Content, Coefficient and Powers

In an algebraic expression, each part has a special name. These names help us to understand and solve expressions better.

Constant

- A fixed number
- It does not change
- It has no variable
- **Example:** In 3x + 7, the constant is 7

Coefficient

- A number multiplied with a variable
- It shows how many times the variable is taken
- **Example:** In 5x, the coefficient is 5

Power (Exponent)

- Tells how many times the variable is multiplied by itself
- **Example:** In x^2, the power is 2, which means x × x

Examples with Solutions

Example

Expression: 4x

- Constant: None
- Coefficient: 4
- Power of x: 1
  - ✓ 4 is the coefficient, x has power 1

Example

Expression: $3x^2 + 5$

- Constant: 5
- Coefficient of x^2: 3
- Power of x: 2

✓ 5 is the constant, 3 is the coefficient of x^2

Example

Expression: $-7a^3$

- Constant: None
- Coefficient: –7
- Power of a: 3

–7 is the coefficient, a has power 3

Example

Expression: $\frac{x}{2} + 6$

- Constant: 6
- Coefficient of x: $\frac{1}{2}$
- Power of x: 1

Constant is 6, coefficient is $\frac{1}{2}$

Example

Expression: $-9y^4 + 4y - 2$

- Constant: –2
- Coefficient of y^4: –9
- Coefficient of y: 4
- Powers: y^4 has power 4, y has power 1

–9 and 4 are coefficients, –2 is constant

Summary Points

- A constant is a fixed number with no variable.
- A coefficient is the number in front of the variable.
- A power or exponent shows how many times a variable is used in multiplication.
- If no number is in front of a variable, the coefficient is 1.
- If no power is written, the power is 1.