Name_____ Date_____ Period_____

LESSON 6-8 · SESSION 1 · PRACTICE · FORM B

Using Properties to Rewrite Expressions

Learning target – I can use the distributive property and like terms to rewrite an expression in simplest form. · 6.EE.A.3

REMEMBER

- **Distributive Property**: multiply the outside number by **every** term inside: $4(m + 2) = 4m + 8$.
- **Like terms** have the same variable part, so you can add them: $4m + 3m = 7m$. Add the plain numbers too.
- Swapping (Commutative) and regrouping (Associative) work for **adding and multiplying only**.

WORKED EXAMPLE

Simplify $4(m + 2) + 3m$.

Step 1 Distribute the 4: $4m + 8 + 3m$.

Step 2 Move like terms together: $4m + 3m + 8$.

Step 3 Combine: $7m + 8$. Test $m = 1$: $4(3) + 3 = 15$ and $7 + 8 = 15$.

Answer **$7m + 8$**

WORDS **Distributive Property** *(propiedad distributiva)* · **like terms** *(términos semejantes)* · **equivalent expressions** *(expresiones equivalentes)*

PRACTICE

show your work · label units

1. Write each expression in simplest form.

a. $6(n + 7) =$ _____

b. $4(x + 3) + 7x =$ _____

c. $5(y + 2) + 8y =$ _____

d. $3(a + 2) + 2(a + 5) =$ _____

2. Name the property that allows each rewrite.

a. $7 + (x + 5) = (7 + x) + 5$ _____

b. $6 \times y = y \times 6$ _____

c. $y + 0 = y$ _____

3. **Workshop Cost.** Ms. Rivera writes a workshop's supply cost as $4(n + 3) + 6n$, where n is the number of students.

Hint *Multiply 4 by n and by 3.*

a. Distribute: $4(n + 3) =$ _____

b. Combine like terms. Simplest form: _____

c. Check with $n = 3$. Original ___ New form ___

Show your work.

4. Simplify Fully. Simplify $6(p + 2) + 3p + 4$.

Hint *Add 12 and 4 after you distribute.*

Show your work.

Simplest form_____

5. Simplify Fully. Simplify $8(q + 1) + 2q + 9$.

Show your work.

Simplest form_____

6. Kai's Claim. Kai says $30 \div 5$ and $5 \div 30$ are equivalent because of the Commutative Property. Find both values. Is he right?

Hint *Does the Commutative Property cover division?*

7. Three Rewrites. Start with $2(w + 5) + 3w$. Write three different equivalent expressions. Name the property used for each.

Hint *Try distributing, then reordering, then combining.*

Show your work.

8. Two Tickets. A club orders $4(a + 3)$ tickets and then $2(a + 5)$ tickets, where a is the number of adult tickets in each order.

a. Simplify each expression. _____

b. Write and simplify the total. _____

c. Find the total when $a = 4$. _____ tickets

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Mateo's Work. Mateo rewrote $3(k + 7)$ as $3k + 7$. He said he multiplied the first term inside the parentheses. Explain his mistake. Then rewrite it correctly.

TEST PRACTICE

choose the best answer

10. Which is equal to $7(b + 6)$?

A $7b + 6$ **B** $7b + 13$ **C** $7b + 42$ **D** $13b$

11. When you distribute, you multiply the outside number by –

A only the first term

B every term inside

C only the last term

D the variable only

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

42 E	9p + 6 Z	10n + 12 D	46 Y	1/6 I	10n + 3 Q	13y + 10 I	9p + 16 N	6a + 22 T	10q + 17 T

#1c	#3b	#3c	#4	#5	#6	#8b	#8c

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