

20. **SAVINGS ACCOUNTS** Emily deposited \$2000 into a bank account 5 years ago. The bank paid interest at the rate of 3.2%/year compounded weekly. What is Emily's account worth today?
21. **SAVINGS ACCOUNTS** Kim invested a sum of money 4 years ago in a savings account that has since paid interest at the rate of 3.5%/year compounded monthly. Her investment is now worth \$19,440.31. How much did she originally invest?
22. **SAVINGS ACCOUNTS** Andrew withdrew \$5470.87 from a savings account, which he closed this morning. The account had earned interest at the rate of 3%/year compounded continuously during the 3-year period that the money was on deposit. How much did Andrew originally deposit into the account?
23. **MUTUAL FUNDS** Juan invested \$24,000 in a mutual fund 5 years ago. Today his investment is worth \$34,616. Find the effective annual rate of return on his investment over the 5-year period.
24. **COLLEGE SAVINGS PROGRAM** The Blakes have decided to start a monthly savings program to provide for their son's college education. How much should they deposit at the end of each month in a savings account earning interest at the rate of 3.5%/year compounded monthly so that, at the end of the tenth year, the accumulated amount will be \$40,000?
25. **RETIREMENT ACCOUNTS** Mai Lee has contributed \$200 at the end of each month into her company's employee retirement account for the past 10 years. Her employer has matched her contribution each month. If the account has earned interest at the rate of 5%/year compounded monthly over the 10-year period, determine how much Mai Lee now has in her retirement account.
26. **AUTOMOBILE LEASING** Maria has leased an auto for 4 years at \$300/month. If money is worth 5%/year compounded monthly, what is the equivalent cash payment (present value) of this annuity? (Assume that the payments are made at the end of each month.)
27. **INSTALLMENT FINANCING** Peggy made a down payment of \$400 toward the purchase of new furniture. To pay the balance of the purchase price, she has secured a loan from her bank at 6%/year compounded monthly. Under the terms of her finance agreement, she is required to make payments of \$75.32 at the end of each month for 24 months. What was the purchase price of the furniture?
28. **HOME FINANCING** The Turners have purchased a house for \$150,000. They made an initial down payment of \$30,000 and secured a mortgage with interest charged at the rate of 4.5%/year on the unpaid balance. (Interest computations are made at the end of each month.) Assume that the loan is amortized over 30 years.
- What monthly payment will the Turners be required to make?
 - What will be their total interest payment?
 - What will be their equity (disregard depreciation) after 10 years?
29. **HOME FINANCING** Refer to Exercise 28. If the loan is amortized over 15 years:
- What monthly payment will the Turners be required to make?
 - What will be their total interest payment?
 - What will be their equity (disregard depreciation) after 10 years?
30. **SINKING FUNDS** The management of a corporation anticipates a capital expenditure of \$500,000 in 5 years for the purpose of purchasing replacement machinery. To finance this purchase, a sinking fund that earns interest at the rate of 5%/year compounded quarterly will be set up. Determine the amount of each (equal) quarterly installment that should be deposited in the fund. (Assume that the payments are made at the end of each quarter.)
31. **SINKING FUNDS** The management of a condominium association anticipates a capital expenditure of \$120,000 in 2 years for the purpose of painting the exterior of the condominium. To pay for this maintenance, a sinking fund will be set up that will earn interest at the rate of 5.8%/year compounded monthly. Determine the amount of each (equal) monthly installment the association will be required to deposit into the fund at the end of each month for the next 2 years.
32. **CREDIT CARD PAYMENTS** The outstanding balance on Bill's credit card account is \$3200. The bank issuing the credit card is charging 9.3%/year compounded monthly. If Bill decides to pay off this balance in equal monthly installments at the end of each month for the next 18 months, how much will be his monthly payment? What is the effective rate of interest the bank is charging Bill?
33. **FINANCIAL PLANNING** Matt's parents have agreed to contribute \$250/month toward the rent for his apartment in his junior year in college. The plan is for Matt's parents to deposit a lump sum in Matt's bank account on August 1 and then have Matt withdraw \$250 on the first of each month starting on September 1 and ending on May 1 the following year. If the bank pays interest on the balance at the rate of 5%/year compounded monthly, how much should Matt's parents deposit into his account?

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