

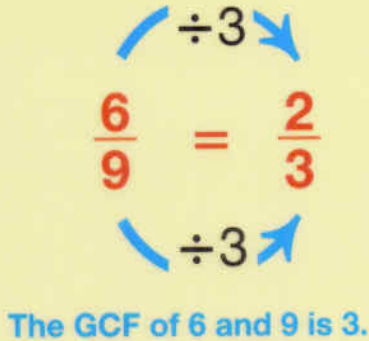
To write the improper fraction $\frac{20}{6}$ as a mixed number, follow these steps.

Step 1	Step 2
<p>Divide the numerator by the denominator.</p> $\begin{array}{r} 3 \\ 6 \overline{)20} \\ \underline{-18} \\ 2 \end{array}$	<p>Write the remainder as a fraction in simplest form.</p> $\begin{array}{r} 3 \\ 6 \overline{)20} \\ \underline{-18} \\ 2 \end{array} \rightarrow 3\frac{2}{6} \text{ or } 3\frac{1}{3}$

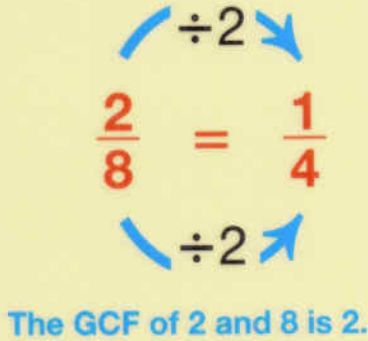
To write the mixed number $4\frac{2}{3}$ as an improper fraction, follow these steps.

Step 1	Step 2
<p>First multiply the whole number by the denominator and add the numerator. Then write this sum over the denominator.</p> $4\frac{2}{3} = \frac{(4 \times 3) + 2}{3}$	<p>Simplify.</p> $\frac{(4 \times 3) + 2}{3} = \frac{12 + 2}{3} \text{ or } \frac{14}{3}$

To add $\frac{5}{9}$ and $\frac{1}{9}$, follow these steps.

Step 1	Step 2
<p>Add the numerators. Write the sum over the like denominator.</p> $\frac{5}{9} + \frac{1}{9} = \frac{5 + 1}{9} \text{ or } \frac{6}{9}$	<p>Simplify the sum.</p>  <p>The GCF of 6 and 9 is 3.</p>

To subtract $\frac{1}{8}$ from $\frac{3}{8}$, follow these steps.

Step 1	Step 2
<p>Subtract the numerators. Write the difference over the like denominator.</p> $\frac{3}{8} - \frac{1}{8} = \frac{3 - 1}{8} \text{ or } \frac{2}{8}$	<p>Simplify the sum.</p>  <p>The GCF of 2 and 8 is 2.</p>

To add $\frac{7}{9}$ and $\frac{2}{3}$, follow these steps.

Step 1	Step 2	Step 3
<p>Find the LCD.</p> $\begin{array}{r} \frac{7}{9} \\ + \frac{2}{3} \\ \hline \end{array}$ <p> $9 = 3 \times 3$ $3 = 3 \times 1$ LCD: $3 \times 3 \times 1 = 9$ </p>	<p>Rename each fraction. Use the LCD.</p> $\begin{array}{r} \frac{7}{9} \rightarrow \frac{7}{9} \\ + \frac{2}{3} \rightarrow + \frac{6}{9} \\ \hline \end{array}$	<p>Add and simplify if necessary.</p> $\begin{array}{r} \frac{7}{9} \\ + \frac{6}{9} \\ \hline \frac{13}{9} = 1\frac{4}{9} \end{array}$

To subtract $\frac{1}{3}$ from $\frac{4}{5}$, follow these steps.

Step 1	Step 2	Step 3
<p>Find the LCD.</p> $\begin{array}{r} \frac{4}{5} \\ - \frac{1}{3} \\ \hline \end{array}$ <p> $5 = 5 \times 1$ $3 = 3 \times 1$ LCD: $5 \times 3 \times 1 = 15$ </p>	<p>Rename each fraction. Use the LCD.</p> $\begin{array}{r} \frac{4}{5} \rightarrow \frac{12}{15} \\ - \frac{1}{3} \rightarrow - \frac{5}{15} \\ \hline \end{array}$	<p>Subtract and simplify if necessary.</p> $\begin{array}{r} \frac{12}{15} \\ - \frac{5}{15} \\ \hline \frac{7}{15} \end{array}$ <p>The GCF of 7 and 15 is 1, so you do not need to simplify.</p>

To add $3\frac{3}{4}$ and $2\frac{2}{5}$, follow these steps.

