

Solving One-Step Equations Review & Practice

One Step Addition Example

The Opposite of Addition is Subtraction

$$\begin{array}{rcl} y + 14 & = 20 \\ -14 & & -14 \\ y & = 6 & \checkmark \end{array}$$

The value which makes the equation true is 6.

ONE STEP SUBTRACTION EXAMPLE

The Opposite of Subtraction is Addition

$$\begin{array}{rcl} x - 120 & = 80 \\ +120 & & +120 \\ x & = 200 & \checkmark \end{array}$$

The value which makes the equation true is 200.

Multiplication Example

The Opposite of Multiplication is Division

$$\begin{array}{rcl} 3n & = 12 \\ \frac{3n}{3} & = \frac{12}{3} & 3/3 cancels down \\ n & = 4 & to become 1/1 = 1 \\ & \checkmark & 1n is simply "n" \end{array}$$

The value which makes the equation true is 4.

One Step Division Example

The Opposite of Division is Multiplication.

$$\begin{array}{rcl} \frac{k}{2} & = 16 \\ \cancel{\frac{k}{2}} \times \cancel{2} & = 16 \times 2 & 2/2 cancels down \\ k & = 32 & to become 1/1 = 1 \\ & \checkmark & 1k is simply "k" \end{array}$$

The value which makes the equation true is 32.

Solve each equation for the indicated variable.

1. $x - (-3) = 17$

2. $41 = w - 4$

3. $k - 8 = -19$

4. $t - 5 = 12$

5. $-2 + d = 97$

6. $-7 + x = -18$

7. $\frac{5}{8} = t - \frac{3}{8}$

8. $-\frac{3}{7} + c = -\frac{3}{7}$

9. $x - \frac{4}{7} = \frac{3}{7}$

10. $\frac{k}{9} = -8$

11. $\frac{x}{-12} = -4$

12. $-16 = \frac{t}{-2}$

13. $24x = -12$

14. $-y = -145$

15. $-7m = -49$

Solving Two Step Equations Review & Practice

solve a two-step
equation

<u>first</u> add or subtract	<u>second</u> multiply or divide
both sides	both sides

Solve each equation for the indicated variable.

$$1. \ 4a + 3 = 11$$

$$2. \ 8 = 3r - 1$$

$$3. \ 42 = -2d + 6$$

$$4. \ 3x + 0.3 = 3.3$$

$$5. \ 15y + 31 = 61$$

$$6. \ 9 - c = -13$$

$$7. \ \frac{x}{6} + 4 = 15$$

$$8. \ 4 - \frac{m}{2} = 10$$

$$9. \ 7y - 7 = 0$$

$$10. \ 3t + 7 = 19$$

$$11. \ 28 = 4x - 12$$

$$12. \ 6h - 7 = 17$$

$$13. \ 3x + 3 = 18$$

$$14. \ 3t + 44 = 50$$

$$15. \ 15 = \frac{c}{3} - 2$$

$$16. \ 6 + 6x = 30$$

$$17. \ 9 - 6x = 45$$

$$18. \ 32 = 5 - 3t$$

Solving Multi-Step Equations & Equations with Variables on Both Sides Review & Practice

Example: $3x + 2(2x - 1) = 33$

1. Use Distributive Property $3x + 4x - 2 = 33$
 $\swarrow \searrow$
 $7x - 2 = 33$

2. Combine Like terms $\begin{array}{r} +2 \\ \hline 7x = 35 \\ \hline 7 \end{array}$

3. Use Inverse Operations $x = 5$

Solve each equation for the indicated variable.

$$1. 2(x-7)=10$$

$$2. \frac{m}{6} + 4 = 12$$

$$3. 5(c+2)=-20$$

$$4. 12a + 5 - 8a = -1$$

$$5. m - 3 - 6m = -27$$

$$6. -4 + 7d + 13 = 33$$

$$7. b + 11 - 2b = 6$$

$$8. 5j - 9j + 3 = -34$$

$$9. -2d - 5 - 2d = -9$$

Equations, Equations, and more Equations...

Solve each equation for the given variable. Please circle, rectangle, or triangle your answer.

$$1. \ 4x - 7 = 37$$

$$2. \ 3x = 6 - 9$$

$$3. \ 8 - 9y = 35$$

$$4. \ 7x - 12 = 2$$

$$5. \ 8 - 12x = 32$$

$$6. \ 0 = 25x + 75$$

$$7. \ 4e + 16 = -12$$

$$8. \ 3n - 9 = 9$$

$$9. \ 3x + 12 + 5 = 35$$

$$10. \ 9x - 3 = 24$$

$$11. \ 5 - \frac{1}{2}x = -9$$

$$12. \ 12 = \frac{2}{3}x - 2$$

$$13. \ 13x + 50 = -54$$

$$14. \ \frac{x}{3} - 8 = -12$$

$$15. \ 3 - \frac{1}{5}x = -7$$

$$16. \ 7 - \frac{1}{9}k = 32$$

$$17. \ \frac{2x}{5} + 3 = 9$$

$$18. \ 7 = -4m - 5$$