

Chapter 1 Practice Test

1. 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 $y = 2x + 4$
2. 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 $2y + 4x = 4$
3. Translate each sentence into an equation.
 - a) Last year, Raymond was twice as old as Sue.
 - b) The length of a rectangle is five more than three times its width.
 - c) Two less than triple a number is eleven.
 - d) One half of Anne's age ten years from now is fourteen.
4. Solve each linear system by graphing. Check your answers.
 - a) $y = 2x + 5$
 $3x - 5y = -11$
 - b) $y = x - 1$
 $y = 2x - 5$
 - c) $y = 4x + 4$
 $x + 5y = -1$
 - d) $x - y = 1$
 $3x + 2y = -12$
5. Solve each linear system using substitution.
 - a) $y = 2x - 1$
 $3x - 2y = -4$
 - b) $2x - y = -2$
 $x - 5y = 19$
 - c) $2x + y = 6$
 $3x - 2y = 2$
 - d) $x + 2y + 2 = 0$
 $2x - 6y + 9 = 0$
6. Solve each linear system using elimination.
 - a) $x - y = 3$
 $x + 2y = 27$
 - b) $4x + 5y = 14$
 $2x - 3y = -2$
 - c) $-2x + 5y = -3$
 $2x - 3y = 1$
 - d) $3x + 2y = 8$
 $2x + 3y = 7$
7. Solve each system by any method. Check each solution.
 - a) $5x - 3y = 9$
 $2x - 5y = -4$
 - b) $3a + b - 4 = 0$
 $2a - 10 = 3b$
 - c) $3p - 6q = 0$
 $4p + q = 3$
 - d) $2x + 3y = -2$
 $8x + 5y = -6$
8. 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.
 - a) Model the cost at each pizza place with a linear equation. Define your variables.
 - b) Find the point of intersection of the two linear equations.
 - c) Interpret the point of intersection.
 - d) Which place has the better price for a large five-topping pizza?
9. The difference between two numbers is 22. Twice the smaller number exceeds the larger number by 17. What are the two numbers?
10. 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.
11. Lawrence is 12 years older than Patrick. Last year, he was twice as old as Patrick. How old is each person now?
12. 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?
13. 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?