MATHEMATICS · GRADES 7-9

Translating words into algebra

Difficulty level: Intermediate

Mathematics: Grades 7-9

This document was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

Overview of the concept

This is how you turn a story into maths, like turning a sentence about buying tickets into an expression, by spotting the key words that mean add, subtract, multiply, or divide. Words like total, difference, times, and each are clues, and each clue points to one operation. Once you have spotted the clues, the sentence becomes an expression you can work with. That is the first step in solving any story problem, because the maths cannot start until the words have been turned into symbols.



© 2026 Brett Robbins. All Rights Reserved.

Worked examples

EXAMPLE 1

Q Write "seven less than three times a number" as an algebraic expression.

SOLUTION

This is a translating words question, so the one rule to remember is: "less than" reverses the order, the number after "less than" comes first in the maths. Writing it straight across as it reads is the trap.

"Three times a number" is 3n, and "seven less than" that means take 7 away from it.

So the expression is 3n – 7, not 7 – 3n.

EXAMPLE 2

Q Write "the product of 6 and the sum of n and 2" as an algebraic expression.

SOLUTION

This is the same question type with a sum inside a product, so the one rule to remember is: the sum has to stay together inside brackets, or the multiplication will only hit the first part.

"The sum of n and 2" is n + 2, and "the product of 6 and" that sum means 6 times the whole thing.

So the expression is 6(n + 2), and 6n + 2 would be wrong.

© 2026 Brett Robbins. All Rights Reserved.

Practice questions

1 Write "eleven more than a number" as an algebraic expression. Use x for the number.

- **A** x + 11
- **B** 11 – x
- **C** 11x
- **D** x – 11

Understand It with Pulse | Flag a mistake

2 Which expression matches "twice a number decreased by four"? Use n for the number.

- **A** 2n + 4
- **B** 2n – 4
- **C** 4 – 2n

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

3 **Which expression matches "the quotient of a number and 5, increased by 3"? Use n for the number.**

- **A** $n \div 5 - 3$
- **B** $5 \div n + 3$
- **C** $n \div 5 + 3$

Understand It with Pulse | Flag a mistake

4 **Write "five more than twice a number is 15" as an equation. Use n for the number.**

- **A** $2n + 5 = 15$
- **B** $2n - 5 = 15$
- **C** $5n + 2 = 15$
- **D** $2(n + 5) = 15$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

5 Which expression matches "four less than x"?

- **A** $4 - x$
- **B** $x - 4$
- **C** $4x$

Understand It with Pulse | Flag a mistake

6 Write "seven times two more than a number is twenty-one" as an equation. Use n for the number.

- **A** $7(n + 2) = 21$
- **B** $7n + 2 = 21$
- **C** $7(n - 2) = 21$
- **D** $2(n + 7) = 21$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

7 The height of a window is 6 inches less than its width. Let w stand for the width. Which expression gives the height?

- A w – 6
- B w + 6
- C 6 – w

Understand It with Pulse | Flag a mistake

8 Which expression matches "twelve less than three times a number"? Use n for the number.

- A 3n + 12
- B 12 – 3n
- C 3n – 12

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

9 Sam says "six less than three times a number" is $6 - 3n$. Is he right?

- **A** Yes, $6 - 3n$
- **B** No, $6 - 3n$
- **C** No, $3n - 6$

Understand It with Pulse | Flag a mistake

10 Write "the sum of a number and twice the same number is 30" as an equation. Use n for the number.

- **A** $n + 2n = 30$
- **B** $2n - n = 30$
- **C** $n \times 2n = 30$
- **D** $n + 2 = 30$

Understand It with Pulse | Flag a mistake

© 2026 Brett Robbins. All Rights Reserved.

ANSWER KEY

1. x + 11

2. 2n – 4

3. n ÷ 5 + 3

4. 2n + 5 = 15

5. x – 4

6. 7(n + 2) = 21

7. w – 6

8. 3n – 12

9. No, 3n – 6

10. n + 2n = 30

© 2026 Brett Robbins. All Rights Reserved.