

Basic Fraction

Basic Fraction Material

1. What is a Fraction?

A fraction shows a part of a whole.

It has two parts:

Numerator (top number): how many parts we have

Denominator (bottom number): how many equal parts the whole is divided into

2. Types of Fractions

Proper Fraction: numerator < denominator

Example: $\frac{2}{5}$

Improper Fraction: numerator \geq denominator

Example: $\frac{7}{4}$

Mixed Number: whole number + fraction

Example: $1\frac{3}{4}$

3. Equivalent Fractions

Fractions that look different but mean the **same value**.

Example: $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$

↪ Multiply or divide the numerator and denominator by the same number.

4. Simplifying Fractions

Reduce a fraction to its **lowest terms**.

Example: $\frac{6}{8} = \frac{3}{4}$

5. Comparing Fractions

Same denominator \rightarrow bigger numerator is larger

$\frac{3}{8} > \frac{1}{8}$

Same numerator \rightarrow smaller denominator is larger

$\frac{1}{4} > \frac{1}{6}$

6. Adding & Subtracting Fractions

Same denominator:

$$\frac{2}{7} + \frac{3}{7} = \frac{5}{7}$$

Different denominators:

1. Find a common denominator
2. Add or subtract numerators

Example:

$$\frac{1}{4} + \frac{1}{2} = \frac{1}{4} + \frac{2}{4} = \frac{3}{4}$$

7. Multiplying Fractions

Multiply straight across:

$$\frac{2}{3} \times \frac{4}{5} = \frac{8}{15}$$

8. Dividing Fractions

Multiply by the reciprocal (flip the second fraction):

$$\frac{3}{4} \div \frac{2}{5} = \frac{3}{4} \times \frac{5}{2} = \frac{15}{8}$$