P4-3 **Future value tables** Use the future value interest factors in Appendix Table A–1 in each of the cases shown in the following table to estimate, to the nearest year, how long it would take an initial deposit, assuming no withdrawals,
a. To double.
b. To quadruple.

Case	Interest rate
A	7%
B	40
C	20
D	10

P4-4 **Future values** For each of the cases shown in the following table, calculate the future value of the single cash flow deposited today that will be available at the end of the deposit period if the interest is compounded annually at the rate specified over the given period.

Case	Single cash flow	Interest rate	Deposit period (years)
A	$ 200	5%	20
B	4,500	8	7
C	10,000	9	10
D	25,000	10	12
E	37,000	11	5
F	40,000	12	9

PERSONAL FINANCE PROBLEM

P4-5 **Time value** You have $1,500 to invest today at 7% interest compounded annually.
a. Find how much you will have accumulated in the account at the end of (1) 3 years, (2) 6 years, and (3) 9 years.
b. Use your findings in part a to calculate the amount of interest earned in (1) the first 3 years (years 1 to 3), (2) the second 3 years (years 4 to 6), and (3) the third 3 years (years 7 to 9).
c. Compare and contrast your findings in part b. Explain why the amount of interest earned increases in each succeeding 3-year period.

PERSONAL FINANCE PROBLEM

P4-6 **Time value** As part of your financial planning, you wish to purchase a new car exactly 5 years from today. The car you wish to purchase costs $14,000 today, and your research indicates that its price will increase by 2% to 4% per year over the next 5 years.
a. Estimate the price of the car at the end of 5 years if inflation is (1) 2% per year and (2) 4% per year.
b. How much more expensive will the car be if the rate of inflation is 4% rather than 2%?