Chapter 7 Review

7.1 Explore Simple and Compound Interest, pages 346–354

1. Graph the amount at the end of each year of a $400 investment at 4% simple interest and at 4% per year, compounded annually.

2. Eleanor invests $6000 at 5% simple interest for 4 years. If she had invested the money at 5% per year, compounded annually, how much more interest would she have earned at the end of 4 years?

3. Marc and Mike are twins, On their 15th birthday, they each receive $2000 from their family. Marc invests his money in a plan that pays 3% per year simple interest. Mike chooses a plan that pays 3% per year, compounded annually. Make a table of values to compare the value of the two plans at the end of each year for 7 years.

7.2 The Compound Interest Formula, pages 355–361

4. Determine the final amount of each investment.
    a) $875 at 4% per year, compounded quarterly, for 5 years
    b) $1150 at 6% per year, compounded semi-annually, for 8 years
    c) $2800 at 12% per year, compounded monthly, for 6 years

5. Brett has $10 000 to invest. He invests $3000 at 4% per year, compounded semi-annually. He deposits the remaining amount in a fund that pays 6% per year, compounded quarterly. What will be the total value of the investments after 10 years?

6. Tracy has $2800 to invest for 4 years. Which plan will earn the most interest? How much interest?
    Plan 1: 6.15% simple interest
    Plan 2: 5.05% per year, compounded semi-annually
    Plan 3: 3.4% per year, compounded quarterly

7.3 Present Value, pages 362–366

7. Benaz wants to investment an amount today at 6% per year, compounded quarterly, so that she will have $5500 in 8 years. How much does she need to invest today?

8. Danny has a debt of $1550 that is due in 3 years. He is offered a discounted payment at an interest rate of 3% per year, compounded semi-annually. How much does Danny have to pay today?

9. Rita wants to have $5000 in 5 years. How much does she need to invest today at each rate to reach her goal?
    a) 4.5% per year, compounded semi-annually
    b) 4% per year, compounded quarterly

7.4 Solve Financial Problems Using Technology, pages 367–371

10. How long will it take an investment of $6000 to double at 8% per year, compounded quarterly?

11. Determine the annual interest rate, compounded semi-annually, necessary for $2500 to grow to $3350 in 4 years.

12. How much would you need to invest on your 16th birthday at 3% per year, compounded quarterly, to have $750 000 by your 60th birthday?