

# **Practice Worksheet: Algebraic Expressions and Identities**

## **Section A: Multiple Choice**

**1.** What is the value of  $x$  in the equation  $2x + 5 = 11$ ?

- A. 2
- B) B. 3
- C) C. 4
- D) D. 5

**2.** What is the value of  $y$  in the equation  $y - 3 = 7$ ?

- A. 4
- B) B. 5
- C) C. 10
- D) D. 11

**3.** What is the value of  $z$  in the equation  $z + 2 = 9$ ?

- A. 7
- B) B. 8
- C) C. 9
- D) D. 10

**4.** What is the value of  $a$  in the equation  $3a = 12$ ?

- A. 2
- B) B. 3
- C) C. 4
- D) D. 6

**5.** What is the value of  $b$  in the equation  $b - 1 = 6$ ?

- A. 5
- B) B. 6
- C) C. 7
- D) D. 8

## **Section B: Short Answer**

**1.** Simplify the expression  $2x + 3x$

**2.** Solve the equation  $x - 2 = 7$

**3.** Simplify the expression  $5y - 2y$

**4.** Solve the equation  $3z = 15$

**5.** Simplify the expression  $2a - 3a$

## **Section C: Application Problems**

**1.** Tom has been saving money for a new bike and has \$120 in his piggy bank. He wants to buy a bike that costs \$180. How much more money does Tom need to save?

**2.** A book costs \$25. If a 10% discount is applied, how much will the book cost?

**3.** A bakery sells a total of 250 loaves of bread per day. They sell a combination of whole wheat and white bread. If they sell 30 more whole wheat loaves than white bread loaves, how many whole wheat loaves do they sell per day?

**4.** A group of friends want to share some candy equally. If they have 48 pieces of candy and there are 8 friends, how many pieces of candy will each friend get?

**5.** A water tank can hold 1200 liters of water. If 300 liters of water are already in the tank, what percentage of the tank is filled?

# **Answer Key**

**1:** 5x

**2:** 9

**3:** 3y

**4:** 5

**5:** -a

**6:** 120

**7:** 22.50

**8:** 38

**9:** 6

**10:** 25%