

## Subtraction of Unlike Fractions

### Understanding the Topic

- Unlike fractions have different denominators.
- To subtract unlike fractions, we first make the denominators same.
- We do this by finding the LCM (Least Common Multiple) of the denominators.
- Then we convert the fractions into like fractions.
- After making them like, we subtract the numerators and keep the denominator same.
- Simplify the result if needed.

### Examples with Solutions

#### Example:

Subtract  $\frac{3}{4}$  *from*  $\frac{5}{6}$

LCM of 4 and 6 = 12

Convert:  $\frac{3}{4} = \frac{9}{12}, \frac{5}{6} = \frac{10}{12}$

Subtract:  $\frac{10}{12} - \frac{9}{12} = \frac{1}{12}$

Answer:  $\frac{1}{12}$

#### Example:

Subtract  $\frac{1}{2}$  *from*  $\frac{3}{5}$

LCM of 2 and 5 = 10

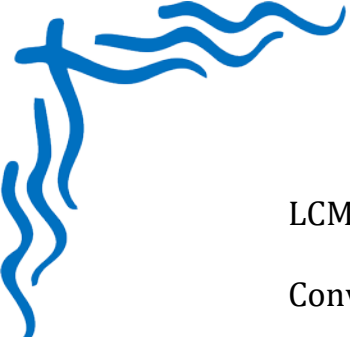
Convert:  $\frac{1}{2} = \frac{5}{10}, \frac{3}{5} = \frac{6}{10}$

Subtract:  $\frac{6}{10} - \frac{5}{10} = \frac{1}{10}$

Answer:  $\frac{1}{10}$

#### Example:

Subtract  $\frac{2}{3}$  *from*  $\frac{7}{8}$



LCM of 3 and 8 = 24

Convert:  $\frac{2}{3} = \frac{16}{24}, \frac{7}{8} = \frac{21}{24}$

Subtract:  $\frac{21}{24} - \frac{16}{24} = \frac{5}{24}$

**Answer:**  $\frac{5}{24}$

**Example:**

Subtract  $\frac{1}{5}$  *from*  $\frac{2}{3}$

LCM of 5 and 3 = 15

Convert:  $\frac{1}{5} = \frac{3}{15}, \frac{2}{3} = \frac{10}{15}$

Subtract:  $\frac{10}{15} - \frac{3}{15} = \frac{7}{15}$

**Answer:**  $\frac{7}{15}$

**Example:**

Subtract  $\frac{5}{6}$  *from*  $\frac{7}{10}$

LCM of 6 and 10 = 30

Convert:  $\frac{5}{6} = \frac{25}{30}, \frac{7}{10} = \frac{21}{30}$

Subtract:  $\frac{25}{30} - \frac{21}{30} = \frac{4}{30} = \frac{2}{15}$  (after simplification)

**Answer:**  $\frac{2}{15}$

### Summary Points

- Unlike fractions have different denominators and cannot be subtracted directly.
- Find the LCM of the denominators to make them like fractions.
- Convert both fractions with the same denominator.
- Subtract numerators and write the result over the common denominator.
- Simplify the final answer if possible.