

Simplify Expressions

Combine like terms to simplify each expression.

REMEMBER Add or subtract the coefficients of matching variables; constants combine separately.

1) $3x + 5x$ _____

2) $9a - 4a$ _____

3) $2y + 7y$ _____

4) $6m - m$ _____

5) $4x + 3 + 2x$ _____

6) $8b - 3b + 2$ _____

7) $5 + 3n + 4$ _____

8) $7k - 2 - 3k$ _____

9) $2(x + 4)$ _____

10) $3(2a - 1)$ _____

11) $4(y + 2) + y$ _____

12) $5(n - 3)$ _____

13) $3x + 2y + x$ _____

14) $10 - 2c + 5c$ _____

15) $6p + 4 - p - 1$ _____

16) $2(3m + 1) - 4$ _____



One-Step Equations

Solve each equation. Do the inverse operation to both sides.

REMEMBER Undo + with −, undo × with ÷ (and the reverse) to isolate x.

1) $x + 7 = 12$ _____

2) $x - 4 = 9$ _____

3) $3x = 21$ _____

4) $x \div 5 = 4$ _____

5) $x + 11 = 20$ _____

6) $x - 8 = 6$ _____

7) $6x = 54$ _____

8) $x \div 3 = 8$ _____

9) $15 + x = 23$ _____

10) $x - 12 = 5$ _____

11) $8x = 64$ _____

12) $x \div 7 = 3$ _____

13) $x + 6 = 6$ _____

14) $x - 9 = 0$ _____

15) $9x = 81$ _____

16) $x \div 2 = 11$ _____



Two-Step Equations

Solve each equation. Undo addition/subtraction first, then multiplication/division.

REMEMBER Step 1: move the constant. Step 2: divide by the coefficient.

1) $2x + 3 = 11$ _____

2) $3x - 5 = 10$ _____

3) $4x + 1 = 17$ _____

4) $5x - 2 = 23$ _____

5) $2x + 7 = 19$ _____

6) $3x + 4 = 22$ _____

7) $6x - 3 = 27$ _____

8) $x/2 + 3 = 8$ _____

9) $7x - 6 = 29$ _____

10) $4x - 9 = 7$ _____

11) $x/3 - 2 = 4$ _____

12) $8x + 5 = 45$ _____

13) $2x - 11 = 1$ _____

14) $5x + 8 = 33$ _____

15) $9x - 4 = 50$ _____

16) $x/4 + 6 = 9$ _____



Solve for x

Solve each equation. Collect the variable on one side.

REMEMBER Get all x-terms on one side and numbers on the other, then divide.

1) $x + 14 = 9 + 11$ _____

2) $3x = 2x + 8$ _____

3) $5x - 4 = 3x + 10$ _____

4) $2(x - 1) = 10$ _____

5) $4x + 2 = 2x + 12$ _____

6) $x + x + 5 = 17$ _____

7) $6x - x = 35$ _____

8) $3(x + 2) = 18$ _____

9) $7x = 4x + 21$ _____

10) $2x + 9 = 25$ _____

11) $10 - x = 3$ _____

12) $5x + 3 = 2x + 18$ _____



Word Problems

Write an equation, solve for the variable, and show your work.

- 1 A number increased by 8 equals 21. Find the number.

Equation _____ $x =$ _____

- 2 Maya has x stickers. After buying 12 more she has 30. How many did she start with?

Equation _____ $x =$ _____

- 3 Three times a number is 45. What is the number?

Equation _____ $x =$ _____

- 4 Twice a number minus 5 equals 17. Find the number.

Equation _____ $x =$ _____

- 5 A rectangle's length is 4 more than its width w . If the length is 13, find w .

Equation _____ $x =$ _____

- 6 Tickets cost \$7 each. Jordan spent \$63. How many tickets x did he buy?

Equation _____ $x =$ _____



Answer Key

Simplify Expressions

1. $8x$

2. $5a$

3. $9y$

4. $5m$

5. $6x + 3$

6. $5b + 2$

7. $3n + 9$

8. $4k - 2$

9. $2x + 8$

10. $6a - 3$

11. $5y + 8$

12. $5n - 15$

13. $4x + 2y$

14. $3c + 10$

15. $5p + 3$

16. $6m - 2$

One-Step Equations

1. $x = 5$

2. $x = 13$

3. $x = 7$

4. $x = 20$

5. $x = 9$

6. $x = 14$

7. $x = 9$

8. $x = 24$

9. $x = 8$

10. $x = 17$

11. $x = 8$

12. $x = 21$

13. $x = 0$

14. $x = 9$

15. $x = 9$

16. $x = 22$

Two-Step Equations

1. $x = 4$

2. $x = 5$

3. $x = 4$

4. $x = 5$

5. $x = 6$

6. $x = 6$

7. $x = 5$

8. $x = 10$

9. $x = 5$

10. $x = 4$

11. $x = 18$

12. $x = 5$

13. $x = 6$

14. $x = 5$

15. $x = 6$

16. $x = 12$

Solve for x

1. $x = 6$

2. $x = 8$

3. $x = 7$

4. $x = 6$

5. $x = 5$

6. $x = 6$

7. $x = 7$

8. $x = 4$

9. $x = 7$

10. $x = 8$

11. $x = 7$

12. $x = 5$

Word Problems

1. $x = 13$

2. $x = 18$

3. $x = 15$

4. $x = 11$

5. $w = 9$

6. $x = 9$

