

PROBLEM SOLVING



GRAPHING CALCULATOR You may wish to use a graphing calculator to complete the following Problem Solving exercises.

EXAMPLES 4 and 5

on pp. 522–523
for Exs. 38–41

- 38. INVESTMENTS** You deposit \$125 in a savings account that earns 5% annual interest compounded yearly. Find the balance in the account after the given amounts of time.
- a. 1 year b. 2 years c. 5 years d. 20 years

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- 39. MULTI-STEP PROBLEM** One computer industry expert reported that there were about 600 million computers in use worldwide in 2001 and that the number was increasing at an annual rate of about 10%.
- a. Write a function that models the number of computers in use over time.
- b. Use the function to predict the number of computers that will be in use worldwide in 2009.

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- 40. MULTI-STEP PROBLEM** A research association reported that 3,173,000 gas grills were shipped by various manufacturers in the U.S. in 1985. Shipments increased by about 7% per year from 1985 to 2002.
- a. Write a function that models the number of gas grills shipped over time.
- b. About how many gas grills were shipped in 2002?

- 41. MULTIPLE REPRESENTATIONS** A tree's cross-sectional area taken at a height of 4.5 feet from the ground is called its basal area and is measured in square inches. Tree growth can be measured by the growth of the tree's basal area. The initial basal area and annual growth rate for two particular trees are shown.



- a. **Writing a Model** Write a function that models the basal area A of each tree over time.
- b. **Graphing a Function** Use a graphing calculator to graph the functions from part (a) in the same coordinate plane. In about how many years will the trees be the same height?