Fractions

How do I add or subtract fractions with different denominators?

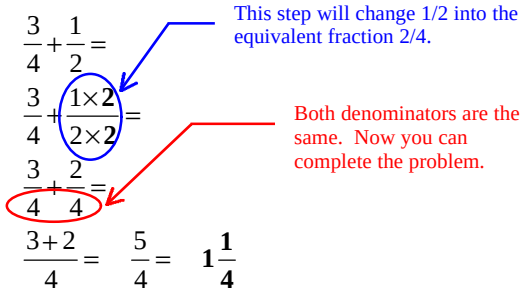
Since you cannot add or subtract fractions unless they have the same (common) denominators, you will have to rewrite one or both of the fractions.

Example

Note how the denominators are not the same in this problem: $\frac{3}{4}+\frac{1}{2}=?$

Your first job is to *rewrite* one or both fractions so they have the same denominator.

In this example, go with a common denominator of 4. That means you will have to do a little work on the fraction $\frac{1}{2}$.

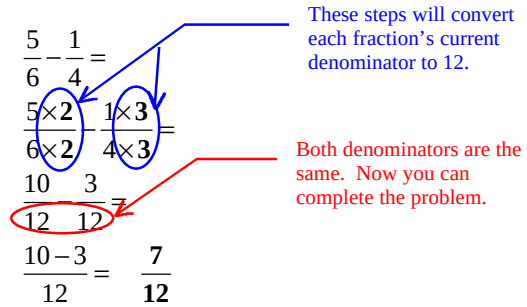


$$\frac{3}{4}+\frac{1}{2}=$$
$$\frac{3}{4}+\frac{1\times\mathbf{2}}{2\times\mathbf{2}}=$$
$$\frac{3}{4}+\frac{2}{4}=$$
$$\frac{3+2}{4}=\quad\frac{5}{4}=\quad\mathbf{1\frac{1}{4}}$$

Example

$\frac{5}{6}-\frac{1}{4}=?$

A good choice for a common denominator is 24.
An even better choice, since it is the *smallest* common denominator, is *12*.



$$\frac{5}{6}-\frac{1}{4}=$$
$$\frac{5\times\mathbf{2}}{6\times\mathbf{2}}-\frac{1\times\mathbf{3}}{4\times\mathbf{3}}=$$
$$\frac{10}{12}-\frac{3}{12}=$$
$$\frac{10-3}{12}=\quad\mathbf{\frac{7}{12}}$$