

## Section 1.5 Practice Master

1. The sum of two numbers is 56. One number exceeds the other number by 2. Find the two numbers.
2. Three soccer balls and a basketball cost \$155. Two soccer balls and three basketballs cost \$220. Find the cost of each ball.
3. The students in the school band are selling chocolate-covered almonds for \$3 a box and chocolate bars for \$2 each to raise money for a band trip. Mary sold a total of 96 items and raised \$233. How many of each did she sell?
4. The cost of printing a magazine is based on a fixed set-up cost and the number of pages to be printed. One printing company charges a \$250 set-up fee and \$5/page, while a second company charges a \$400 set-up fee plus \$4/page.
  - a) Write an equation to represent the cost for each company. Define your variables.
  - b) Solve the linear system.
  - c) What does the point of intersection represent?
  - d) Which company should Richard choose to print 175 pages?
5. Joe invests a total of \$4000 in two plans. Part of the money is invested at 8% per year and the rest at 11% per year. The interest paid after 1 year on the 11% investment is \$212 more than the interest paid on the 8% investment. How much did Joe invest in each?
6. Monique and Henri work in a factory and earn the same hourly rate and the same overtime rate for hours over 38 h worked in a week. One week, Monique worked 45 h and was paid \$833. In the same week, Henri worked 40 h and was paid \$713. Find the regular hourly rate and the overtime rate.
7. The cost to rent a car is based on the number of days the car is rented and the number of kilometres it is driven. The cost for a 1-day rental and 240 km driven is \$39. The cost for a 5-day rental and 900 km driven is \$165. Find the cost per day and the cost per kilometre.
8. One type of granola is 30% fruit, and another type is 15% fruit. What mass of each type of granola should be mixed to make 600 g of granola that is 21% fruit?
9. What volume, in millilitres, of a 60% hydrochloric acid solution must be added to 100 mL of a 30% hydrochloric acid solution to make a 36% hydrochloric acid solution?
10. Playing tennis burns energy at a rate of about 25 kJ/min. Cycling burns energy at about 35 kJ/min. Hans exercised by playing tennis and then cycling. He exercised for 50 min altogether and used a total of 1450 kJ of energy. For how long did he play tennis?
11. Erika drove from Ottawa at 80 km/h. Julie left Ottawa 1 h later and drove along the same road at 100 km/h. How far from Ottawa did Julie overtake Erika?
12. A street has a row of 15 new houses for sale. The middle house is on the most desirable piece of property and is the most expensive. The second house from one end costs \$3000 more than the first house, the third house costs \$3000 more than the second house, and so on, up to and including the middle house. The second house from the other end costs \$5000 more than the first house, the third house costs \$5000 more than the second house, and so on, up to and including the middle house. All the houses on the street cost a total of \$3 091 000. What is the selling price of the house at each end of the street? Explain and justify your reasoning.