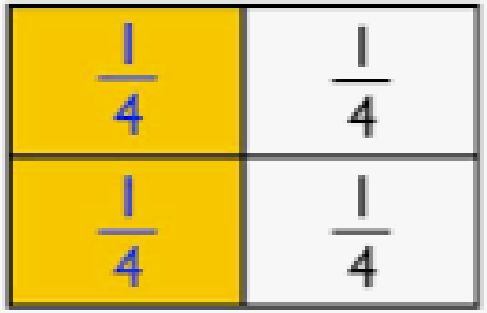
Year 4 Maths, 4/2/21

Recall – adding fractions with the same denominators

- When you add fractions with the same denominators, you only add the numerators. The denominators stay the same.



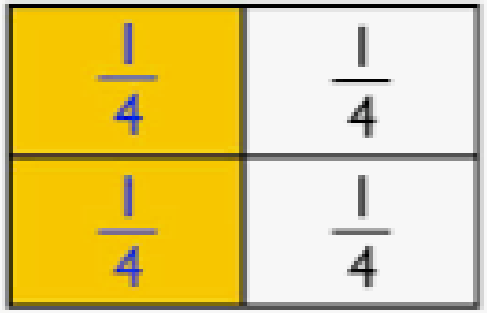
$$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$$

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

$$\frac{1}{8} + \square = \frac{4}{8} \qquad \square + \frac{3}{10} = \frac{8}{10}$$

Recall – adding fractions with the same denominators

- When you add fractions with the same denominators, you only add the numerators. The denominators stay the same.



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

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

Answers

$$\frac{1}{8} + \boxed{\frac{3}{8}} = \frac{4}{8}$$

$$\boxed{\frac{5}{10}} + \frac{3}{10} = \frac{8}{10}$$

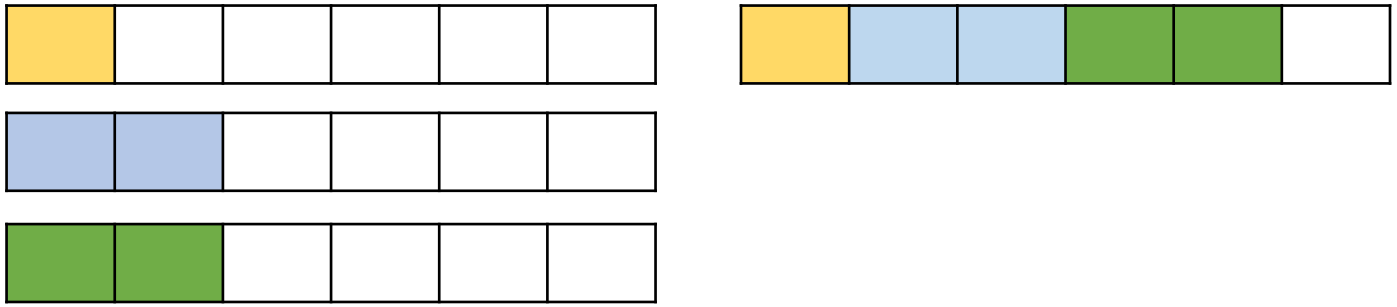
Learning objective – add more than two fractions together

- SOME WILL EVEN find multiple solutions to a problem that involves adding more than two fractions
- SOME will give answers as improper fractions and mixed numbers
- MOST will add a mix of fractions and whole numbers together
- ALL will add more than two fractions together

Guided practice

- The rule is the same if we add more than two fractions together: if the denominators are the same, you just add the numerators.

$$\frac{1}{6} + \frac{2}{6} + \frac{2}{6} = \frac{1+2+2}{6} = \frac{5}{6}$$



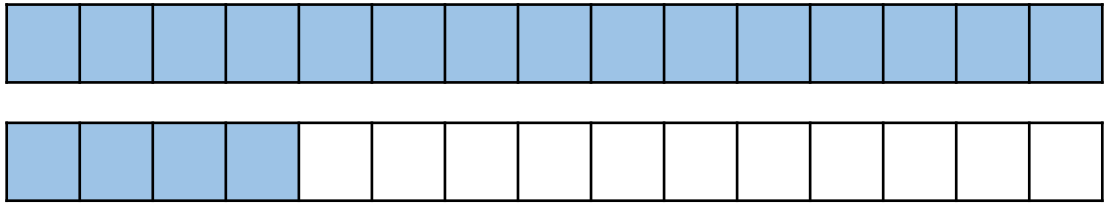
Guided practice 2

- Sometimes the answer will be an improper fraction.

$$\frac{7}{15} + \frac{2}{15} + \frac{10}{15} = \frac{19}{15}$$

The numerator is greater than the denominator so this is an improper fraction. That means it's greater than one whole.

We could convert it to a mixed number.



$$\frac{19}{15} = 1\frac{4}{15}$$

Intelligent practice

One chilli

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

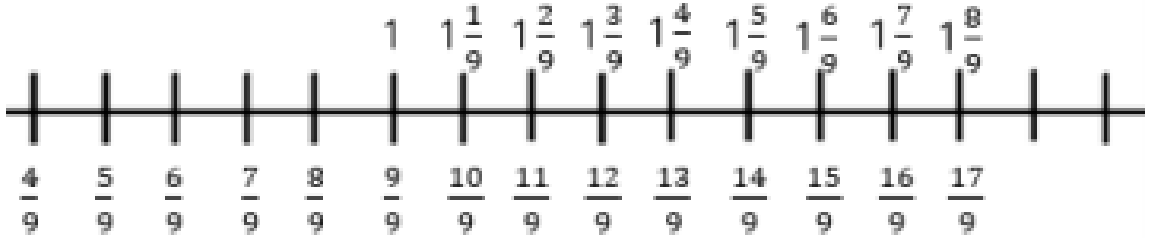
$\frac{2}{9} + \frac{3}{9} + \frac{2}{9} =$

$\frac{1}{6} + \frac{2}{6} + \frac{3}{6} =$

Did you notice anything about this answer?

