

Understanding Parts of Algebraic Expressions

What is an Algebraic Expression?

- A mathematical phrase using numbers, variables, and operations
- Contains no equal sign
- Examples:
- $3x + 2$
- $4y - 7$
- $2a + b + 5$

Terms in Expressions

- A term is a part of an expression separated by + or - signs
- In $3x + 2$, there are two terms: $3x$ and 2
- In $4y - 7 + 2y$, there are three terms: $4y$, -7 , and $2y$

Variables

- Letters that represent unknown numbers
- Common variables: x , y , a , b
- Example: In $3x + 2$
- x is the variable
- The value can change

Coefficients

- The number multiplied by a variable
- In $3x$, 3 is the coefficient
- In y , the coefficient is 1 (hidden)
- In $-4a$, -4 is the coefficient

Constants

- Numbers without variables
- In $3x + 2$, 2 is the constant
- In $y - 5$, -5 is the constant
- Some expressions might not have constants

Products and Factors

- Product: Result of multiplication
- Factors: Numbers being multiplied
- In $3x$:
- 3 and x are factors
- $3x$ is their product

Sum and Difference

- Sum: Result of addition
- Example: $3x + 2$ is a sum
- Difference: Result of subtraction
- Example: $4y - 7$ is a difference

Quotients

- Result of division
- Written as fractions
- Example: $x/4$ is a quotient
- Can be part of larger expressions: $x/4 + 2$

Practice Time!

In the expression $5x - 3 + y/2$:

- Terms: $5x$, -3 , $y/2$
- Variables: x , y
- Coefficients: 5 , $1/2$
- Constant: -3