3.4 Explore Compound Interest

Round to the nearest cent where necessary.

1. How much interest would $2,000 earn in one year at the rate of 4.2%?

2. How much interest would $2,000 earn, compounded annually, in two years at the rate of 4.2%?

3. How much interest would $2,000 earn, with simple interest, in two years at the rate of 4.2%?

4. Compare your answers to Exercises 2 and 3. Explain why they differ.

5. How much would d dollars earn in one year at the rate of p percent compounded annually?

6. Margaret deposits $1,000 in a savings account that pays 5.4% interest compounded semi-annually. What is her balance after one year?

7. How much interest does $5,300 earn at a rate of 2.8% interest compounded quarterly, in three months?

8. Mr. Guny deposits $4,900 in a savings account that pays $3\frac{1}{2}\%$ interest compounded quarterly.
   a. Find the first quarter's interest.
   b. Find the first quarter's balance.
   c. Find the second quarter's interest.
   d. Find the second quarter's balance.
   e. Find the third quarter's interest.
   f. Find the third quarter's balance.
   g. Find the fourth quarter's interest.
   h. Find the fourth quarter's balance.
   i. How much interest does the account earn in the first year?

9. Jonathan deposits $6,000 in a savings account that pays 3.2% interest compounded quarterly. What is his balance after one year?

10. How much interest would $1,000,000 earn at 5% compounded daily, in one day?