

Expression Remix

Expand, combine, and rewrite without changing the value.

HIGH SCHOOL • MA.912.AR.1

MA.912.AR.1 "Interpret and rewrite algebraic expressions and equations in equivalent forms."

NAME _____

DATE _____

KEEP IT EQUIVALENT

Use the distributive property to multiply every term inside parentheses. Then combine like terms, terms with the same variable part, to write a simpler equivalent expression.

WORKED EXAMPLE

Rewrite $13(x - 11) + 17x$ in simplest form.

1. Distribute 13: $13x - 143 + 17x$
2. Combine the x-terms: $30x - 143$

Answer: $30x - 143$

PRACTICE 6 problems

1 Rewrite $8(x + 6) - 5x$ in simplest form.

ANSWER _____

2 Rewrite $9(2x - 4) + 7x$ in simplest form.

ANSWER _____

3 Rewrite $-6(x - 8) + 4x$ in simplest form.

ANSWER _____

4 Rewrite $5(3x + 2) - 8(x - 1)$ in simplest form.

ANSWER _____

5 Rewrite $12 - 3(2x - 9) + 5x$ in simplest form.

ANSWER _____

6 Rewrite $4(x + 9) = 6x - 12$ in the form $ax = b$.

ANSWER _____

APPLY IT Show your work

- 1** Your robotics team plans x minutes of coding and 15 minutes of testing during each of 8 meetings. The total time is written as $8(x + 15)$. Rewrite the expression to show the total coding time and total testing time.

WORK SPACE

ANSWER _____

- 2** At a sneaker resale booth, each of 9 customers plans to spend x dollars. Every customer uses a \$4 coupon, so the amount collected is written as $9(x - 4)$. Rewrite the expression in simplest form.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Rewrite $4(3x - 5) - 2(x + 9) + 6x$ in simplest form. Then explain how you combined the terms.

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Rewrite $8(x + 6) - 5x$ in simplest form.	$3x + 48$
2	Rewrite $9(2x - 4) + 7x$ in simplest form.	$25x - 36$
3	Rewrite $-6(x - 8) + 4x$ in simplest form.	$-2x + 48$
4	Rewrite $5(3x + 2) - 8(x - 1)$ in simplest form.	$7x + 18$
5	Rewrite $12 - 3(2x - 9) + 5x$ in simplest form.	$-x + 39$
6	Rewrite $4(x + 9) = 6x - 12$ in the form $ax = b$.	$2x = 48$

PART 2 · APPLY IT

- $8x + 120$ minutes** Distribute 8 to both parts of the expression. The team has $8x$ coding minutes and 120 testing minutes.
- $9x - 36$ dollars** Distribute 9 to x and to -4 . The coupons reduce the total by \$36.

CHALLENGE

$16x - 38$. Distributing gives $12x - 20 - 2x - 18 + 6x$. Combining the x -terms and constants gives $16x - 38$.

Accept equivalent forms with terms in a different order, such as $48 + 3x$ for problem 1. For the equation, accept $48 = 2x$ because it is equivalent to $2x = 48$.