

1-3 Additional Practice

Solving Equations with a Variable on Both Sides

Identify if no, one, or infinitely many solutions exist for each equation. If a solution exists, determine the value.

1. $4y - 7 + 2y = -3(y - 1) - 1$

2. $-(5a + 6) = 2(3a + 8)$

3. $-8x - (3x + 6) = 4 - x$

4. $14 + 3n = 8n - 3(n - 4)$

5. $6.8 - 4.2b = 5.6b - 3$

6. $\frac{1}{3} + \frac{2}{3}m = \frac{2}{3}m - \frac{2}{3}$

7. $\frac{1}{3}(t + 6) - 10 = -3t + 2$

8. $\frac{1}{2}r + 6 = 3 - 2r$

9. $0.5t + 0.25(t + 16) = 4 + 0.75t$

10. $2.5(2z + 5) = 5(z + 2.5)$

11. $-6(-p + 8) = -6p + 12$

12. $\frac{3}{8}f + \frac{1}{2} = 6(\frac{1}{16}f - 3)$

Solve each problem.

13. A square and a rectangle have the same perimeters. The length of a side of the square is $4x - 1$. The length of the rectangle is $2x + 2$ and the width is $2x$. Write and solve an equation to find x .
14. A movie club charges a one-time membership fee of \$25. This allows members to purchase movies for \$7 each. Another club does not charge a membership fee and sells movies for \$12 each. How many movies must a member purchase for the total cost of the two clubs to be equal?
15. How many pounds of cashews that cost \$14 per pound must be mixed with 5 pounds of peanuts that cost \$6.50 per pound to make mixed nuts that cost \$10.25 per pound?



1-4 Additional Practice

Literal Equations and Formulas

Rewrite each equation to solve for m .

1. $m + 3n = 7$

2. $3m - 9n = 24; n = -1, 1, 3$

3. $-5n = 4m + 8$

4. $2m = -6n - 5; n = 1, 2, 3$

5. $8n = -3m + 1$

6. $4n - 6m = -2; n = -2, 0, 2$

7. $-5n = 13 - 3m$

8. $10m + 6n = 12; n = -2, -1, 0$

Rewrite each equation to solve for x .

9. $fx - gx = h$

10. $qx + x = r$

11. $m = \frac{x+n}{p}$

12. $d = f + fx$

13. $-3(x+n) = x$

14. $\frac{x-4}{y+2} = 5$

Solve each problem. Round decimals to the nearest tenth.

15. What is the width of a rectangle with length 14 cm and area 161 cm^2 ?

16. The weather report gives the temperature as 35 degrees Celsius. Find the equivalent temperature in degrees Fahrenheit. $C^\circ = (F^\circ - 32) \times \frac{5}{9}$

17. A rectangle has perimeter 182 in. and length 52 in. What is the width?

18. A triangle has base 7 m and area 17.5 m^2 . What is the height?