LESSON MAKER PRO

Expression Remix

Distribute, combine, and simplify.

GRADE 8 · MA.8.AR.1

MA.8.AR.1 "Generate equivalent algebraic expressions."

NAME _____ DATE _____

BUILD EQUIVALENT EXPRESSIONS

Use the distributive property to multiply the factor outside parentheses by every term inside. Then combine like terms, such as x-terms with x-terms and constants with constants. Equivalent expressions have the same value for every value of x.

WORKED EXAMPLE

Rewrite 7(x + 5) - 3x as an equivalent expression.

1. Distribute 7: 7x + 35 - 3x
2. Combine the x-terms: 4x + 35

Answer: 4x + 35

PRACTICE 6 problems

1 Rewrite 8(x + 2) + x as an equivalent expression.

ANSWER _____

2 Rewrite 10x - 2(x + 8) as an equivalent expression.

ANSWER _____

3 Rewrite 6(x - 2) + 10 as an equivalent expression.

ANSWER _____

4 Rewrite 11 + 2(9x - 1) as an equivalent expression.

ANSWER _____

5 Rewrite 11x + 6 - 2x + 8 as an equivalent expression.

ANSWER _____

6 Rewrite 9(2x + 1) - 8x as an equivalent expression.

ANSWER _____

APPLY IT Show your work

1 At a gaming tournament, a team pays $2 for each of n player passes and a $12 team fee. The organizer writes 2(n + 6) for the total cost. Write an equivalent expression without parentheses.

WORK SPACE

ANSWER _____

2 An online art shop lists each of x poster prints at $11. A coupon subtracts $2 from each print, and shipping adds $10 to the order. Write and simplify an expression for the total cost.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Rewrite 2(6x - 8) - 9(x + 1) + 12x as an equivalent expression.

WORK SPACE AND ANSWER

ANSWER KEY

Expression Remix

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Rewrite 8(x + 2) + x as an equivalent expression.	**9x + 16**
2	Rewrite 10x - 2(x + 8) as an equivalent expression.	**8x - 16**
3	Rewrite 6(x - 2) + 10 as an equivalent expression.	**6x - 2**
4	Rewrite 11 + 2(9x - 1) as an equivalent expression.	**18x + 9**
5	Rewrite 11x + 6 - 2x + 8 as an equivalent expression.	**9x + 14**
6	Rewrite 9(2x + 1) - 8x as an equivalent expression.	**10x + 9**

PART 2 · APPLY IT

1. **2n + 12** Distribute 2 to both terms inside the parentheses. The result is 2n + 12.
2. **9x + 10** The expression is 11x - 2x + 10. Combine the x-terms to get 9x + 10.

CHALLENGE

15x - 25

Accept equivalent expressions with terms in a different order, such as 16 + 9x. For items that ask students to simplify, expect parentheses to be removed and like terms combined.