Name_____ Date_____ Period_____

LESSON 6-6 · SESSION 1 · PRACTICE · FORM B

Simplifying to Show Equivalence

Learning target – I can simplify an expression by combining like terms to test whether two expressions are equivalent. · 6.EE.A.3

REMEMBER

- **Like terms** have the same variable part: $4x$ and $9x$. $4x$ and 4 are **not** like terms.
- Combine like terms by adding or subtracting **coefficients**: $4x + 9x = 13x$. A lone x is $1x$.
- Expressions are **equivalent** if they simplify to the same expression.

WORKED EXAMPLE

Simplify $7c + 9 + 6c$. Is it equivalent to $13c + 9$?

Step 1 Like terms: $7c$ and $6c$.

Step 2 Combine: $7c + 6c = 13c$. The 9 stays alone.

Step 3 $7c + 9 + 6c = 13c + 9$.

Answer **$13c + 9$; yes, equivalent**

WORDS **like terms** *(términos semejantes)* · **combine** *(combinar)* · **equivalent expressions** *(expresiones equivalentes)*

PRACTICE

show your work · label units

1. Simplify each expression.

a. $6y + 9 + 2y =$ _____

b. $11k + 5 - 4k =$ _____

c. $2x + 10 + 5x + 3 =$ _____

d. $8r + 6 + 4r + 9 =$ _____

e. $4n + 4n =$ _____

f. $9 + 3w + w =$ _____

2. **Ticket Order.** Two students describe the same ticket purchase. Maya writes $4t + 12 + 3t$. Owen writes $7t + 12$.

a. Name the like terms in Maya's expression. _____

b. Simplify Maya's expression. _____

c. Does it match Owen's expression? _____

d. Why can $4t$ and 12 not be combined? _____

3. **Simplify Fully.** Simplify $11m + 6 + 3m + 10$.

Hint *Group the m terms, then the constants.*

Show your work.

Simplified_____

4. **Simplify Fully.** Simplify $9h + 25 + 2h - 8$.

Hint *25 − 8 for the constants.*

Show your work.

Simplified_____

5. Lucia's Claim. Lucia says $3t + 18$ and $21t$ are equivalent because $3 + 18 = 21$. Justify or correct her claim.

Hint *Do 3t and 18 have the same variable part?*

Show your work.

Equivalent?_____

6. Three Expressions. A is $4b + 2b + 7$. B is $6b + 7$. C is $6 + b + 7$. Simplify all three. Which two are equivalent?

Hint *Simplify each one, then line them up.*

Show your work.

Equivalent pair_____

7. Two Store Bills. Bill A is $6p + 5 + 3p$. Bill B is $9p + 5$, where p is the price of one pen.

a. Simplify Bill A. _____

b. Are the two bills equivalent? _____

c. Evaluate both bills when $p = 8$. What does this show? _____

8. Not Equivalent. Are $3y + 6$ and $9y$ equivalent? Explain.

Hint *Can 3y and 6 be combined?*

Show your work.

Equivalent?_____

FIND THE ERROR

explain the mistake, then fix it

9. Nora's Work. Nora simplified $10x + 5 + 6x$ and wrote $21x$, saying she combined all three terms. Explain her mistake. Then simplify correctly.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. Simplify $3a + 5a$.

A $8a$ **B** $8a^2$ **C** $15a$ **D** 8

11. Terms that can be combined are called –

A like terms **B** constants **C** variables **D** coefficients

SELF-CHECK CODE *find your answer · copy its letter into that problem's box · spell a math word*

14m + 16 A	77 H	28h Z	11h + 17 T	7t + 12 M	9p + 5 C	30m Q	21t X

#2b	#3	#4	#7a	#7c

CHECK YOURSELF	☐ I can do this on my own	☐ I need a little help	☐ I have a question about #___