



Solving Two-Step Equations

KEY IDEA

Solving means getting the variable alone. Undo the operations in the reverse of the order of operations: first undo addition or subtraction, then undo multiplication or division. Whatever you do to one side you must do to the other, which keeps the equation balanced.

How to do it

1. Undo the addition or subtraction by doing the opposite to both sides.
2. Undo the multiplication or division by doing the opposite to both sides.
3. Write the solution as $x = \underline{\hspace{1cm}}$.
4. Check by substituting your answer back into the original equation.

Worked examples

Example 1. $4(x + 7) = 20$

$x = -2$

Example 2. $-3(x - 1) = 24$

$x = -7$

Example 3. $-7x - 4 = -25$

$x = 3$

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

$x = -5$





Solving Two-Step Equations

Directions: Solve each equation. Show both steps and check your answer.

1. $3(x + 4) = 15$

2. $-3(x + 1) = 3$

3. $5x - 6 = -41$

4. $5x + 8 = -7$

5. $5x - 4 = 11$

6. $6x - 9 = 3$

7. $-7x - 2 = -44$

8. $4x - 7 = -27$

9. $(x + 2) \div 2 = 2$

10. $2x + 3 = 5$

11. $7x + 4 = -10$

12. $-7x - 11 = 3$

13. $3(x + 2) = 12$

14. $4(x - 5) = 8$

15. $4(x + 5) = 32$

16. $8x - 8 = 0$

17. $-2x - 2 = -14$

18. $(x + 9) \div 5 = 2$

19. $2(x + 5) = 4$

20. $2(x - 2) = 8$

