



Unit 1 — Quiz 2: Simplifying & Equivalent Expressions

Course: Algebra 1 — Merit Education Group **Covers:** Lessons 6–15 | **Format:** Partial period (15 min) | **Standards:** 9.3.5.5, 9.3.5.7, 9.3.5.8 **QTI Filename:** Assessments/U1 Quiz2 QTI.xml **Directions:** Show all work on quizzes and summative assessments. Work must be turned in for full credit.

1 QUESTION 1 — MULTIPLE VARIABLE EVALUATION [T1]

Evaluate $2a + 3b$ when $a = 5$ and $b = 2$.

2 QUESTION 2 — FORMULA EVALUATION [T2]

The area of a rectangle is $A = lw$. Find the area when $l = 12$ and $w = 7$.

3 QUESTION 3 — IDENTIFYING TERMS [T1]

How many terms are in the expression $4x^2 + 3x - 7$? Identify the coefficient of the second term.

4 QUESTION 4 — COMBINING LIKE TERMS [T1]

Simplify: $5x + 9x - 3x$

5 QUESTION 5 — COMBINING LIKE TERMS [T2]

Simplify: $4a + 7 - 2a + 3$

6 QUESTION 6 — DISTRIBUTIVE PROPERTY [T1]

Simplify: $3(x + 5)$

7 QUESTION 7 — DISTRIBUTIVE PROPERTY [T2]

Simplify: $-2(4x - 3)$

8 QUESTION 8 — DISTRIBUTIVE + LIKE TERMS [T2]

Simplify: $4(x + 2) + 3x$

9 QUESTION 9 — EQUIVALENT EXPRESSIONS [T1] (L12)

Are $2(x + 4)$ and $2x + 8$ equivalent? Explain your reasoning.

10 QUESTION 10 — GCF FACTORING [T2] (L13)

Factor the greatest common factor: $6x + 15$

11 QUESTION 11 — PERIMETER WITH ALGEBRAIC EXPRESSIONS [T2] (L14)

A rectangle has length $L = 3x + 1$ and width $W = x$. Write and simplify an expression for its perimeter. (Hint: $P = 2L + 2W$)

12 QUESTION 12 — REAL-WORLD TRANSLATION [T2] (L15)

At **Mall of America**, a ticket to a ride costs \$ 8. A souvenir costs \$ 5. Write and simplify an expression for the total cost of t ride tickets and 2 souvenirs. Then find the total if you buy 3 ride tickets.

13 BONUS — CHALLENGE [T3]

Simplify: $3(2x - 5) - 2(x + 4)$

14 QUESTION 13 — FILL-IN-THE-BLANK WORD PROBLEM [T2] (9.3.5.7)

A rectangle has length $L = 3x + 1$ and width $W = x$. Its perimeter is $P = 2L + 2W$. Find the perimeter when $x = 4$.

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