Aim

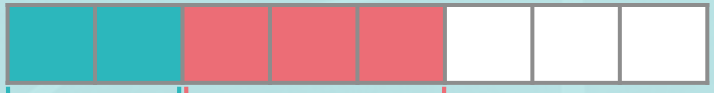
- Add and subtract fractions with the same denominator and denominators that are multiples of the same number.

Add 3 or More Fractions | **Diving**

1) Ffion is adding 3 fractions together. Here are her workings.

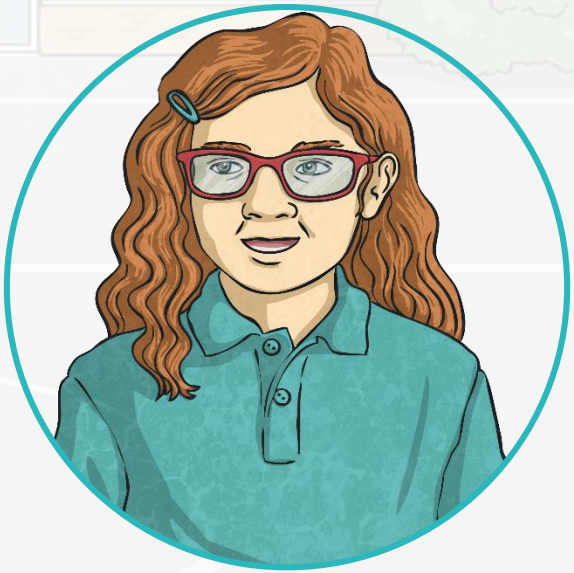
$\frac{1}{4} + \frac{3}{8} + \frac{2}{16} =$

$\frac{1}{4}$



$\frac{2}{8}$ $\frac{3}{8}$

$\frac{4}{16}$ $\frac{6}{16}$ $\frac{2}{16}$



$\frac{4}{16} + \frac{6}{16} + \frac{2}{16} = \frac{12}{16}$

This is the same as $\frac{1}{4} + \frac{3}{8} + \frac{2}{16} = \frac{12}{16}$.

Add 3 or More Fractions

Diving

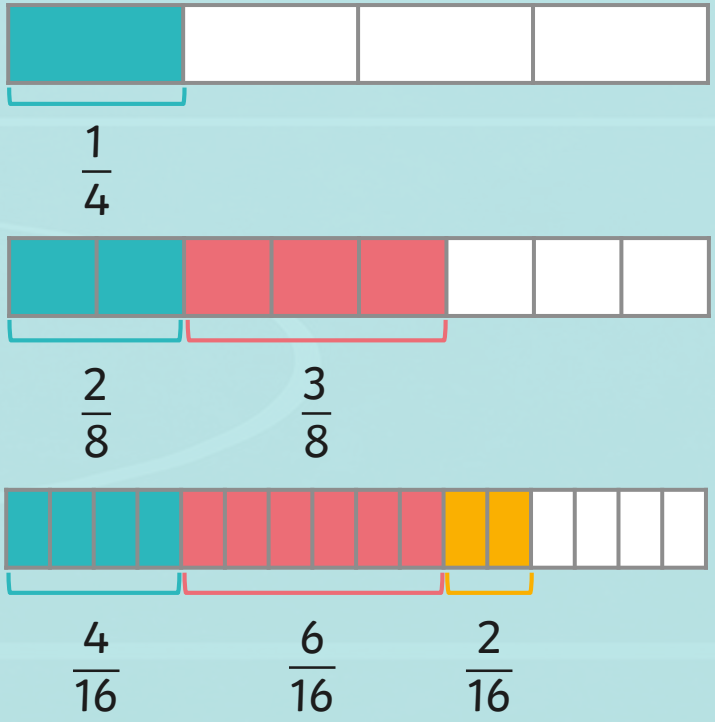
1) Use Ffion's method to add the following fractions:

