Name_____ Date_____ Period_____

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

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. $4(n + 5) =$ _____

b. $3(x + 2) + 5x =$ _____

c. $6(y + 3) + 9y =$ _____

d. $2(a + 4) + 3(a + 1) =$ _____

2. Name the property that allows each rewrite.

a. $8 + (x + 2) = (8 + x) + 2$ _____

b. $4 \times y = y \times 4$ _____

c. $y \times 1 = y$ _____

3. **Team Cost.** A coach writes a team's cost as $3(n + 4) + 5n$, where n is the number of players.

Hint *Multiply 3 by n and by 4.*

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

b. Combine like terms. Simplest form: _____

c. Check with $n = 2$. Original ___ New form ___

Show your work.

4. Simplify Fully. Simplify $5(p + 3) + 2p + 8$.

Hint *Add 15 and 8 after you distribute.*

Show your work.

Simplest form_____

5. Simplify Fully. Simplify $7(q + 2) + 3q + 5$.

Show your work.

Simplest form_____

6. Amira's Claim. Amira says $24 \div 6$ and $6 \div 24$ are equivalent because of the Commutative Property. Find both values. Is she right?

Hint *Does the Commutative Property cover division?*

7. Three Rewrites. Start with $3(w + 2) + w$. 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 family orders $3(a + 6)$ tickets and then $2(a + 4)$ 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 $a = 5$. _____ tickets

Show your work.

FIND THE ERROR

explain the mistake, then fix it

9. Tessa's Work. Tessa rewrote $4(q + 5)$ as $4q + 5$. She said she multiplied the first term inside the parentheses. Explain her mistake. Then rewrite it correctly.

TEST PRACTICE

choose the best answer

10. Which is equal to $5(x + 4)$?

A $5x + 4$ **B** $5x + 20$ **C** $x + 20$ **D** $9x$

11. Which is $3(n + 2) + 4n$ in simplest form?

A $7n + 2$ **B** $7n + 6$ **C** $3n + 6$ **D** $13n$

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

15y + 18 P	8n + 12 R	10q + 7 Z	5a + 26 T	28 O	8n + 4 Q	7p + 23 P	51 Y	10q + 19 E	1/4 R

#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 #___