

1. Find $\frac{3}{7} + \frac{2}{7}$

2. Find $\frac{5}{8} - \frac{4}{8}$

3. Find $\frac{2}{5} + \frac{1}{4}$.

4. Find $\frac{5}{12} + \left(-\frac{3}{8}\right)$

5. Find $\frac{2}{9} - \frac{11}{18}$

6. Find $\frac{4}{5} + \frac{2}{15}$

7. Find $\frac{2}{3} + \frac{1}{6} + \frac{7}{12}$.

8. Find $\frac{5}{6} + \frac{7}{9}$.

9. Find $\frac{5}{6} - \frac{1}{4}$.

10. Find $\frac{1}{5} - \frac{1}{6}$.

KEYS

Remember

- **Adding and subtracting fractions with the same denominator**
You can add and subtract like fractions easily - simply add or subtract the numerators and write the sum over the common denominator.
- **Adding and subtracting fractions with different denominator**
Before you can add or subtract fractions with different denominators, you must first find equivalent fractions with the same denominator, like this:
 - Find the smallest multiple (LCM) of both numbers.
 - Rewrite the fractions as equivalent fractions with the LCM as the denominator.

1. Find $\frac{3}{7} + \frac{2}{7}$.

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

2. Find $\frac{5}{8} - \frac{4}{8}$.

$$\frac{5}{8} - \frac{4}{8} = \frac{5-4}{8} = \frac{1}{8}$$

3. Find $\frac{2}{5} + \frac{1}{4}$.

$$\frac{2}{5} + \frac{1}{4} = \frac{2}{5} \cdot \frac{4}{4} + \frac{1}{4} \cdot \frac{5}{5}$$

Use $4 \cdot 5$ or 20 as the common denominator.

$$= \frac{8}{20} + \frac{5}{20}$$

Rename each fraction with the common denominator.

$$= \frac{13}{20}$$

Add the numerators.

4. Find $\frac{5}{12} + \left(-\frac{3}{8}\right)$

$$\frac{5}{12} + \left(-\frac{3}{8}\right) = \frac{5}{12} \cdot \frac{2}{2} + \left(-\frac{3}{8}\right) \cdot \frac{3}{3}$$

The LCD of 12 and 8 is 24.

$$= \frac{10}{24} + \left(\frac{-9}{24}\right)$$

Rename each fraction with the LCD.

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

Add.

5. Find $\frac{2}{9} - \frac{11}{18}$

$$\frac{2}{9} - \frac{11}{18} = \frac{2}{9} \cdot \frac{2}{2} - \frac{11}{18}$$

The LCD is 18.

$$= \frac{4}{18} - \frac{11}{18}$$

Rename using the LCD.

$$= -\frac{7}{18}$$

Subtract.

6. Find $\frac{4}{5} + \frac{2}{15}$

The LCM of 5 and 15 is 15. Therefore,

$$\frac{4}{5} + \frac{2}{15} = \frac{12+2}{15} = \frac{14}{15}$$

7. Find $\frac{2}{3} + \frac{1}{6} + \frac{7}{12}$.

The LCM of 3, 6, and 12 is 12. Therefore,

$$\frac{2}{3} + \frac{1}{6} + \frac{7}{12} = \frac{8+2+7}{12}$$

$$= \frac{17}{12}$$

$$= 1\frac{5}{12}$$

8. Find $\frac{5}{6} + \frac{7}{9}$.

The LCM of 6 and 9 is 18. Therefore,

$$\begin{aligned}\frac{5}{6} + \frac{7}{9} &= \frac{15+14}{18} \\ &= \frac{29}{18} \\ &= 1\frac{11}{18}\end{aligned}$$

9. Find $\frac{5}{6} - \frac{1}{4}$.

The LCM of 6 and 4 is 12. Therefore,

$$\begin{aligned}\frac{5}{6} - \frac{1}{4} &= \frac{10-3}{12} \\ &= \frac{7}{12}\end{aligned}$$

10. Find $\frac{1}{5} - \frac{1}{6}$.

The LCM of 5 and 6 is 30. Therefore,

$$\begin{aligned}\frac{1}{5} - \frac{1}{6} &= \frac{6-5}{30} \\ &= \frac{1}{30}\end{aligned}$$