1-3 • Guided Problem Solving

GPS **Student Page 22, Exercise 52**

Investments Suppose you have $5000 to invest. A certificate of deposit (CD) earns 6% annual interest, while bonds, which are more risky, earn 8% annual interest. You decide to invest $2000 in a CD and the rest in bonds. How much interest will you have earned at the end of one year? Of two years?

Read and Understand

1. What is the total amount of your investment?_____

2. How much are you investing in a CD? In bonds? _____

3. How much interest will the CD earn? Bonds earn? _____

Plan and Solve

Use the formula $A = P(1 + r)^t$ for finding the total amount (A) after investing a principal of P dollars at an interest rate of r (as a decimal) for t years, compounded annually.

4. What are P, r, and t for the investment in a CD for 1 year? _____

5. Find A for the 1-year CD investment. _____

6. What are P, r, and t for the investment in bonds for 1 year? _____

7. Find A for the 1-year bond investment. _____

8. Now find just the interest earned after
   one year for both investments combined. _____

9. Use the method outlined above to find the
   interest earned at the end of two years. _____

Look Back and Check

10. Compare your answers from Steps 8 and 9.
    Are the answers reasonable? Explain. _____

Solve Another Problem

11. Suppose you borrow $800. Your brother charges 3% annual interest, while your sister charges 4% annual interest. Your brother has $600 to lend, and your sister can lend the rest. How much interest will you owe at the end of one year? Of two years? _____