Interpreting Systems of Equations **EXAMPLES**

1. Bob has a collection of 15 CDs and Ann has a collection of 7 CDs. Bob is adding 3 CDs a month to his collection while Ann is adding 4 CDs a month to her collection. Find the number of months after which they will have the same number of CDs.

2. The length of a rectangle is 5 cm more than 5 times the width. If the perimeter of the rectangle is 58 cm, find the dimensions of the rectangle.

3. Juan and Kimberly invest $20,000 in equipment to print yearbooks for schools. Each yearbook costs $5 to print and sells for $15. How many yearbooks must they sell before their business breaks even?

4. At the local ballpark, the team charges $4 for each ticket and expects to make $1,000 in concessions. The team must pay its players $1,400 and pay all other workers $1,600. Each fan gets a free bat that costs team $2 per bat. How many tickets must be sold to break even?

5. You sell tickets for admission to your school play and collect a total of $103. Admission prices are $5 for adults and $3 for children. You sold 21 tickets. How many adult tickets and how many children tickets did you sell?

6. Your family goes to a restaurant for dinner. There are 6 people in your family. Some order the chicken dinner for $12.00 and some order the steak dinner for $18. If the total bill was $90, how many people ordered each type of dinner?

7. The local zoo is filling two water tanks for the elephant exhibit. One water tank contains 30 gal of water and is filled at a constant rate of 9 gal/h. The second water tank contains 18 gal of water and is filled at a constant rate of 3 gal/h. When will the two tanks have the same amount of water? Explain. Let x = the number of hours the tanks are filling and let y = the number of gallons in the tank.

Interpreting Systems of Equations **HOMEWORK**

1. Bob has a collection of 16 CDs and Ann has a collection of 8 CDs. Bob is adding 3 CDs a month to his collection while Ann is adding 4 CDs a month to her collection. Find the number of months after which they will have the same number of CDs.

2. The length of a rectangle is 6 cm more than 6 times the width. If the perimeter of the rectangle is 52 cm, find the dimensions of the rectangle.

3. Juan and Kimberly invest $15,000 in equipment to print yearbooks for schools. Each yearbook costs $5 to print and sells for $15. How many yearbooks must they sell before their business breaks even?

4. At the local ballpark, the team charges $5 for each ticket and expects to make $1,100 in concessions. The team must pay its players $1,500 and pay all other workers $1,700. Each fan gets a free bat that costs team $2 per bat. How many tickets must be sold to break even?

5. You sell tickets for admission to your school play and collect a total of $104. Admission prices are $6 for adults and $4 for children. You sold 21 tickets. How many adult tickets and how many children tickets did you sell?

6. Your family goes to a restaurant for dinner. There are 6 people in your family. Some order the chicken dinner for $14.80 and some order the steak dinner for $17. If the total bill was $91, how many people ordered each type of dinner?

7. The local zoo is filling two water tanks for the elephant exhibit. One water tank contains 25 gal of water and is filled at a constant rate of 8 gal/h. The second water tank contains 15 gal of water and is filled at a constant rate of 3 gal/h. When will the two tanks have the same amount of water? Explain. Let x = the number of hours the tanks are filling and let y = the number of gallons in the tank.