

Expression Remix

Use operation properties to rewrite expressions.

GRADE 6 • MA.6.AR.1.4

MA.6.AR.1.4 "Apply the properties of operations to generate equivalent algebraic expressions with integer coefficients."

NAME _____

DATE _____

BREAK APART, THEN COMBINE

Use the distributive property to multiply a number by every term inside parentheses. Then use the commutative and associative properties to group and combine like terms.

WORKED EXAMPLE

Simplify: $7(x + 4) - 9$

1. Distribute 7: $7x + 28 - 9$

2. Combine constants: $7x + 19$

Answer: $7x + 19$

PRACTICE 6 problems

1 Simplify: $3(x + 5) + 2x$

ANSWER _____

2 Simplify: $8x - 3(x - 2)$

ANSWER _____

3 Simplify: $-2(x + 6) + 5x$

ANSWER _____

4 Simplify: $6(2x - 3) - x$

ANSWER _____

5 Simplify: $5x + 8 - 2x + 3$

ANSWER _____

6 Simplify: $-3(2x - 5) + 8x$

ANSWER _____

APPLY IT Show your work

- 1** At an arcade, Jalen plays 5 rounds. In each round, he earns x tickets plus 3 bonus tickets. He spends $2x$ tickets on game upgrades. Write and simplify an expression for the number of tickets he has left.

WORK SPACE

ANSWER _____

- 2** At a school spirit sale, a team packs 3 boxes. Each box contains x wristbands and 6 stickers. The team also packs $5x$ extra wristbands for a later event. Write and simplify an expression for the total number of items packed.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Simplify: $5(2x - 3) - 2(x + 8) + 3x$

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Simplify: $3(x + 5) + 2x$	$5x + 15$
2	Simplify: $8x - 3(x - 2)$	$5x + 6$
3	Simplify: $-2(x + 6) + 5x$	$3x - 12$
4	Simplify: $6(2x - 3) - x$	$11x - 18$
5	Simplify: $5x + 8 - 2x + 3$	$3x + 11$
6	Simplify: $-3(2x - 5) + 8x$	$2x + 15$

PART 2 • APPLY IT

1. **$3x + 15$** Write $5(x + 3) - 2x$. Distribute and combine like terms to get $3x + 15$.
2. **$8x + 18$** Write $3(x + 6) + 5x$. Distribute and combine like terms to get $8x + 18$.

CHALLENGE

 $11x - 31$

Accept equivalent expressions with terms in a different order. For the word problems, accept the simplified expression with or without a unit label.