

WORD PROBLEMS**SYSTEMS OF LINEAR EQUATIONS**

Read all problems carefully. For each problem write a system of linear equations and then solve using either linear combination or substitution.

Remember to label variables and show all work to receive credit.

- 1) A group of 42 people go to an amusement park. The admission fee for adults is \$16. The admission fee for children is \$12. The group spent \$568 to get into the park. How many adults and how many children were in the group.
- 2) A ballet company says that 540 tickets have been sold for its upcoming performance of *Swan Lake*. Tickets for the Orchestra Center and Front Balcony seats are \$56. Tickets for the Left and Right Orchestra and Balcony seats are \$38. The company has sold \$24,120 in tickets. How many \$56 and \$38 seats were sold?
- 3) A history test is to have 20 questions. The teacher uses multiple choice and essay questions. The multiple choice questions are worth 4 points each. The essay questions are worth 8 points each. The test has a total of 100 points. How many of each type of question appears on the exam?
- 4) A store sells packs of AA batteries for \$1.89 and packs of AAA batteries for \$1.53 (tax included). Jeff bought 8 packs and spent a total of \$14.04. How many packs of each kind of battery did he buy?
- 5) Junior tickets to the prom cost \$10.50 and senior tickets cost \$8.00. Planners expect 560 juniors and seniors to buy tickets. They need to collect \$5000 on ticket sales to cover expenses. How many of each class will be buying tickets?
- 6) A sporting goods store receives a shipment of 124 golf bags. The shipment includes two types of bags: full-size and collapsible. The full-size bags cost \$38.50 each and the collapsible bags cost \$22.50 each. The bill for shipment is \$3430. How many of each type of bag are in the shipment?
- 7) If 2 cubes and 1 cone weigh 15 lb, and 3 cubes and 2 cones weigh 24 lb, how much do 1 cube and 3 cones weigh?
- 8) When Dale babysat for 8 hours and worked at a restaurant for 3 hours, he made a total of \$58. When he babysat for 2 hours and worked at the restaurant for 5 hours, he made a total of \$40. How much does Dale get paid for each type of job?
- 9) The perimeter of a rectangular picture is 86 inches. Twice the width exceeds the length by 2 inches. What are the dimensions of the picture?
- 10) Handy Hal's Hardware store sells packages of screws that contain two different sizes of screws. One package contains 5 half-inch screws and 12 quarter-inch screws. It sells for 56 cents. A package of 8 half-inch screws and 15 quarter-inch screws sells for 77 cents. How much does each type of screw cost?
- 11) Donna Bowers has a total of \$4000 in her savings account and in a certificate of deposit. Her savings account earns 6.5% interest annually. The certificate of deposit pays 8% if the money is invested for 1 year. How much does she have in each investment if her interest earnings for the year will be \$297.50?
- 12) Find the dimensions of a rectangle having a perimeter of 18 cm if its length is 5 cm greater than its width.
- 13) Two isosceles triangles have the same base, but the legs of one are twice as long as the other. Find the lengths of the sides of the triangles, given that their perimeters are 21 cm and 37 cm.