a) $\frac{1}{2} + \frac{1}{4} + \frac{3}{16} =$

b) $\frac{1}{3} + \frac{2}{6} + \frac{1}{12} =$

c) $\frac{1}{8} + \frac{1}{2} + \frac{1}{4} =$

$\frac{1}{4} + \frac{3}{8} + \frac{2}{16} = \frac{12}{16}$



Add 3 or More Fractions

Diving

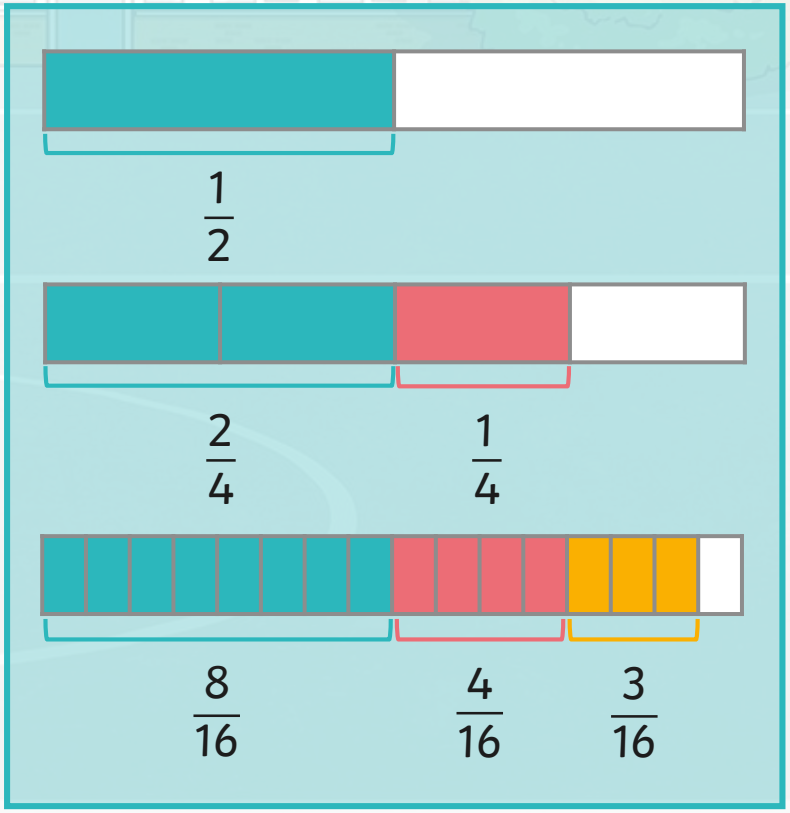
1) Use Ffion's method to add the following fractions:

a) $\frac{1}{2} + \frac{1}{4} + \frac{3}{16} =$

$\frac{8}{16} + \frac{4}{16} + \frac{3}{16} = \frac{15}{16}$

b) $\frac{1}{3} + \frac{2}{6} + \frac{1}{12} =$

c) $\frac{1}{8} + \frac{1}{2} + \frac{1}{4} =$



Add 3 or More Fractions

Diving

1) Use Ffion's method to add the following fractions:

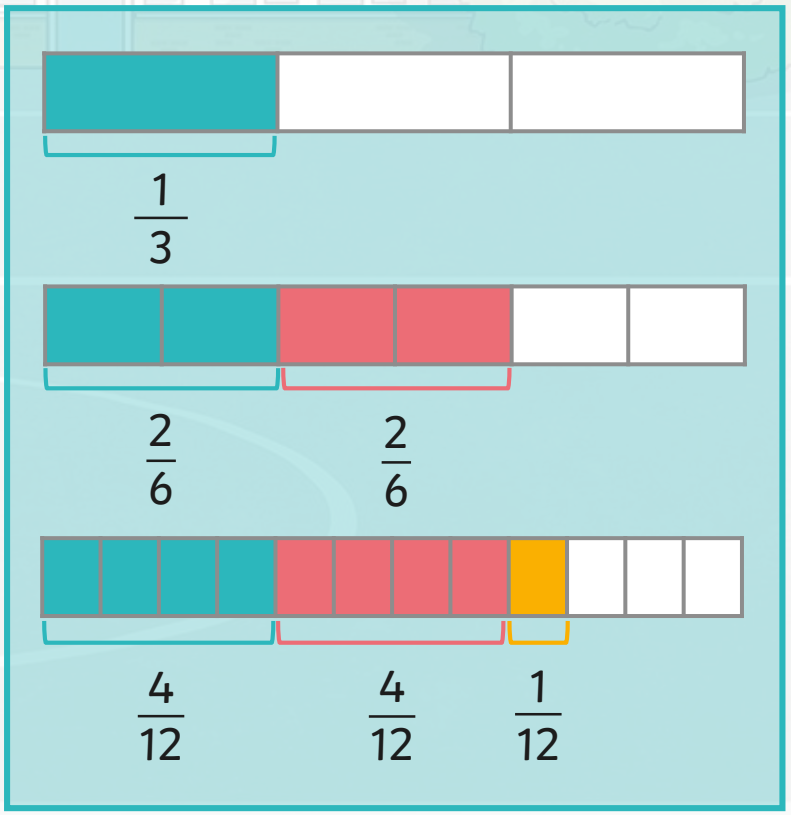
a) $\frac{1}{2} + \frac{1}{4} + \frac{3}{16} =$

