

## Practice: Solve Linear Systems by Elimination

1. Use the elimination method to solve each linear system.
  - a)  $x + 2y = 5$   
 $5x - 2y = 1$
  - b)  $2x - y = 7$   
 $3x + y = 3$
  - c)  $x - 3y = 2$   
 $-x + y = 2$
  - d)  $-3x + 2y = -17$   
 $3x - 3y = 18$
2. Solve each linear system by elimination. Check your answers.
  - a)  $3x + y = 0$   
 $3x - 4y = -15$
  - b)  $5x - 4y = 14$   
 $x + 4y = -2$
  - c)  $2x - 2y = 10$   
 $4x - 2y = 24$
  - d)  $-2x + 6y = 12$   
 $-2x + 7y = 12$
3. Solve each linear system.
  - a)  $x - 3y = -1$   
 $2x + 5y = -13$
  - b)  $7x + 2y = -10$   
 $3x - y = -8$
  - c)  $5x - y = 7$   
 $2x + 3y = 13$
  - d)  $4x - 3y = 16$   
 $2x - y = 6$
4. Solve each linear system.
  - a)  $4x + 6y = 2$   
 $2x - 8y = 1$
  - b)  $4x - 6y = -1$   
 $3x + 2y = -4$
  - c)  $3x - 4y = 4$   
 $x - 8y = 3$
  - d)  $6x + 3y = -3$   
 $-3x - 6y = 0$
5. Simon mixes apple juice and cranberry juice to make 2 litres of cran-apple punch. Apple juice costs \$0.99/L and cranberry juice costs \$1.59/L. The punch costs \$1.17/L. Let  $x$  be the amount of apple juice used to make the punch and  $y$  the amount of cranberry juice.
  - a) Write a system of linear equations to represent the information.
  - b) How much of each juice does Simon need?
6. Admission to the circus costs \$8 for adults and \$6 for children. A total of 900 tickets are sold and total sales are \$6160.
  - a) Write a system of linear equations to represent the situation.
  - b) How many children attended the circus?
7. Lucy rented a moving van on two separate occasions. The rental company charges a cost per day for the van plus a travel expense for each kilometre driven. The first time, Lucy paid \$140 for 2 days and 80 km. The second time, she paid \$215 for 3 days and 140 km. Let  $x$  be the cost per day for the van and  $y$  the cost per kilometre travelled.
  - a) Write a system of linear equations to represent the information.
  - b) What is the cost per day for the van?
  - c) What is the cost per kilometre?
8. Ming is helping his sister set up a lemonade stand. The material used to build the stand costs \$20 and the ingredients to make one glass of lemonade cost 15¢. Ming's sister plans to sell the lemonade at 75¢ per glass.
  - a) Write a linear system to represent the situation.
  - b) What is the minimum number of glasses of lemonade that needs to be sold in order to make money?