

Section 2.3 Solving One-Step Equations

Solving an equation means finding the value that makes the equation _____. We write the **solution set** in set brackets.

Equations with Addition and Subtraction

1. Find the missing value.

a. $x + 3 = 7$

b. $6 = x + 1$

Opposite Operations

2. Solve the following equations, showing your operations. State the solution set and check your answer.

a. $x - 4 = 1$

b. $6 = -4 + x$

c. $z - (-2) = -7$

d. $-\frac{1}{2} = x - \frac{3}{4}$

3. Solve the following equations, showing your operations. State the solution set and check your answer.

a. $y+1=-10$

b. $z-12=5$

c. $x-(-7)=7$

d. $t-\frac{2}{3}=-\frac{7}{6}$

Equations with Multiplication and Division

4. Find the missing value.

a. $3x=6$

b. $2=2t$

Opposite Operations

5. Solve the following equations, showing your operations. State the solution set and check your answer.

a. $3p = -6$

b. $-z = 28$

c. $\frac{3}{4}x = 10$

d. $\frac{x}{7} = 3$

6. Solve the following equations, showing your operations. State the solution set and check your answer.

a. $15 = -3x$

b. $-7z = 8$

c. $-\frac{1}{5}x = -20$

d. $\frac{x}{12} = -\frac{3}{4}$

7. Write and solve an equation in each scenario given. Include units in your answer.

a. The circumference of a frisbee is 20π cm. Find the radius.



b. A fish tank has a volume of 2598.528 cubic inches. The base is 20.1 inches by 10.1 inches. Find the height of the tank.



Section 2.4 Solving One-Step Inequalities

Do the opposite operations also work with inequalities? Let's do a test:

Add a number to each side

Subtract a number from each side

Multiply each side by a positive number

Multiply each side by a negative number

Summary for solving inequalities:

8. Solve each inequality and graph each solution on a number line. Write the solution set in interval and set-builder notation.

Solve the Inequality	Number Line Graph	Interval	Set-builder Notation
a. $x+3>9$			
b. $t-6\leq 8$			
c. $6>\frac{2}{7}x$			
d. $-3x\geq -21$			

More Practice

9. Solve and check each equation and write the solution set.

a. $-9 + x = -1$

b. $\frac{1}{2}r = -20$

c. $-k = \frac{5}{2}$

d. $4 = x - 15$

10. Solve each inequality and draw the solution set on a number line. Write the solution set in interval and set-builder notation.

a. $-2 + t > -1$

b. $-\frac{3}{4}y \leq \frac{5}{4}$

c. $5p \leq -20$

d. $11 > x - 9$