Two chillies

Use the number line to add the fractions.



$\frac{4}{9} + \frac{4}{9} + \frac{8}{9} =$

$\frac{4}{9} + \frac{5}{9} + \frac{8}{9}$

$\frac{1}{9} + \frac{11}{9} + 1$

$\square + \frac{5}{9} + \frac{7}{9} = \frac{17}{9}$

Three chillies

Convert the answers above from improper fractions to mixed numbers.

Intelligent practice answers

One chilli

$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} = \frac{3}{4}$

$\frac{2}{9} + \frac{3}{9} + \frac{2}{9} = \frac{7}{9}$

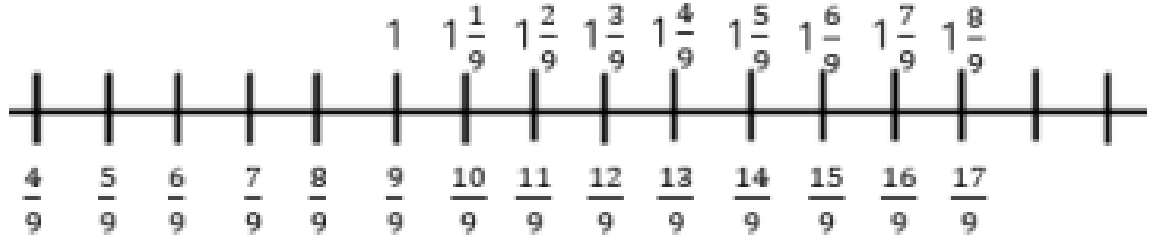
$\frac{1}{6} + \frac{2}{6} + \frac{3}{6} = \frac{6}{6}$

Did you notice anything about this answer?

The numerator and denominator are the same, so it is equal to one whole.

Two chillies

Use the number line to add the fractions.



$\frac{4}{9} + \frac{4}{9} + \frac{8}{9} = \frac{16}{9}$

$\frac{4}{9} + \frac{5}{9} + \frac{8}{9} = \frac{17}{9}$

$\frac{1}{9} + \frac{11}{9} + 1 = \frac{21}{9}$

$\frac{7}{9} + \frac{5}{9} + \frac{7}{9} = \frac{17}{9}$

Three chillies

Convert the answers above from improper fractions to mixed numbers.

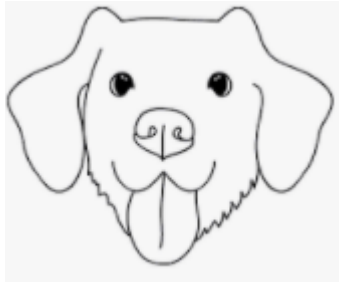
$\frac{16}{9} = 1\frac{7}{9}$ $\frac{17}{9} = 1\frac{8}{9}$ $\frac{21}{9} = 2\frac{3}{9}$

Dive deeper

There are 18 chocolates in this box.
Each chocolate is $\frac{1}{18}$

Sam

Emma



Poppy

Sam ate an even number of chocolates. Emma and Poppy both ate an odd number of chocolates.

What fraction did each one eat?
How many possibilities are there?
Write your answers as fraction addition sentences, like this:

$$\frac{\square}{18} + \frac{\square}{18} + \frac{\square}{18} = \frac{18}{18}$$

Sam Emma Poppy

Dive deeper example answers

$$\frac{16}{18}\ (\text{Sam}) + \frac{1}{18}\ (\text{Emma}) + \frac{1}{18}\ (\text{Poppy}) = \frac{18}{18}$$

$$\frac{14}{18}\ (\text{Sam}) + \frac{3}{18}\ (\text{Emma}) + \frac{1}{18}\ (\text{Poppy}) = \frac{18}{18}$$

$$\frac{14}{18}\ (\text{Sam}) + \frac{1}{18}\ (\text{Emma}) + \frac{3}{18}\ (\text{Poppy}) = \frac{18}{18}$$

$$\frac{12}{18}\ (\text{Sam}) + \frac{5}{18}\ (\text{Emma}) + \frac{1}{18}\ (\text{Poppy}) = \frac{18}{18}$$

$$\frac{\square}{18}\ (\text{Sam}) + \frac{\square}{18}\ (\text{Emma}) + \frac{\square}{18}\ (\text{Poppy}) = \frac{18}{18}$$

The total of these three numbers must be 18.

This number must be odd.

These numbers must be even

Self assessment – how did you do?

Learning objective – add more than two fractions together

- SOME WILL EVEN find multiple solutions to a problem that involves adding more than two fractions — Dive deeper
- SOME will give answers as improper fractions and mixed numbers — Chilli three
- MOST will add a mix of fractions and whole numbers together — Chilli two
- ALL will add more than two fractions together — Chilli one