

Adding fractions

If the fractions have the same denominator...

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

Add the numerators.
Keep the denominators the same.



If the fractions have different denominators...

$$\frac{1}{3} + \frac{2}{5} = \frac{11}{15}$$

Convert the fractions so that they have the same denominator.

First, find the **lowest common multiple** of both denominators.

Multiples of 3: 3 6 9 12 15

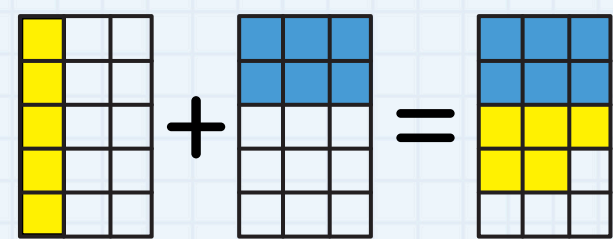
Multiples of 5: 5 10 15

Convert the fractions so that the denominators are **both** the lowest common multiple.

$$\frac{1}{3} = \frac{5}{15} \quad \frac{2}{5} = \frac{6}{15}$$

Add the numerators.
Keep the denominators the same.

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



Subtracting fractions

If the fractions have the same denominator...

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

Subtract the numerators.
Keep the denominators the same.



If the fractions have different denominators...

Convert the fractions so that they have the same denominator.

$$\frac{2}{3} - \frac{1}{4} = \frac{5}{12}$$

First, find the **lowest common multiple** of both denominators.

Multiples of 3: 3 6 9 12

Multiples of 4: 4 8 12

Convert the fractions so that the denominators are both the lowest common multiple.

A diagram showing the conversion of two fractions to have a common denominator of 12. For the first fraction, $\frac{2}{3}$, an arrow labeled 'x 4' points from the denominator 3 to 12, and another arrow labeled 'x 4' points from the numerator 2 to 8, resulting in $\frac{8}{12}$. For the second fraction, $\frac{1}{4}$, an arrow labeled 'x 3' points from the denominator 4 to 12, and another arrow labeled 'x 3' points from the numerator 1 to 3, resulting in $\frac{3}{12}$.

Subtract the numerators.
Keep the denominators the same.

$$\frac{8}{12} - \frac{3}{12} = \frac{5}{12}$$

