

# Chapter 1 Practice Test

- The equation  $4x - 2y + 8 = 0$  written in slope  $y$ -intercept form is  
A  $y = -2x + 4$     B  $y = 2x - 4$   
C  $y = -2x - 4$     D  $y = 2x + 4$
- An equation equivalent to  $y = \frac{1}{4}x - \frac{1}{2}$  is  
A  $4y = x - 1$     B  $2y = x - 2$   
C  $x - 4y - 2 = 0$     D  $2y + 4x = 4$
- Translate each sentence into an equation.
  - Last year, Raymond was twice as old as Sue.
  - The length of a rectangle is five more than three times its width.
  - Two less than triple a number is eleven.
  - One half of Anne's age ten years from now is fourteen.
- Solve each linear system by graphing. Check your answers.
  - $y = 2x + 5$   
 $3x - 5y = -11$
  - $y = x - 1$   
 $y = 2x - 5$
  - $y = 4x + 4$   
 $x + 5y = -1$
  - $x - y = 1$   
 $3x + 2y = -12$
- Solve each linear system using substitution.
  - $y = 2x - 1$   
 $3x - 2y = -4$
  - $2x - y = -2$   
 $x - 5y = 19$
  - $2x + y = 6$   
 $3x - 2y = 2$
  - $x + 2y + 2 = 0$   
 $2x - 6y + 9 = 0$
- Solve each linear system using elimination.
  - $x - y = 3$   
 $x + 2y = 27$
  - $4x + 5y = 14$   
 $2x - 3y = -2$
  - $-2x + 5y = -3$   
 $2x - 3y = 1$
  - $3x + 2y = 8$   
 $2x + 3y = 7$
- Solve each system by any method. Check each solution.
  - $5x - 3y = 9$   
 $2x - 5y = -4$
  - $3a + b - 4 = 0$   
 $2a - 10 = 3b$
  - $3p - 6q = 0$   
 $4p + q = 3$
  - $2x + 3y = -2$   
 $8x + 5y = -6$
- Romano Pizza is selling a large pizza for \$14 plus \$1 per topping. A Slice of Italy Pizza is selling the same size pizza for \$12 plus \$1.50 per topping.
  - Model the cost at each pizza place with a linear equation. Define your variables.
  - Find the point of intersection of the two linear equations.
  - Interpret the point of intersection.
  - Which place has the better price for a large five-topping pizza?
- The difference between two numbers is 22. Twice the smaller number exceeds the larger number by 17. What are the two numbers?
- A container has 30 bolts in it and has a mass of 635 g. When an additional 15 bolts are placed in the container, the mass is 935 g. Find the mass of a bolt and the mass of the container.
- Lawrence is 12 years older than Patrick. Last year, he was twice as old as Patrick. How old is each person now?
- White vinegar is a solution of acetic acid in water. There are two strengths of white vinegar—a 5% solution and a 10% solution. How many millilitres of each solution must be mixed to make 50 mL of a 9% vinegar solution?
- Petr has \$5000 invested in two plans. One plan pays 5% simple interest per year and the other pays 8%. At the end of the year, Petr receives a total of \$340 in interest. How much did he invest in each plan?