Simplify Algebraic Expressions — Homework

Lesson 6-15 • Standard 6.AT.7

Name: _____ **Period:** _____ **Date:** _____

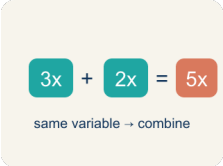
Today's Goals

Content: I can simplify algebraic expressions by combining like terms.
Language: I can explain my steps using the words like terms, combine, simplify, and coefficient.

Key Words



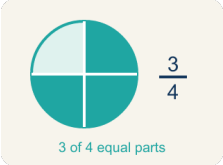
Simplify Algebraic Expressions (Simplificar expresiones algebraicas) — Rewrite an expression in a shorter equivalent form by combining like terms and using properties.



Like Terms (Términos semejantes) — Terms with the same variable raised to the same exponent, like 2x and 5x.



Combine (Combinar) — To add or subtract terms with the same variable and exponent into one.



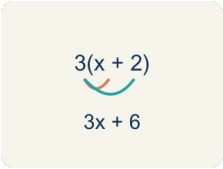
Simplify (Simplificar) — To rewrite an expression in a shorter form that is still equal to the original.



Coefficient (Coeficiente) — The number in front of a letter, like the 3 in 3x.



Term (Término) — A single number, variable, or product of them, separated by + or − signs.



Distributive property (Propiedad distributiva) — Multiplying a number by everything inside the parentheses: a(b + c) = ab + ac.

Practice

Show your work. Use the blank space under each problem.

1. Simplify 7x + 3x.

A. 10x
B. $10x^2$
C. 21x
D. 73x

2. Simplify 9n + 4 + 2n.

A. 11n + 4
B. 11n² + 4
C. 15n
D. 92n + 4

3. Simplify each expression by combining like terms.

Expression	Like Terms Combined	Simplified
3a + 5a + 2	3a + 5a = 8a	
6x + 4 + 2x + 7		
10m − 3m + 5		
4y + 3 + y + 9		

4. Match each expression to its simplified form.

Item	Answer choices
____ 8x + 3x + 1	F. 6p + 1
____ 5a − 2a + 7	E. 7m + 10
____ 4n + n + 6	D. 7y
____ 12y − 5y	C. 5n + 6
____ 3m + 8 + 4m + 2	B. 3a + 7
____ 9p + 1 − 3p	A. 11x + 1

5. Simplify each expression, then sort by whether the simplified coefficient of the variable is greater than 6 or not.

Groups: Coefficient > 6 | Coefficient ≤ 6

- 4x + 5x → _____
- 8n − 3n → _____
- 3a + a + 4a → _____
- 10m − 7m → _____
- 2y + 5y → _____
- 6p − p → _____

6. Spot the Mistake — Swept-Up Constant

Step 1 (Expression): 6x + 4 + 2x
Step 2 (Combine): Add everything: 6 + 4 + 2 = 12
Step 3 (Simplify): 12x
Which step has the mistake? Explain and fix it:

7. The board shows 3x + 5x on one channel. Simplify it.

A. 8x
B. 8x²
C. 15x
D. 35x

8. Simplify the track: 4a + 2 + a.

A. 5a + 2

B. $5a^2 + 2$
C. 6a
D. 7a

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9. Clean up this channel: 7y − 3y.

A. 4y
B. 4
C. 10y
D. 21y

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10. Simplify the mix: 6m + 4 + 3m.

A. 9m + 4
B. 9m + 4m
C. 10m
D. 13m
