

Expression Remix

Distribute, combine, and rewrite.

GRADE 7 • MA.7.AR.1

MA.7.AR.1 "Rewrite algebraic expressions in equivalent forms."

NAME _____

DATE _____

BUILD EQUIVALENT FORMS

Use the distributive property to multiply a factor by every term inside parentheses. Then combine like terms, which have the same variable part, by adding or subtracting their coefficients.

WORKED EXAMPLE

Rewrite $7(2x - 3) + 5x$ in simplest form.

1. Distribute 7: $14x - 21 + 5x$
2. Combine the x-terms: $19x - 21$

Answer: $19x - 21$

PRACTICE 6 problems

1 Rewrite $4x + 6x$ in simplest form.

ANSWER _____

2 Rewrite $8(x + 4)$ in simplest form.

ANSWER _____

3 Rewrite $10x - 4x + 11$ in simplest form.

ANSWER _____

4 Rewrite $6(4x - 9) + 8x$ in simplest form.

ANSWER _____

5 Rewrite $12x + 8 - 4x + 13$ in simplest form.

ANSWER _____

6 Rewrite $9(x - 6) + 4(x + 8)$ in simplest form.

ANSWER _____

APPLY IT Show your work

- 1** A music club makes 8 playlist sets. Each set has x student-picked songs, 6 teacher-picked songs, and 4 bonus songs. Write an equivalent expression for the total number of songs in all the sets.

WORK SPACE

ANSWER _____

- 2** In a tournament, a gaming team plays 9 rounds. In each round, the team earns x points for challenges and 8 points for teamwork. After the tournament, the team loses 4 points for a rule penalty. Write an equivalent expression for the team's final score.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Rewrite $4(6x - 8) - 9(x + 4) + 11x$ in simplest form.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Rewrite $4x + 6x$ in simplest form.	$10x$
2	Rewrite $8(x + 4)$ in simplest form.	$8x + 32$
3	Rewrite $10x - 4x + 11$ in simplest form.	$6x + 11$
4	Rewrite $6(4x - 9) + 8x$ in simplest form.	$32x - 54$
5	Rewrite $12x + 8 - 4x + 13$ in simplest form.	$8x + 21$
6	Rewrite $9(x - 6) + 4(x + 8)$ in simplest form.	$13x - 22$

PART 2 • APPLY IT

1. **$8x + 80$** One set has $x + 6 + 4$, or $x + 10$, songs. Multiply by 8 and distribute: $8(x + 10) = 8x + 80$.
2. **$9x + 68$** The score before the penalty is $9(x + 8)$. Distribute and subtract the penalty: $9x + 72 - 4 = 9x + 68$.

CHALLENGE

 $26x - 68$

Accept algebraically equivalent expressions with terms in a different order. For the story problems, accept correct factored forms as well as the expanded answers.