Grade 6

Topic: Equations

Instructions

Solve each equation by finding the value of the variable that makes the equation true. Use inverse operations and show your steps. Check your answer by substituting the value back into the equation.

Part A: One-Step Equations

1. $x + 7 = 12$
2. $y - 5 = 9$
3. $4z = 20$
4. $\frac{a}{3} = 6$
5. $m - 8 = 3$
6. $9 + p = 14$
7. $\frac{t}{4} = 5$
8. $6b = 36$

Part B: Two-Step Equations

1. $2x + 3 = 11$
2. $5y - 4 = 16$
3. $\frac{a}{2} + 1 = 5$
4. $3m - 7 = 11$
5. $4n + 6 = 22$
6. $2p - 3 = 9$
7. $6 + \frac{x}{2} = 9$
8. $3x - 2 = 4$

Part C: Equations with Variables on Both Sides

1. $3x = 2x + 5$
2. $5y + 2 = 2y + 17$
3. $6a - 4 = 2a + 12$
4. $4m + 3 = 3m + 8$

Part D: Word Problems as Equations

1. Sarah bought a notebook and a pen. The notebook cost \$5 more than the pen. If the total cost was \$15, write and solve an equation to find the cost of the pen.
2. A number divided by 4 equals 6. What is the number?
3. Tom had some apples. After giving away 8, he had 12 left. How many apples did he start with?
4. Four times a number increased by 3 is 19. What is the number?

5. The sum of a number and twice the number is 21. Find the number.
6. Jane's age is 3 more than twice her brother's age. If Jane is 15, how old is her brother?

Part E: Fill in the Missing Number to Make the Equation True

1. $5 + \_\_\_\_\_ = 12$
2. $\_\_\_\_\_ - 3 = 9$
3. $3 \times \_\_\_\_\_ = 18$
4. $\frac{\_\_\_\_\_}{4} = 7$
5. $\_\_\_\_\_ + x = 10$, when $x = 3$
6. $2x + \_\_\_\_\_ = 8$, when $x = 2$