

Chapter 2 Review

Vocabulary Review

like terms (p. 54)

term (p. 54)

Choose the correct term to complete each sentence.

1. (Terms, Like terms) have the same variables.
2. When you (isolate, combine) a variable, you get it by itself on the side of an equation.
3. A (solution, term) is a number, a variable, or the product of a number and a variable.

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Skills and Concepts

Lesson 2-1

- To solve two-step equations and to use two-step equations to solve problems

To solve two-step equations, first undo the addition or subtraction. Then undo the multiplication or division.

Solve each equation. Check the solution.

4. $2n - 5 = 19$
5. $4 + 3q = -7$
6. $-1 = \frac{b}{5} + 2$
7. $\frac{c}{-3} - 1 = 2$
8. $12x + 2 = -4$
9. $\frac{w}{4} + 10 = 20$
10. $3.2h + 4 = 23.2$
11. $\frac{e}{0.6} - 9 = 16$
12. You bought $\frac{1}{2}$ lb of nuts and a box of raisins that costs \$4.49. The total cost was \$7.13. How much do the nuts cost per pound?
13. You bought cat food for \$1.79 per can and a bag of rabbit food for \$6.59. The total cost was \$33.44. How many cans of cat food did you buy?
14. At the mall, you spent a total of \$170.86. You bought 2 pairs of jeans for \$39.95 each, a jacket for \$45.99, and shirts for \$14.99 each. How many shirts did you buy?
15. The total bill for car repair includes both parts and labor. The total cost of repair for a car was \$458, and the cost of parts was \$339. The cost of labor was \$34 per hour. Find how many hours of labor were billed for.

Lesson 2-2

- To combine like terms and simplify algebraic expressions

The parts of an algebraic expression are **terms**. **Like terms** have exactly the same variable factors. You simplify an expression by combining like terms.

Simplify each expression.

16. $4 - 3(f - 1)$ 17. $3(a + 2) + 5$ 18. $8.4x + 0.3(x - 4)$

19. For your back yard, you buy 3 rose bushes, 6 geraniums, and 1 hosta. For your front yard, you buy 2 rose bushes and 5 hostas. Define and use variables to represent the total cost.

Lesson 2-3

- To write and solve multi-step equations

When solving a multi-step equation, you often need to simplify at least one side first. You can do this by combining like terms.

Solve each equation. Check the solution.

20. $3w - 4 + 5w = 12$ 21. $-4.8 = 1.2s + 2s + 4$

22. $\frac{2}{3}(x - 6) = 2$ 23. $5(t + 2) = -15$

24. You buy 3 containers of orange juice and some containers of pineapple juice to make punch. Each container of juice costs \$3.99. You spend \$27.93. How many containers of pineapple juice do you buy?

Lesson 2-4

- To write and solve equations with variables on both sides

If an equation has variables on each side, use the Addition or Subtraction Property of Equality to isolate the variable.

Solve each equation. Check the solution.

25. $4a + 3 - a = -7 + 2 + a$ 26. $\frac{2}{5}b - 8 = -\frac{1}{5}b + 7$

27. $8 - 2(z - 3) = 5z$ 28. $0.2(k + 2.4) = 3.2k$

29. A jumbo smoothie costs \$4.95. Two jumbo smoothies and one medium smoothie cost \$.15 more than 4 medium smoothies. How much does a medium smoothie cost?

Lesson 2-5

- To identify whether a linear equation has one, infinitely many, or no solutions

By transforming a linear equation into its simplest form, you can tell how many solutions the equation has.

Tell whether each solution has one solution, infinitely many solutions, or no solution. Justify your answer.

30. $2x + 5 = 2(x + 3)$ 31. $0.5a - 3 = 0.3(2a - 3)$

32. $\frac{1}{2}v + 2 = \frac{1}{4}(2v + 8)$ 33. $7r - 6 = 7(2r + 3)$