Section 6.4

Savings Account **In Exercises 19 and 20, suppose that you deposit $3000 into a savings account that earns 4.5%, compounded monthly.**

19. Find the balance in the account after each time period.

    a. 16 years   **b.** 32 years

20. Your friend deposits $2500 into a savings account that earns 6.5%, compounded monthly. Which account has the greater balance after 10 years?

Retirement Plan **In Exercises 21 and 22, use the information below.**

You start your working career when you are 22 years old. Each month, you deposit $200 into a retirement plan that earns 8%, compounded monthly. You continue making deposits into the plan until you are 67 years old.

21. Find the balance in the account.

22. You want an income of $100,000 a year.

    a. How much have you withdrawn in total from your account after 10 years?

    b. How much interest has the account earned after 10 years?

    c. After 10 years, what is the balance in your account?

23. **Gift for the Future** You deposit $5 into a savings account that earns 6%, compounded annually. You stipulate that the balance will be divided evenly among your living heirs in 500 years. Find the balance in the account after each time period.

    a. 50 years   **b.** 100 years

    c. 150 years   **d.** 200 years

    e. 250 years   **f.** 500 years

24. **Defined Benefit Plan** You are 55 years old and you have worked for a government municipality for 30 years. Your defined benefit retirement plan will pay you 2% of the average income for the last 3 years for each year you have worked. Your average annual income during the past 3 years is $60,000. This will increase by 3.5% each year. Suppose you live to age 85. At what age should you retire to receive the greatest retirement income?