



Grade 9 Algebra Unit Test

Name _____ Date _____ Score _____ / 12

Part A · Simplifying Expressions

Expand and simplify, or answer the question asked. Write each answer in simplest form.

01 Is $3(x - 8)$ equivalent to $3x - 8$?

02 $2(-6x + 3) - 4(-6x - 3) =$ _____

03 $2x^2 - 4x - 4 + 3x^2 - 3x =$ _____

04 $(-5x + 5) - (4x - 9) =$ _____

Part B · Linear Equations

Solve each equation, then check your answer. For word problems, write an equation first.

05 $4(x - 3) = 3x - 21$ _____

06 $3(x + 7) = 57$ _____

07 $9x - 6 = 4x - 21$ _____

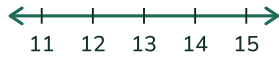
08 $\frac{x-8}{5} = 3$ _____



Grade 9 Algebra Unit Test

Part C · Inequalities

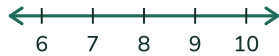
Solve, then graph the solution on the number line.



09 $5x + 6 \leq 61$



10 $-5x + 11 \geq 1$



11 $5x - 2 \geq 43$



12 $-11x + 11 \leq -99$



Grade 9 Algebra Unit Test (Answer Key)

Part A • Simplifying Expressions

Expand and simplify, or answer the question asked. Write each answer in simplest form.

01 Is $3(x - 8)$ equivalent to $3x - 8$?

No: it equals $3x - 24$

02 $2(-6x + 3) - 4(-6x - 3) =$

$12x + 18$

03 $2x^2 - 4x - 4 + 3x^2 - 3x =$

$5x^2 - 7x - 4$

04 $(-5x + 5) - (4x - 9) =$ $-9x + 14$

Part B • Linear Equations

Solve each equation, then check your answer. For word problems, write an equation first.

05 $4(x - 3) = 3x - 21$ $x = -9$

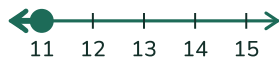
06 $3(x + 7) = 57$ $x = 12$

07 $9x - 6 = 4x - 21$ $x = -3$

08 $\frac{x-8}{5} = 3$ $x = 23$

Part C • Inequalities

Solve, then graph the solution on the number line.



09 $5x + 6 \leq 61$

$x \leq 11$



10 $-5x + 11 \geq 1$

$x \leq 2$



Grade 9 Algebra Unit Test (Answer Key)

Part C • Inequalities (continued)



11 $5x - 2 \geq 43$

$x \geq 9$



12 $-11x + 11 \leq -99$

$x \geq 10$