# Day 2 extension questions

## 1.

3 children are working out $6\frac{2}{3} - \frac{5}{6}$

They partition the mixed number in the following ways to help them.

Dora $5 + 1\frac{2}{3} - \frac{5}{6}$

Alex $5 + 1\frac{4}{6} - \frac{5}{6}$

Jack $5 + \frac{10}{6} - \frac{5}{6}$

Are they all correct?
Which method do you prefer?
Explain why.

## 2.

There are three colours of dog biscuits in a bag of dog food: red, brown and orange.

The total mass of the dog food is 7 kg.

The mass of red biscuits is $3\frac{3}{4}$ kg and the mass of the brown biscuits is $1\frac{7}{16}$ kg.

What is the mass of orange biscuits?

## 3.

Rosie has $20\ \frac{3}{4}$ cm of ribbon.

Annie has $6\ \frac{7}{8}$ cm less ribbon than Rosie.

How much ribbon does Annie have?

How much ribbon do they have altogether?

## 4.

Amir is multiplying fractions by a whole number.

$\frac{1}{5} \times 5 = \frac{5}{25}$

Can you explain his mistake?

## 5.

### Always, sometimes, never?

When you multiply a unit fraction by the same number as it's denominator the answer will be one whole.

## 6.

I am thinking of a unit fraction.

When I multiply it by 4 it will be equivalent to $\frac{1}{2}$

When I multiply it by 2 it will be equivalent to $\frac{1}{4}$

What is my fraction?

What do I need to multiply my fraction by so that my answer is equivalent to $\frac{3}{4}$?

Can you create your own version of this problem?

# Day 3 extension questions

## 1.

3 children are working out $6\frac{2}{3} - \frac{5}{6}$

They partition the mixed number in the following ways to help them.

Dora $5 + 1\frac{2}{3} - \frac{5}{6}$

Alex $5 + 1\frac{4}{6} - \frac{5}{6}$

Jack $5 + \frac{10}{6} - \frac{5}{6}$

Are they all correct?
Which method do you prefer?
Explain why.

All three children are correct.

$1\frac{2}{3}$, $1\frac{4}{6}$ and $\frac{10}{6}$ are all equivalent therefore all three methods will help children to correctly calculate the answer.

## 2.

There are three colours of dog biscuits in a bag of dog food: red, brown and orange.

The total mass of the dog food is 7 kg.

The mass of red biscuits is $3\frac{3}{4}$ kg and the mass of the brown biscuits is $1\frac{7}{16}$ kg.

What is the mass of orange biscuits?

$3\frac{3}{4} + 1\frac{7}{16} = 5\frac{3}{16}$

$7 - 5\frac{3}{16} = 1\frac{13}{16}$

The mass of orange biscuits is $1\frac{13}{16}$ kg.

## 3.

Rosie has $20\frac{3}{4}$ cm of ribbon.

Annie has $6\frac{7}{8}$ cm less ribbon than Rosie.

How much ribbon does Annie have?

How much ribbon do they have altogether?

Annie has $13\frac{7}{8}$ cm of ribbon.

Altogether they have $34\frac{5}{8}$ cm of ribbon.

## 4.

Amir is multiplying fractions by a whole number.

$\frac{1}{5} \times 5 = \frac{5}{25}$

Can you explain his mistake?

Amir has multiplied both the numerator and the denominator so he has found an equivalent fraction. Encourage children to draw models to represent this correctly.

## 5. Always, sometimes, never?

When you multiply a unit fraction by the same number as it's denominator the answer will be one whole.

Always - because the numerator was 1 it will always be the same as your denominator when multiplied which means that it is a whole.
e.g. $\frac{1}{3} \times 3 = \frac{3}{3} = 1$

## 6.

I am thinking of a unit fraction.

When I multiply it by 4 it will be equivalent to $\frac{1}{2}$

When I multiply it by 2 it will be equivalent to $\frac{1}{4}$

What is my fraction?

What do I need to multiply my fraction by so that my answer is equivalent to $\frac{3}{4}$?

Can you create your own version of this problem?

$\frac{1}{8}$ because
$4 \times \frac{1}{8} = \frac{4}{8} = \frac{1}{2}$
and
$2 \times \frac{1}{8} = \frac{2}{8} = \frac{1}{4}$

6 because
$6 \times \frac{1}{8} = \frac{6}{8} = \frac{3}{4}$