

SKILL #08

CODE: ALG.1

Understanding Variables and Constants



Core Concept

Algebra is a branch of mathematics that uses letters and symbols to represent numbers and relationships.

These are called variables — they can change.

Key Concepts		
Term	Meaning	Example
Variable	A letter that represents an unknown number (x, y, a, b)	$5x - 7 \rightarrow x$ is a variable
Constant	A fixed number that doesn't change ($5, -3, \frac{1}{2}, \pi$)	$y + 9 \rightarrow 9$ is a constant
Expression	A combination of variables, constants, and operations. (no = sign)	$2x - 7 \rightarrow$ Expression
Coefficient	A number multiplied by a variable.	$1.5x - 9 \rightarrow 1.5$ is a coefficient

💡 If the mathematical expression has an $=$ sign, it's called an **Equation**.

Examples

a) $x + 3$

- $x \rightarrow$ variable
- $3 \rightarrow$ constant

b) $2y - 7$

- $2 \rightarrow$ coefficient
- $y \rightarrow$ variable
- $7 \rightarrow$ constant

Why We Need It:

Understanding variables helps you:

- Write and solve equations
- Model real-life problems
- Work with formulas in science, coding, and beyond!

Try it Your Self

- 1) Identify the variable and constant in $7 + y$.
- 2) What does the variable represent in $t + 5 = 12$?
- 3) Write an expression for "5 more than a number n ".

⚠ Common Mistakes to Avoid

✗ Thinking variables are always letters with one answer.

✗ Forgetting that coefficients are part of the variable term.

✗ Confusing constants with coefficients.

🔗 Resource Links

