

1. Hal invested \$40 000 at an interest rate of 6%, compounded annually. He wants to know how long it will take for the investment to double.
  - a) Estimate the doubling time. Verify your answer.
  - b) How long would it take for the investment to double if the interest was simple interest?
2. Val has \$12 000 and wants it to grow to \$50 000. She has narrowed the possibilities down to the following two investment options:
 

**A.** 6% compounded semi-annually     **B.** 5.1% compounded quarterly

 Which option should she choose? Why?
3. Warren started investing when he was 5 years old. He deposited \$5 from his allowance at the end of every month into a savings account that earned 5.8%, compounded monthly. He did this until he was 25 years old.
  - a) How much did he invest altogether? What is the current value of his investment at age 25? What is his rate of return?
  - b) Suppose that he had invested the same total amount in regular equal monthly deposits, but had not started until he was 20. What would the current value of his investment be?
  - c) Suppose that Warren had wanted his investment to have the same value as in part a) at age 25, but had started investing when he was 20. What would his monthly payments have been?
4. Both Alex and Jamie have an investment portfolio.
  - a) What is the current value of each portfolio?
  - b) Who has the greater rate of return? Explain.

**Alex's portfolio:**

- A 10-year \$5000 GIC, purchased 9 years ago, that earns 2.6%, compounded annually
- A 5-year \$2000 CSB, purchased 4 years ago, that earns 3.1%, compounded semi-annually
- A savings account at 1.4%, compounded weekly, into which he has been making weekly deposits of \$15 for 5 years

**Jamie's portfolio:**

- A 10-year \$3000 bond, purchased 9 years ago, that earns simple interest at 2.7%
- A 3-year \$700 CSB, purchased 3 years ago, that earns 2.8%, compounded semi-annually
- A high-interest savings account, at 1.7% compounded monthly, into which she has been making monthly deposits of \$100 for 6 years

**WHAT DO You Think Now?** Revisit **What Do You Think?** on page 5. How have your answers and explanations changed?