Number: Textbook Section:
Title:

1. How long does it take for 2.4 g of carbon-14 to be reduced to 1.3 g of carbon-14 by radioactive decay if the half-life of carbon-14 is 5730 years?

2. If 80% of a radioactive element remains radioactive after 250 million years, then what percent remains radioactive after 600 million years? What is the half-life of this element?

3. A woman invests $6500 in an account that pays 6% interest per year, compounded continuously.
   a) What is the amount after 2 years?

   b) How long will it take for the amount to be $8000?

4. Find the time required for an investment of \$5000 to grow to \$8000 at an interest rate of 7.5% per year, compounded quarterly.

5. A thermometer reading 72°F is placed in a refrigerator where the temperature is a constant 38°F.
   a) If the thermometer reads 60°F after 2 minutes, what will it read after 7 minutes?

   b) How long will it take before the thermometer reads 39°F?

   c) What happens to the temperature as time passes?