$\frac{8}{16} + \frac{4}{16} + \frac{3}{16} = \frac{15}{16}$

b) $\frac{1}{3} + \frac{2}{6} + \frac{1}{12} =$

$\frac{4}{12} + \frac{4}{12} + \frac{1}{12} = \frac{9}{12}$

c) $\frac{1}{8} + \frac{1}{2} + \frac{1}{4} =$



Add 3 or More Fractions | Diving

1) Use Ffion's method to add the following fractions:

a) $\frac{1}{2} + \frac{1}{4} + \frac{3}{16} =$

$\frac{8}{16} + \frac{4}{16} + \frac{3}{16} = \frac{15}{16}$

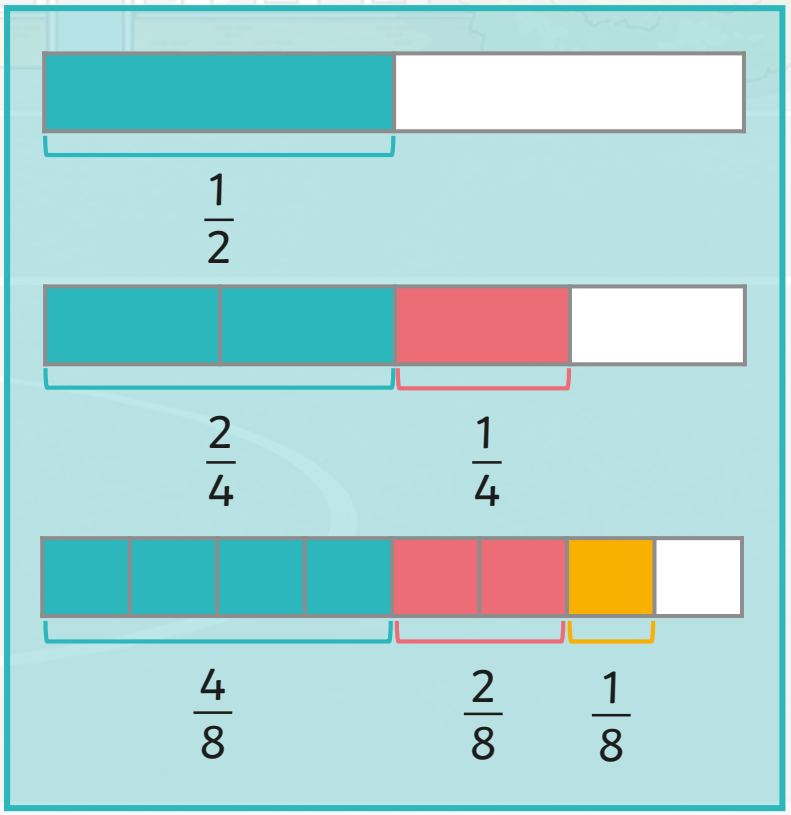
b) $\frac{1}{3} + \frac{2}{6} + \frac{1}{12} =$

