

## Section 7.4 Solve Financial Problems Using Technology

1. Calculate the future value of \$10 000 invested at 8% per year after 10 years for each compounding period.
  - a) annually
  - b) semi-annually
  - c) quarterly
  - d) monthly
  - e) weekly
2. Calculate the future value of \$4500 invested at 3.5% per year, compounded monthly for 8 years.
3. Garret borrows \$3000 at 4.4% per year, compounded monthly. How much does he need to repay at the end of 3 years?
4. Jamie wants to invest \$14 000 for 6 years. Calculate the future value of her investment at each interest rate.
  - a) 5.8% simple interest
  - b) 5.5% per year, compounded semi-annually
  - c) 5.0% per year, compounded monthly
5. Laura invests \$10 000 at 3.3% per year, compounded semi-annually.
  - a) How long will it take for her investment to grow to \$18 000?
  - b) Determine the number of compounding periods for the investment.
6. Trevor invests \$3000 at 6.6% per year, compounded semi-annually.
  - a) How long will it take for his investment to triple in value?
  - b) Determine the number of compounding periods for the investment.
7. Kevin wants his \$3500 investment to grow to \$4100 in 3 years. Determine the annual interest rate Kevin needs to invest at for each compounding period to reach his goal.
  - a) annually
  - b) semi-annually
  - c) quarterly
  - d) monthly
  - e) weekly
8. What annual interest rate, compounded monthly, is necessary for a \$1600 investment to grow to \$2150 in 6 years?
9. Rachel invests \$1500 in a plan for 4 years with interest compounded semi-annually. What annual interest rate is necessary for her investment to be worth \$1840 at the end of 4 years?
10. Calculate the amount that must be invested today at each interest rate to have \$8500 in 5 years.
  - a) 3% per year, compounded monthly
  - b) 4% per year, compounded semi-annually
  - c) 5% per year, compounded annually
11. Determine which investment will reach \$10 000 more quickly.

**A:** \$6000 invested at 9% per year, compounded semi-annually

**B:** \$7500 invested at 5.5%, compounded quarterly
12. Glen says that if he invests \$25 000 on his 16th birthday at 6.2% per year, compounded semi-annually, he will have one million dollars by his 65th birthday. Do you agree? Explain.