LESSON MAKER PRO

Expression Decoder

Turn math words into expressions and back again.

GRADE 5 · MA.5.AR.2.1

MA.5.AR.2.1 "Translate written real-world and mathematical descriptions into numerical expressions and numerical expressions into written mathematical descriptions."

NAME _____ DATE _____

MATCH THE MATH

Words such as sum, difference, product, and quotient tell you which operation to use. Phrases such as "the difference between" and "the sum of" show which numbers belong together, so use parentheses when needed. When you write words for an expression, name the operations and make the grouping clear.

WORKED EXAMPLE

Write a numerical expression for: 18 minus the product of 4 and 3.

1. The product of 4 and 3 is written as 4 × 3.
2. The phrase says to subtract that product from 18.
3. Use parentheses to keep the product together: 18 - (4 × 3).

Answer: 18 - (4 × 3)

PRACTICE 6 problems

1 Write a numerical expression for: the sum of 27 and 15, divided by 6.

ANSWER _____

2 Write a numerical expression for: 9 times the difference between 20 and 7.

ANSWER _____

3 Write a numerical expression for: the quotient of 56 and 8, plus 11.

ANSWER _____

4 Write a mathematical description for: (34 - 12) × 5

ANSWER _____

5 Write a mathematical description for: 72 / (9 + 7)

ANSWER _____

6 Write a mathematical description for: 6 × 14 - 10

ANSWER _____

APPLY IT Show your work

1 During a game tournament, Eli earns 16 points in each of 7 rounds. Then he loses 9 penalty points. Write a numerical expression for Eli's final score, then find the score.

WORK SPACE

ANSWER _____

2 At a school store, 48 stickers are shared equally among 6 prize bags. Each bag then gets 12 bonus stickers. Write a numerical expression for the number of stickers in one bag, then find the number.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Write a numerical expression for: the quotient of the product of 14 and 9 and the difference between 17 and 11. Then evaluate the expression.

WORK SPACE AND ANSWER

ANSWER KEY

Expression Decoder

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Write a numerical expression for: the sum of 27 and 15, divided by 6.	**(27 + 15) / 6**
2	Write a numerical expression for: 9 times the difference between 20 and 7.	**9 × (20 - 7)**
3	Write a numerical expression for: the quotient of 56 and 8, plus 11.	**56 / 8 + 11**
4	Write a mathematical description for: (34 - 12) × 5	**Five times the difference between 34 and 12.**
5	Write a mathematical description for: 72 / (9 + 7)	**72 divided by the sum of 9 and 7.**
6	Write a mathematical description for: 6 × 14 - 10	**The product of 6 and 14, minus 10.**

PART 2 · APPLY IT

1. **16 × 7 - 9 = 103** Multiply 16 by 7 to find the points earned. Subtract the 9 penalty points.
2. **48 / 6 + 12 = 20** Divide 48 stickers among 6 bags. Add 12 bonus stickers to each bag.

CHALLENGE

(14 × 9) / (17 - 11) = 21

Accept equivalent expressions that preserve the intended order and grouping. Accept equivalent written descriptions that correctly name each operation and grouping.