LESSON MAKER PRO

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

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

WORK SPACE AND ANSWER

ANSWER KEY

Expression Remix

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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

1. **8x + 120 minutes** Distribute 8 to both parts of the expression. The team has 8x coding minutes and 120 testing minutes.
2. **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.