

Expression Decoder

Turn situations and symbols into clear math.

GRADE 6 • 6.PAR.6.3

6.PAR.6.3 "Write and read expressions that represent operations with numbers and variables in realistic situations."

NAME _____

DATE _____

BUILD AND READ EXPRESSIONS

An expression uses numbers, operations, and x to show a quantity. Match words such as add, subtract, times, and divided by to the correct operation. Use parentheses when an entire sum or difference must be multiplied or divided.

WORKED EXAMPLE

A game gives 9 points for each of x levels completed, then takes away 4 points. Write and read an expression for the score.

1. Each completed level gives 9 points, so write $9x$.
2. Take away the 4-point penalty: $9x - 4$.
3. Read the expression from left to right.

Answer: $9x - 4$; nine times x , minus four.

PRACTICE 6 problems

- 1** Write an expression for: 6 times x , increased by 11.

ANSWER _____

- 2** Read the expression $15 - 3x$ in words.

ANSWER _____

- 3** Write an expression for: x divided by 12, then increased by 5.

ANSWER _____

- 4** Read the expression $7(x + 2)$ in words.

ANSWER _____

- 5** Write an expression for: 14 plus x divided by 10.

ANSWER _____

- 6** Read the expression $13x + 16$ in words.

ANSWER _____

APPLY IT Show your work

- 1** A student club sells x stickers for \$3 each. The club pays an \$18 booth fee. Write and read an expression for the money left after the fee.

WORK SPACE

ANSWER _____

- 2** Your game account starts with 24 tokens. You earn 5 tokens for each of x quests, then spend 7 tokens. Write and read an expression for your token total.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

The art club packs x prints into each of 5 folders and adds 12 extra prints. It divides all the prints equally among 3 display tables. Write an expression for the number of prints on each table. Explain why $5x + 12/3$ is not correct.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write an expression for: 6 times x , increased by 11.	$6x + 11$
2	Read the expression $15 - 3x$ in words.	fifteen minus three times x
3	Write an expression for: x divided by 12, then increased by 5.	$x/12 + 5$
4	Read the expression $7(x + 2)$ in words.	seven times the sum of x and two
5	Write an expression for: 14 plus x divided by 10.	$14 + x/10$
6	Read the expression $13x + 16$ in words.	thirteen times x , plus sixteen

PART 2 • APPLY IT

1. **$3x - 18$; three times x , minus eighteen.** The club earns $3x$ dollars from sticker sales. Subtract the \$18 booth fee.
2. **$24 + 5x - 7$; twenty-four plus five times x , minus seven.** Start with 24 tokens, add $5x$ tokens earned from quests, and subtract 7 tokens spent.

CHALLENGE

$(5x + 12)/3$. The total number of prints, $5x + 12$, must be grouped before dividing all of it by 3.

Accept equivalent expressions that keep the same operations, such as $11 + 6x$ for $6x + 11$. For reading responses, accept clear equivalent wording that names the operations and any grouped sum.