Name_____ Date_____ Period_____

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

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. $5x + 8 + 3x =$ _____

b. $9m + 4 - 2m =$ _____

c. $4x + 12 + 3x + 5 =$ _____

d. $9r + 7 + 6r + 8 =$ _____

e. $5n + 5n =$ _____

f. $6 + 2k + k =$ _____

2. **Supply Order.** Two students describe the same supply order. Ana writes $3p + 10 + 2p$. Luis writes $5p + 10$.

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

b. Simplify Ana's expression. _____

c. Does it match Luis's expression? _____

d. Why can $3p$ and 10 not be combined? _____

3. **Simplify Fully.** Simplify $10m + 4 + 2m + 14$.

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

Show your work.

Simplified_____

4. **Simplify Fully.** Simplify $8h + 21 + 3h - 6$.

Hint *21 − 6 for the constants.*

Show your work.

Simplified_____

5. Rashid's Claim. Rashid says $4t + 16$ and $20t$ are equivalent because $4 + 16 = 20$. Justify or correct his claim.

Hint *Do 4t and 16 have the same variable part?*

Show your work.

Equivalent?_____

6. Three Expressions. A is $2a + 3a + 10$. B is $5a + 10$. C is $5 + a + 10$. 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 $5p + 3 + 2p$. Bill B is $7p + 3$, where p is the price of one pen.

a. Simplify Bill A. _____

b. Are the two bills equivalent? _____

c. Evaluate both bills when $p = 4$. What does this show? _____

8. Not Equivalent. Are $4y + 5$ and $9y$ equivalent? Explain.

Hint *Can 4y and 5 be combined?*

Show your work.

Equivalent?_____

FIND THE ERROR

explain the mistake, then fix it

9. Willa's Work. Willa simplified $12x + 3 + 4x$ and wrote $19x$, saying she combined all three terms. Explain her mistake. Then simplify correctly.

_____

_____

_____

TEST PRACTICE

choose the best answer

10. Simplify $6n + 4 + 2n$.

A $12n$ **B** $8n + 4$ **C** $6n + 6$ **D** $10n$

11. Which pair are NOT like terms?

A 3x and 7x **B** 2y and y **C** 5m and 5 **D** 4k and 10k

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

30m **Q**	31 **S**	7p + 3 **M**	26h **Z**	20t **X**	11h + 15 **R**	5p + 10 **T**	12m + 18 **E**

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

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