



# Grade 8 Algebra Unit Test

Name \_\_\_\_\_ Date \_\_\_\_\_ Score \_\_\_\_\_ / 16

## Part A · Simplifying Expressions

**01**  $(-x - 5) + (4x + 4) =$  \_\_\_\_\_

**02**  $(-5x + 8) + (9x - 9) =$  \_\_\_\_\_

**03**  $(-6x - 2) + (-7x + 8) =$  \_\_\_\_\_

**04**  $5(9x + 8) =$  \_\_\_\_\_

## Part B · Linear Equations

**05**  $3x - 8 = 6x - 35$  \_\_\_\_\_

**06**  $8x - 12 = 4x - 4$  \_\_\_\_\_

**07**  $12x - 9 = 10x - 21$  \_\_\_\_\_

**08**  $7x - 8 = 6x - 14$  \_\_\_\_\_



# Grade 8 Algebra Unit Test

## Part C • Inequalities

Solve, then graph the solution on the number line.



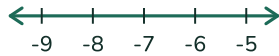
**09**  $-11x + 2 \geq 13$

\_\_\_\_\_



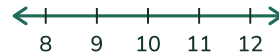
**10**  $12x - 1 \leq 35$

\_\_\_\_\_



**11**  $-5x - 7 > 33$

\_\_\_\_\_



**12**  $6x - 10 \leq 62$

\_\_\_\_\_

## Part D • Word Problems

**13** Nina has a budget of \$175.00. Nina buys 4 power banks for \$36.47 each. How much money remains?

Answer: \_\_\_\_\_

**14** 7 graphic novels cost \$95.62. What is the price of one?

Answer: \_\_\_\_\_



## Grade 8 Algebra Unit Test

### Part D • Word Problems (continued)

**15** A recipe uses 2 cups of flour for every 1 cup of sugar. If Bisi uses 4 cups of flour, how many cups of sugar are needed?

Answer: \_\_\_\_\_

**16** 15,000 people came to a fall fair, and 0.2% of them won a prize. How many people won a prize?

Answer: \_\_\_\_\_

# Grade 8 Algebra Unit Test (Answer Key)

## Part A · Simplifying Expressions

01  $(-x - 5) + (4x + 4) = 3x - 1$

02  $(-5x + 8) + (9x - 9) = 4x - 1$

03  $(-6x - 2) + (-7x + 8) = -13x + 6$

04  $5(9x + 8) = 45x + 40$

## Part B · Linear Equations

05  $3x - 8 = 6x - 35 \quad x = 9$

06  $8x - 12 = 4x - 4 \quad x = 2$

07  $12x - 9 = 10x - 21 \quad x = -6$

08  $7x - 8 = 6x - 14 \quad x = -6$

## Part C · Inequalities

Solve, then graph the solution on the number line.



09  $-11x + 2 \geq 13 \quad x \leq -1$



10  $12x - 1 \leq 35 \quad x \leq 3$



11  $-5x - 7 > 33 \quad x < -8$



12  $6x - 10 \leq 62 \quad x \leq 12$



## Grade 8 Algebra Unit Test (Answer Key)

### Part D · Word Problems

**13** Nina has a budget of \$175.00. Nina buys 4 power banks for \$36.47 each. How much money remains?

**\$29.12**

**14** 7 graphic novels cost \$95.62. What is the price of one?

**\$13.66**

**15** A recipe uses 2 cups of flour for every 1 cup of sugar. If Bisi uses 4 cups of flour, how many cups of sugar are needed?

**2 cups**

**16** 15,000 people came to a fall fair, and 0.2% of them won a prize. How many people won a prize?

**30 people**