Step 1	Step 2	Step 3
<p>Rename each fraction by finding the LCD if necessary.</p> $\begin{array}{r} 3\frac{3}{4} \rightarrow 3\frac{15}{20} \\ + 2\frac{2}{5} \rightarrow + 2\frac{8}{20} \\ \hline \end{array}$	<p>Add the fractions. Then add the whole numbers.</p> $\begin{array}{r} 3\frac{15}{20} \\ + 2\frac{8}{20} \\ \hline 5\frac{23}{20} \end{array}$	<p>Add and simplify if necessary.</p> $5\frac{23}{20}$ $\begin{array}{r} 1 \\ 20 \overline{)23} \\ \underline{-20} \\ 3 \end{array} \rightarrow 1\frac{3}{20}$ $5\frac{23}{20} = 5 + 1\frac{3}{20}$ <p>or $6\frac{3}{20}$</p>

To subtract $3\frac{2}{5}$ from $7\frac{1}{6}$, follow these steps.

Step 1	Step 2	Step 3
<p>Rename each fraction by finding the LCD if necessary.</p> $\begin{array}{r} 7\frac{1}{6} \rightarrow 7\frac{5}{30} \\ - 3\frac{2}{5} \rightarrow - 3\frac{12}{30} \\ \hline \end{array}$	<p>Rename if necessary to subtract.</p> $\begin{array}{r} 7\frac{5}{30} \rightarrow 6\frac{35}{30} \\ - 3\frac{12}{30} \rightarrow - 3\frac{12}{30} \\ \hline \end{array}$	<p>Subtract and simplify if necessary.</p> $\begin{array}{r} 6\frac{35}{30} \\ - 3\frac{12}{30} \\ \hline 3\frac{23}{30} \end{array}$

To multiply $2\frac{2}{9}$ and $2\frac{4}{7}$, follow these steps.

Step 1	Step 2	Step 3
<p>Change the mixed numbers to improper fractions if necessary.</p> $2\frac{2}{9} = \frac{2 \times 9 + 2}{9} = \frac{20}{9}$ $2\frac{4}{7} = \frac{2 \times 7 + 4}{7} = \frac{18}{7}$ $2\frac{2}{9} \times 2\frac{4}{7} =$ $\frac{20}{9} \times \frac{18}{7}$	<p>Simplify if possible by using the GCF.</p> $\frac{20}{\cancel{9}^1} \times \frac{\cancel{18}^2}{7}$ <p>The GCF of 9 and 18 is 9.</p>	<p>Multiply numerators. Multiply denominators. Simplify if necessary.</p> $\frac{20}{1} \times \frac{2}{7} =$ $\frac{40}{7} \text{ or } 5\frac{5}{7}$

Other Examples

1 $\frac{4}{5} \times \frac{7}{8}$

The GCF of 4 and 8 is 4.

$$\frac{4}{5} \times \frac{7}{8} = \frac{\cancel{4}^1}{5} \times \frac{7}{\cancel{8}_2}$$

$$= \frac{7}{10}$$

2 $2\frac{1}{3} \times 6$

The GCF of 3 and 6 is 3.

$$2\frac{1}{3} \times 6 = \frac{7}{\cancel{3}_1} \times \frac{\cancel{6}^2}{1}$$

$$= \frac{14}{1} \text{ or } 14$$

To divide $3\frac{1}{5}$ by $1\frac{1}{3}$, follow these steps.

Step 1	Step 2	Step 3
<p>Change the mixed numbers to improper fractions if necessary.</p> $3\frac{1}{5} = \frac{5 \times 3 + 1}{5} = \frac{16}{5}$ $1\frac{1}{3} = \frac{3 \times 1 + 1}{3} = \frac{4}{3}$ $3\frac{1}{5} \div 1\frac{1}{3} =$ $\frac{16}{5} \div \frac{4}{3}$	<p>Change to multiplication by using the reciprocal of the divisor.</p> $3\frac{1}{5} \div 1\frac{1}{3}$ $= \frac{16}{5} \div \frac{4}{3}$ $= \frac{16}{5} \times \frac{3}{4}$	<p>Multiply and simplify if necessary.</p> $3\frac{1}{5} \div 1\frac{1}{3}$ $= \frac{16}{5} \div \frac{4}{3}$ $= \frac{\cancel{4}^{4} 16}{5} \times \frac{3}{\cancel{4}_1}$ $= \frac{12}{5} \text{ or } 2\frac{2}{5}$

Other Examples

1 $\frac{5}{9} \div \frac{2}{3}$

$$\frac{5}{9} \div \frac{2}{3} = \frac{5}{\cancel{9}^3} \times \frac{\cancel{3}^1}{2}$$

$$= \frac{5}{6}$$

2 $6 \div \frac{3}{10}$

$$6 \div \frac{3}{10} = \frac{\cancel{6}^2}{1} \times \frac{10}{\cancel{3}_1}$$

$$= \frac{20}{1} \text{ or } 20$$