LESSON MAKER PRO

Expression Decoder

Turn math words into algebra and back again.

GRADE 6 · MA.6.AR.1.1

MA.6.AR.1.1 "Given a mathematical or real-world context, translate written descriptions into algebraic expressions and translate algebraic expressions into written descriptions."

NAME _____ DATE _____

MATCH WORDS AND SYMBOLS

An expression shows a math relationship without an equals sign. Look for operation words such as sum, difference, product, quotient, more than, and fewer than. Use parentheses when the words tell you to add or subtract first, then multiply or divide.

WORKED EXAMPLE

Write an expression for: 5 times the sum of x and 8.

1. Write the sum of x and 8: x + 8.
2. Multiply the entire sum by 5: 5(x + 8).

Answer: 5(x + 8)

PRACTICE 6 problems

1 Write an expression for: 12 more than x.

ANSWER _____

2 Write an expression for: 4 times x, decreased by 9.

ANSWER _____

3 Write 3(x + 6) in words.

ANSWER _____

4 Write an expression for: the quotient of 21 and x.

ANSWER _____

5 Write x/7 + 2 in words.

ANSWER _____

6 Write 13 - 2x in words.

ANSWER _____

APPLY IT Show your work

1 A game store sells x digital add-ons at $4 each. It also charges one $2 service fee. Write an expression for the total cost, in dollars.

WORK SPACE

ANSWER _____

2 After a student shares 3 photos with each of x friends, the expression 36 - 3x represents the number of photos left in an online album. Write a sentence explaining what 36 - 3x means.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Mina says that "the total of 7 and x, multiplied by 4" can be written as 7 + 4x. Is Mina correct? Explain and write the correct expression.

WORK SPACE AND ANSWER

ANSWER KEY

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Write an expression for: 12 more than x.	**x + 12**
2	Write an expression for: 4 times x, decreased by 9.	**4x - 9**
3	Write 3(x + 6) in words.	**3 times the sum of x and 6**
4	Write an expression for: the quotient of 21 and x.	**21/x**
5	Write x/7 + 2 in words.	**the quotient of x and 7, increased by 2**
6	Write 13 - 2x in words.	**13 minus 2 times x**

PART 2 · APPLY IT

1. **4x + 2** The add-ons cost 4x dollars. Add the one-time service fee of 2 dollars.
2. **It means the number of photos left after 3 photos are shared with each of x friends, starting with 36 photos.** The album starts with 36 photos. Sharing 3 photos with each of x friends means subtracting 3x photos.

CHALLENGE

No. The correct expression is 4(x + 7) because x and 7 are added before the total is multiplied by 4.

Accept equivalent forms, such as 12 + x for x + 12 and 4x + 28 for 4(x + 7). Accept clear written descriptions that correctly name the operations and order.