Adding Fractions

Adding fractions can be easy when you have common denominators.

$\frac{x}{y}$ ⟵ The number on the top is known as the "numerator."

$\frac{x}{y}$ ⟵ The number on the bottom is known as the "denominator."

Example: $\frac{2}{8} + \frac{3}{8} = ?$

The denominator in both numbers is 8. All we have to add is the numerators.

$$\frac{2}{8} + \frac{3}{8} = \frac{2+3}{8} = \frac{5}{8}$$

For each problem below, follow the steps used in the example to find your solution.
Be sure to reduce your fraction to its lowest terms.

1) $\frac{4}{5} + \frac{1}{5} = ?$

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

2) $\frac{10}{15} + \frac{12}{15} = ?$

$$\frac{10+12}{15} = \frac{22}{15} = 1\frac{7}{15}$$

3) $\frac{6}{24} + \frac{9}{24} = ?$

$$\frac{6+9}{24} = \frac{15}{24} = \frac{5}{8}$$

4) $\frac{11}{11} + \frac{11}{11} = ?$

$$\frac{11+11}{11} = \frac{22}{11} = 2$$

5) $\frac{55}{100} + \frac{23}{100} = ?$

$$\frac{55+23}{100} = \frac{78}{100} = \frac{39}{50}$$

6) $\frac{76}{250} + \frac{43}{250} = ?$

$$\frac{76+43}{250} = \frac{119}{250}$$

7) $\frac{13}{50} + \frac{14}{50} = ?$

$$\frac{13+14}{50} = \frac{27}{50}$$

8) $\frac{90}{500} + \frac{90}{500} = ?$

$$\frac{90+90}{500} = \frac{180}{500} = \frac{9}{25}$$

Adding Fractions

Adding fractions with unlike denominators may seem difficult at first, but once you learn all about common denominators, you will realize how easy they really are.

-If you want to add two fractions together, both fractions must have the same or "common" denominator.
-A common denominator is a shared multiple of the denominators in two or more fractions.

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

-The first step in solving this equation is to find the common denominator.
-3 is a multiple of 6; 3 x 2 = 6. We have found our common denominator, which is 6.
-If we multiply the denominator by 2, we must multiply the numerator by 2 as well.
-Our new equation and result will look like this:

$$\begin{matrix} 2x \\ 2x \end{matrix}\frac{2}{3} + \frac{1}{6} = \frac{4}{6} + \frac{1}{6} = \frac{5}{6}$$

For each problem below, follow the steps used in the example to find your solution. Be sure to reduce your fraction to its lowest terms.

1) $\frac{1}{3} + \frac{2}{5} = ?$ $\begin{matrix} 5x\ \frac{1}{3} + \frac{2}{5}\ x3 \\ 5x\ 3 \quad\quad 5\ x3 \end{matrix}$

$\frac{5}{15} + \frac{6}{15} = \frac{11}{15}$

2) $\frac{1}{9} + \frac{4}{7} = ?$ $\begin{matrix} 7x\ \frac{1}{9} + \frac{4}{7}\ x9 \\ 7x\ 9 \quad\quad 7\ x9 \end{matrix}$

$\frac{7}{63} + \frac{36}{63} = \frac{43}{63}$

3) $\frac{1}{4} + \frac{3}{8} = ?$ $\begin{matrix} 2x\ \frac{1}{4} + \frac{3}{8} \\ 2x\ 4 \quad\quad 8 \end{matrix}$

$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

4) $\frac{2}{7} + \frac{3}{5} = ?$ $\begin{matrix} 5x\ \frac{2}{7} + \frac{3}{5}\ x7 \\ 5x\ 7 \quad\quad 5\ x7 \end{matrix}$

$\frac{10}{35} + \frac{21}{35} = \frac{31}{35}$

5) $\frac{5}{6} + \frac{2}{5} = ?$ $\begin{matrix} 5x\ \frac{5}{6} + \frac{2}{5}\ x6 \\ 5x\ 6 \quad\quad 5\ x6 \end{matrix}$

$\frac{25}{30} + \frac{12}{30} = \frac{37}{30} = 1\frac{7}{30}$

6) $\frac{3}{8} + \frac{2}{9} = ?$ $\begin{matrix} 9x\ \frac{3}{8} + \frac{2}{9}\ x8 \\ 9x\ 8 \quad\quad 9\ x8 \end{matrix}$

$\frac{27}{72} + \frac{16}{72} = \frac{43}{72}$

7) $\frac{1}{2} + \frac{3}{4} = ?$ $\begin{matrix} 2x\ \frac{1}{2} + \frac{3}{4} \\ 2x\ 2 \quad\quad 4 \end{matrix}$

$\frac{2}{4} + \frac{3}{4} = \frac{5}{4} = 1\frac{1}{4}$

8) $\frac{4}{8} + \frac{1}{2} = ?$ $\frac{4}{8} + \frac{1}{2}\ x4$ $\quad 8 \quad\quad 2\ x4$

$\frac{4}{8} + \frac{4}{8} = \frac{8}{8} = 1$