compounded monthly. Finally, she deposits the money into a money market account paying  $5\frac{3}{4}\%$  for 899 days. If she saves a total of \$10,750, how much was her initial deposit?
13. Determine the annual percentage yield for 3.52% compounded weekly.
14. Warren who desperately needs \$7,950 in order to pay his gambling debts to Jake the Shark goes to *The Money Shoppe*. Frank Rizzudo, the owner of *The Money Shoppe* and a good friend of Jake's, lets Warren take out a loan at an annual rate of 28.9%. If Warren agrees to repay the loan in thirty months, how much interest does he pay? How much interest does Warren pay if the interest is compounded monthly?
15. Wanda, who won first prize in a raffle, invests her \$1,000 winnings in a thirty-month certificate of deposit paying 3% compounded monthly. Then, she deposits the money into an account paying 5.3% for 31 days during a leap year. How much money does Wanda have at the end of her investment period?

16. Bertha sells her car and deposits the money into an account paying 4.6% compounded every two weeks. If she has \$13,250 in the account after five years, what was the sale-price of her car?
17. Suppose you want to save \$20,000 for a down payment for a house during the next fifteen years. How much money should you deposit into an account paying 3.75% compounded monthly at the end of each month so that you can save the money that you need?
18. Sheila deposits money into a thirty-month CD paying  $5\frac{3}{4}\%$  compounded monthly. Then, she loans the money to a fledgling company that promises an annual rate of 9.12% at the end of nineteen months. If she saves a total of \$32,850 from these investments, how much money did she deposit in the CD?
19. Determine the effective rate for 19.9% compounded monthly.
20. Wossen deposits \$20 twice each month into an account paying 3.1% compounded twice each month. How much money is in the account after four years?
21. Determine the effective annual yield for 3.2% compounded weekly.
22. Joanna would like to have \$6,500 in four years so that she can pay the expenses for her first apartment (first- and last month's rent and security deposit) as well as purchase some modest furnishings. How much money should she deposit at the end of each month into an account paying 3.4% compounded monthly so that she will have the money that she needs?
23. Determine the annual percentage yield for a rate of 7.5% compounded monthly.
24. Suzanne wins \$19,000 as a contestant on *Jeopardy*. She invests her winnings in a 90-day certificate of deposit paying an annual rate of 2.7%. Then, she deposits the money in a three-year CD paying 2.85% compounded quarterly. Finally, she deposits the money into an account paying 4.3% annually for 3,125 days. How much money does Suzanne save?
25. Kyoko makes equal deposits every two weeks into an account paying 6.5% compounded every two weeks. If she has \$10,250 after ten years, how much money did she deposit every two weeks?
26. Karen goes on a spending spree with her new credit card which has an interest rate of 17.9% compounded monthly. By the time she realizes what she has done, her credit card has a balance of \$5,879.
  - (a) What size monthly payment will enable her to pay off her credit card in nine years? How much interest does she pay?
  - (b) What size monthly payment will enable her to repay the balance in five years? How much interest does she pay?
  - (c) What size monthly payment will enable her to repay her debt in three years? How much interest does she pay?
27. Carolyn would like to repay her \$23,000 student loans, which have a rate of 7.75% compounded monthly, as quickly as possible. What size monthly payment should she make if she wants to pay off her student loans in five years?
28. What bimonthly deposit during the next fifteen years will enable you to accumulate \$175,000 in an account paying 7.9% compounded bimonthly?
29. While planning for retirement, you decide that you can comfortably live on \$4,500 per month. If you plan to retire at 65 years of age and you believe that you will live to at least 93 years of age, how much money must be in your IRA account paying 2.45% compounded monthly by the time you are 65 years old?
30. Suppose you begin saving for retirement when you are 38 years of age, after repaying your student loans. What size monthly payment will enable you to accumulate \$235,000 in your annuity, which has a rate of 7.9% compounded monthly, by the time you are 65 years old?
31. What size monthly payment must be made in order to repay a loan of \$4,500 at a rate of 5.29% compounded monthly in five years?
32. If you can afford a monthly car payment of \$150, what is the price of the most expensive car that you can afford with a loan with a rate of 3.875% compounded monthly for seventy-two months? How much interest do you pay?
33. If you make a \$5,750 down payment and pay the various taxes and fees for the purchase of a \$29,995 Jeep Wrangler Sport, financing the rest at a rate of 4.88% compounded monthly for (a) seven years (b) six years (c) three years, how much interest do you pay?