NAME _____ DATE _____

Practice

Student Edition
Pages 631–636

Growth and Decay

Solve.

1. Suppose \$500 is invested at 6% annual interest compounded twice a year. When will the investment be worth \$1000?

2. Suppose \$500 is invested at 6% annual interest compounded continuously. When will the investment be worth \$1000?

3. An organism of a certain type can grow from 30 to 195 organisms in 5 hours. Find k for the growth formula.

4. For a certain strain of bacteria, k is 0.825 when t is measured in days. How long will it take 20 bacteria to increase to 2000?

5. An investment service promises to triple your money in 12 years. Assuming continuous compounding of interest, what rate of interest is needed?

6. A substance decomposes radioactively. Its half-life is 32 years. Find the constant k in the decay formula.

7. A piece of machinery valued at \$250,000 depreciates at 12% per year by the fixed rate method. After how many years will the value have depreciated to \$100,000?

8. Dave bought a new car 8 years ago for \$8400. To buy a new car comparably equipped now would cost \$12,500. Assuming a steady rate of increase, what was the yearly rate of inflation in car prices over the 8-year period?