$\frac{4}{12} + \frac{4}{12} + \frac{1}{12} = \frac{9}{12}$

c) $\frac{1}{8} + \frac{1}{2} + \frac{1}{4} =$

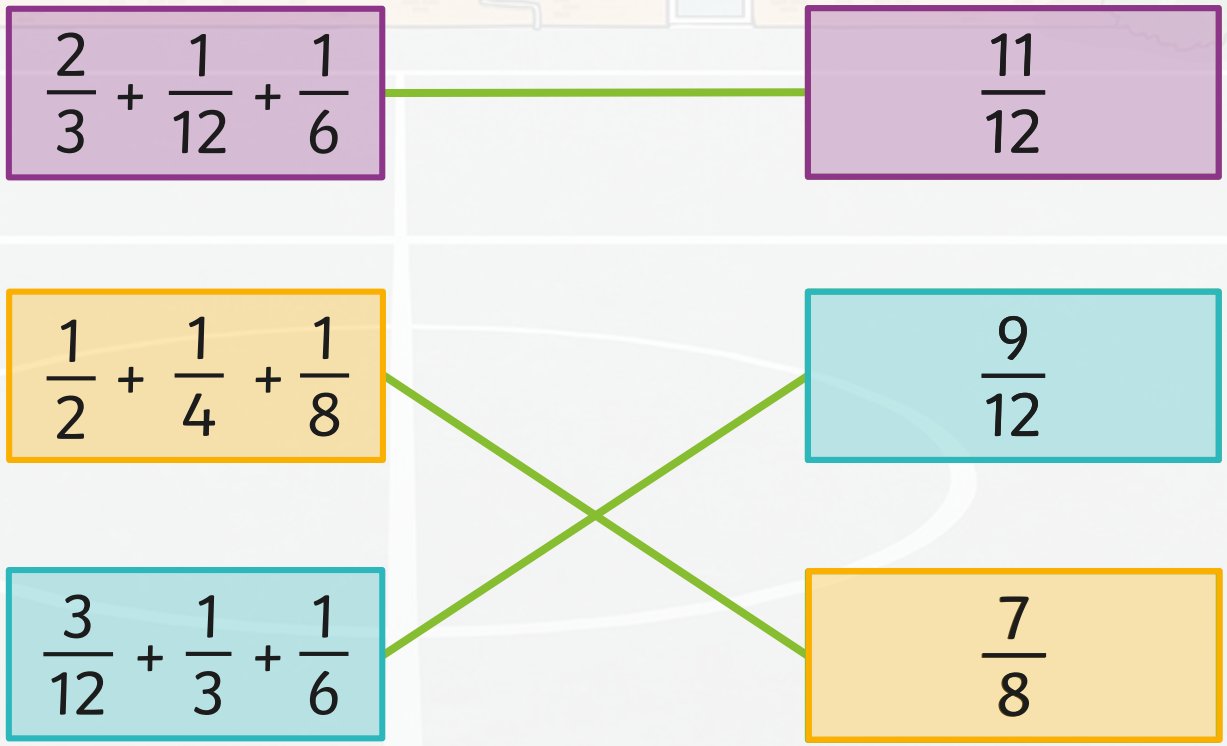
$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} =$

$\frac{4}{8} + \frac{2}{8} + \frac{1}{8} = \frac{7}{8}$



Add 3 or More Fractions | **Diving**

2) Match the calculation to the correct answer:



Add 3 or More Fractions

Deeper

You can add these fractions by finding the common denominator.

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

The common denominator is 15 as both 5 and 3 are multiples of 15.

$$\frac{6}{15} + \frac{5}{15} + \frac{2}{15} = \frac{13}{15}$$

Add 3 or More Fractions

Deeper

True or false? Prove it!

If false, what mistakes do you think were made?

$\frac{1}{8} + \frac{1}{4} + \frac{3}{16} = \frac{9}{16}$ — **True**

$\frac{1}{2} + \frac{1}{10} + \frac{2}{5} = \frac{4}{17}$ — **False** $\frac{5}{10} + \frac{1}{10} + \frac{4}{10} = \frac{10}{10}$

$\frac{1}{3} + \frac{1}{6} + \frac{1}{12} = \frac{7}{12}$ — **True**

$\frac{1}{6} + \frac{1}{12} + \frac{1}{4} = \frac{3}{12}$ — **False** $\frac{2}{12} + \frac{1}{12} + \frac{3}{12} = \frac{6}{12}$

Add 3 or More Fractions

Deeper

Hassan is sorting his marbles.

$\frac{1}{4}$ are red.

$\frac{1}{4}$ (or $\frac{4}{16}$) are red.

$\frac{1}{8}$ are blue.

$\frac{1}{8}$ (or $\frac{2}{16}$) are blue.

$\frac{5}{16}$ are yellow.

$\frac{5}{16}$ are yellow.

The rest are green.

$\frac{4}{16} + \frac{2}{16} + \frac{5}{16} = \frac{11}{16}$

What fraction of the marbles are green?

$\frac{5}{16}$ of the marbles are green.