

Fractions

Compare fractions

- To compare fractions
- the denominators must be the same

$$\frac{2}{3} \text{ and } \frac{5}{6} \longrightarrow \text{😬}$$

$$\downarrow$$

$$\frac{4}{6} \text{ and } \frac{5}{6} \longrightarrow \text{😄}$$

SO $\frac{5}{6}$ is bigger than $\frac{2}{3}$

To add and subtract fractions when the denominators are the same

$$\frac{5}{8} + \frac{1}{8} = \frac{6}{8}$$

Do not add the denominators

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

Do not subtract the denominators

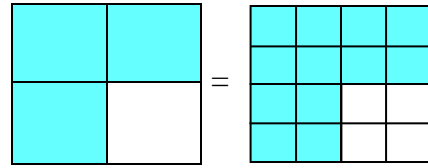
To add/subtract fractions (cont) when the denominators are different

$$\frac{3}{8} + \frac{1}{4} = \frac{3}{8} + \frac{2}{8} = \frac{5}{8}$$

Multiply to make the denominators the same

Equivalent fractions

These fractions are the same but can be drawn and written in different ways:



$$\frac{3}{4} = \frac{12}{16}$$

$$\frac{3^{(x4)}}{4^{(x4)}} = \frac{12}{16}$$

Fractions can also be divided to make the fraction look simpler - this is called CANCELLING:

$$\frac{12^{(\div 4)}}{16^{(\div 4)}} = \frac{3}{4}$$

Mixed & improper fractions

- An improper fraction is top heavy & can be changed into a mixed number

$\frac{3}{2}$ can be shown in a diagram

$$\frac{3}{2} = 1\frac{1}{2}$$

Improper fraction Mixed number

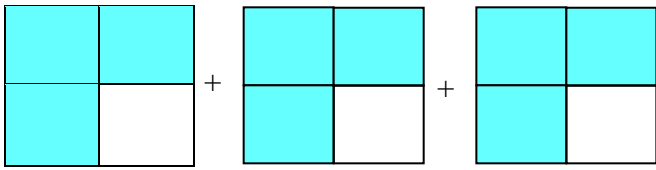
- A mixed number can be changed back into an improper fraction

$$1\frac{1}{2} = \frac{3}{2}$$

$$2\frac{3}{4} = \frac{11}{4}$$

Multiply fractions

Multiplication is the same as repeated addition:



$$\frac{3}{4} + \frac{3}{4} + \frac{3}{4}$$

$$\frac{3}{4} \times 3 = \frac{3}{4} + \frac{3}{4} + \frac{3}{4} = \frac{9}{4} = 2\frac{1}{4}$$

OR

$$\frac{3}{4} \times 3 = \frac{9}{4} = 2\frac{1}{4}$$

Multiply the numerator by the whole number; do not change the denominator.