

Expression Remix

Use operation properties to rewrite expressions.

GRADE 6 • 6.EE.A.3

CCSS.Math.Content.6.EE.A.3 "Apply the properties of operations to generate equivalent expressions. For example, apply the distributive property to the expression $3(2 + x)$ to produce the equivalent expression $6 + 3x$..."

NAME _____

DATE _____

REWRITE IT

To distribute, multiply the factor outside parentheses by each term inside. To factor, divide each term by a common factor and place that factor outside parentheses. Combine like terms only when they have the same variable part.

WORKED EXAMPLE

Write an equivalent expression for $7(3 + n)$.

1. Distribute 7: $7(3 + n) = 7(3) + 7(n)$

2. Multiply: $7(3) + 7(n) = 21 + 7n$

Answer: $21 + 7n$

PRACTICE 6 problems

1 Write an equivalent expression: $4(5 + p)$.

ANSWER _____

2 Write an equivalent expression: $9(a + 2)$.

ANSWER _____

3 Factor out the greatest common factor: $16m + 20$.

ANSWER _____

4 Factor out the greatest common factor: $10x + 40y$.

ANSWER _____

5 Combine like terms: $b + b + b + b + b$.

ANSWER _____

6 Combine like terms: $6r + 4 + 9r$.

ANSWER _____

APPLY IT Show your work

- 1** The school basketball team prepares 4 fan kits. Each kit has 6 wristbands and w water bottles. Write an equivalent expression for the total number of items in all the kits.

WORK SPACE

ANSWER _____

- 2** The media club orders x posters for \$4 each and x sticker packs for \$6 each. Write a simplified expression for the total cost.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Simplify to an equivalent expression: $12(2x + 5) + 8x$.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write an equivalent expression: $4(5 + p)$.	$20 + 4p$
2	Write an equivalent expression: $9(a + 2)$.	$9a + 18$
3	Factor out the greatest common factor: $16m + 20$.	$4(4m + 5)$
4	Factor out the greatest common factor: $10x + 40y$.	$10(x + 4y)$
5	Combine like terms: $b + b + b + b + b$.	$5b$
6	Combine like terms: $6r + 4 + 9r$.	$15r + 4$

PART 2 • APPLY IT

1. **$24 + 4w$** Start with $4(6 + w)$. Distribute 4 to get $24 + 4w$.
2. **$10x$** The cost expression is $4x + 6x$. Combine the like terms to get $10x$.

CHALLENGE

 $32x + 60$

Accept equivalent expressions with terms or factors in a different order. For factoring items, accept only forms that factor out the greatest common factor.