

Add and Subtract Fractions

To add and subtract unlike fractions, first change them to equivalent fractions with the same denominator.

Find the sum of $\frac{1}{4} + \frac{3}{5}$

STEP 1: Find the LCD: Least Common Denominator. The LCD of 4 and 5 is 20.

So, the LCD of $\frac{1}{4}$ and $\frac{3}{5}$ is 20

STEP 2: Multiply to write equivalent fraction using the LCD

$$\frac{1}{4} \times \frac{5}{5} = \frac{5}{20}$$

$$\frac{3}{5} \times \frac{4}{4} = \frac{12}{20}$$

STEP 3: Add the numerators. Write the sum over the denominator.

$$\frac{5}{20} + \frac{12}{20} = \frac{17}{20}$$

Remember to keep the denominator the same

STEP 4: Write the answer as a fraction in simplest form or as a mixed number if the numerator is greater than the denominator

Follow the same steps to subtract unlike fractions.

Examples:**A- Find the sum or difference.**

$$1) \frac{4}{5} + \frac{3}{8}$$

$$\frac{4}{5} + \frac{3}{8} \quad LCD(5,8) = 40$$

$$= \frac{4 \times 8}{5 \times 8} + \frac{3 \times 5}{8 \times 5}$$

$$= \frac{32}{40} + \frac{15}{40}$$

$$= \frac{32 + 15}{40}$$

$$= \frac{47}{40} \quad 47 \div 40 = 1 \text{ r } 7$$

$$= 1 \frac{7}{40}$$

$$2) \frac{12}{5} - \frac{5}{7}$$

$$\frac{12}{5} - \frac{5}{7} \quad LCD(5,7) = 35$$

$$= \frac{12 \times 7}{5 \times 7} - \frac{5 \times 5}{7 \times 5}$$

$$= \frac{84}{35} - \frac{25}{35}$$

$$= \frac{84 - 25}{35}$$

$$= \frac{59}{35} \quad 59 \div 35 = 1 \text{ r } 24$$

$$= 1 \frac{24}{35}$$