LESSON MAKER PRO

Expression Remix

Distribute, combine, and evaluate.

HIGH SCHOOL · FA.A.4

FA.A.4 "Simplify and evaluate numerical and algebraic expressions. (7.EE.1)"

NAME _____ DATE _____

THE BIG IDEA

Multiply each term inside parentheses by the number outside. When subtracting parentheses, change the sign of each term inside. Combine like terms, then substitute a value for x if you need to evaluate the expression.

WORKED EXAMPLE

Simplify 11(x - 13) + 17x.

1. Distribute: 11x - 143 + 17x
2. Group like terms: (11x + 17x) - 143
3. Combine: 28x - 143

Answer: 28x - 143

PRACTICE 6 problems

1 Simplify 3(x + 4) + 2x.

ANSWER _____

2 Simplify 5(2x - 3) - 4x.

ANSWER _____

3 Simplify 2(3x + 5) - (x - 4).

ANSWER _____

4 Simplify (3/4)(8x - 12) + 2x.

ANSWER _____

5 Evaluate 3(2x - 4) + x when x = -2.

ANSWER _____

6 Simplify 4(x - 3) + 2(5 - x), then evaluate it when x = 3.

ANSWER _____

APPLY IT Show your work

1 A gaming club orders 3 game-night bundles. Each bundle includes a game pass that costs $x and an $8 snack pack. A $5 coupon applies to the whole order. Write and simplify an expression for the total cost.

WORK SPACE

ANSWER _____

2 You buy 2 concert tickets that normally cost $x each. Each ticket is $5 off. You also buy 4 stickers for $3 each. Write and simplify an expression for your total cost, then find the cost when x = 9.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A classmate says 3(2x - 5) - 2(x - 4) is equivalent to 4x - 23. Is the classmate correct? Simplify the expression and explain your answer in one sentence.

WORK SPACE AND ANSWER

Expression Remix

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Simplify 3(x + 4) + 2x.	**5x + 12**
2	Simplify 5(2x - 3) - 4x.	**6x - 15**
3	Simplify 2(3x + 5) - (x - 4).	**5x + 14**
4	Simplify (3/4)(8x - 12) + 2x.	**8x - 9**
5	Evaluate 3(2x - 4) + x when x = -2.	**-26**
6	Simplify 4(x - 3) + 2(5 - x), then evaluate it when x = 3.	**2x - 2; 4**

PART 2 · APPLY IT

1. **3x + 19 dollars** The cost is 3(x + 8) - 5. Distribute and combine the constants to get 3x + 19.
2. **2x + 2 dollars; $20** The total is 2(x - 5) + 4(3) = 2x + 2. Substituting x = 9 gives $20.

CHALLENGE

No, distributing and combining like terms gives 6x - 15 - 2x + 8 = 4x - 7, not 4x - 23.

Accept equivalent simplified expressions with terms in a different order. In problem 6 and the concert problem, students must give both requested answers.