Addition of Fractions

Understanding the Topic

- Addition of fractions means adding parts of the whole
- Fractions can be added only when they have the same denominator (like fractions)
- If fractions have different denominators (unlike fractions), we make them like by finding the LCM
- After making the denominators same, add the numerators and keep the denominator same
- If the result is an improper fraction, we can convert it into a mixed fraction

Examples with Solutions

Example:

Add $\frac{2}{5}$ and $\frac{1}{5}$

Denominators are same

Add numerators: 2 + 1 = 3

Answer: $\frac{3}{5}$

Example:

Add $\frac{1}{3}$ and $\frac{2}{3}$

Like fractions

1 + 2 = 3

$\frac{3}{3}$ = 1

Answer: 1

Example:

Add $\frac{1}{4}$ and $\frac{2}{5}$

Unlike fractions

LCM of 4 and 5 = 20

Convert: $\frac{1}{4} = \frac{5}{20}, \frac{2}{5} = \frac{8}{20}$

Add: 5 + 8 = 13

Answer: $\frac{13}{20}$

Example:

Add $\frac{3}{8}$ and $\frac{5}{8}$

Like fractions

3 + 5 = 8

$\frac{8}{8}$ = 1

Answer: 1

Example:

Add $\frac{1}{2}$ and $\frac{3}{4}$

Unlike fractions

LCM of 2 and 4 = 4

Convert: $\frac{1}{2} = \frac{2}{4}$

Add: 2 + 3 = 5

Answer: $\frac{5}{4} = 1\frac{1}{4}$ (mixed fraction)

Summary Points

- Add fractions with the same denominator directly
- For different denominators, convert them to like fractions using LCM
- Add the numerators and keep the same denominator
- Simplify or convert the answer into a mixed number if needed
- Practice helps in handling both like and unlike fractions with ease