## 3.1 Application Problems

both work on odd # questions

Solve.

1. The manager of a garden supply store buys a 50-foot rubber hose for $12. A markup rate of 35% is used. What is the selling price?

2. A bookstore buys a paperback book for $3 and uses a markup rate of 20%. Find the selling price of the book.

3. A shoe store uses a markup rate of 45%. One pair of shoes has a selling price of $72.50. Find the cost of the shoes.

4. The selling price for a gallon of ice cream is $6.57. The markup rate used by the ice cream store is 46%. Find the cost of the ice cream.

5. The cost to a furniture manufacturer for making a kitchen chair is $15. The manufacturer then sells the chair for $24. What is the markup rate?

6. The manufacturer's cost for a car air conditioner is $300. The manufacturer then sells the air conditioner for $450. What is the markup rate?

7. The meat manager at a market uses a markup rate of 22%. What is the selling price for a steak which costs $2.50?

8. A pen and pencil set costs a retailer $15. Find the selling price when the markup rate is $66\frac{2}{3}\%$.

9. A restaurant serves a breakfast for $1.75. The restaurant's cost to make the breakfast is $1.00. What is the markup rate?

10. The selling price for a silk jacket is $200. The cost to the clothing store for the jacket is $125. What is the markup rate?

11. The cost to a car dealer for a car is $5696. The selling price of the car is $8900. What is the markup rate?

12. The cost to an appliance dealer for a refrigerator is $483. The dealer sells the refrigerator for $920. What is the markup rate? Round to the nearest hundredth of a percent.

## 4.2 Application Problems

Solve.

**11.** A business manager had two reports photocopied. The first report, which cost \$3 to photocopy, included 50 black-and-white pages and 10 color pages. The total cost for photocopying the 75 black-and-white and the 20 color pages in the second report was \$5. Find the cost per copy for a black-and-white page and for a color page.

**12.** A computer store received two shipments of calculators. The value of the first shipment, which contained 10 scientific and 15 business calculators, was \$425. The value of the second shipment, which contained 8 scientific and 20 business calculators, was \$460. Find the cost of a scientific and the cost of a business calculator.

**13.** A metallurgist made two purchases. The first purchase, which cost \$110, included 20 kg of a tin alloy and 25 kg of an aluminum alloy. The second purchase, which cost \$60, included 10 kg of the tin alloy and 15 kg of the aluminum alloy. Find the cost per kilogram of the tin and the aluminum alloys.

**14.** For \$28, a customer purchased 2 lb of kona-blend coffee and 3 lb of a mocha-blend coffee. A second customer purchased 4 lb of the kona coffee and 2 lb of the mocha coffee for a total of \$32. Find the cost per pound of the kona coffee and the mocha coffee.

**15.** Two coin banks contain only nickels and quarters. The total value of the coins in the first bank is \$3.30. In the second bank there are two fewer quarters than in the first bank and twice as many nickels. The total value of the coins in the second bank is \$3.10. Find the number of nickels and the number of quarters in the first bank.

**16.** Two coin banks contain only nickels and dimes. The total value of the coins in the first bank is \$4. In the second bank there are 10 more nickels than in the first bank and one half as many dimes. The total value of the coins in the second bank is \$3.50. Find the number of nickels and the number of dimes in the first bank.

**17.** The total value of the dimes and quarters in a coin bank is \$3.70. If the quarters were dimes and the dimes were quarters, the total value of the coins would be \$4. Find the number of dimes and the number of quarters in the bank.

**18.** The total value of the nickels and dimes in a coin bank is \$5. If the nickels were dimes and the dimes were nickels, the total value of the coins would be \$4. Find the number of nickels and the number of dimes in the bank.

**19.** One year ago, an adult was five times the age a child was then. One year from now the adult will be four times the age the child will be then. Find the present ages of the adult and the child.

**20.** If twice the age of a stamp is added to three times the age of a coin, the result is 100. The difference between five times the age of the stamp and twice the age of the coin is three. Find the age of each.