These sessions are based on what the children would have been learning in school over the next couple of weeks.

Fraction Cover Page

Some useful resources to help with fractions:

$\frac{2}{4}$

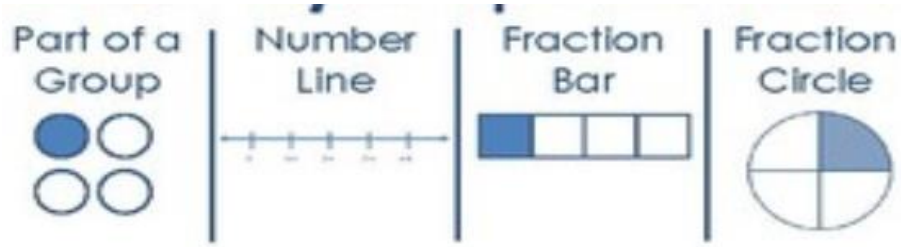
Numerator

The numerator refers to the number above the line in a fraction. This number represents how many parts you are considering.

Denominator

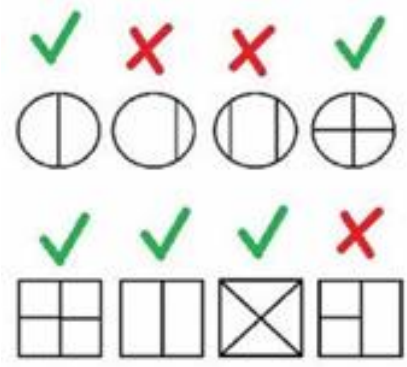
The denominator refers to the number below the line in a fraction. This number means how many parts the whole has been divided into.

Fractions can be represented in many ways.



When looking at a fraction bar, fraction circle or any other shape, the parts that the shape is split into HAVE to be equal (the same).

E.g.

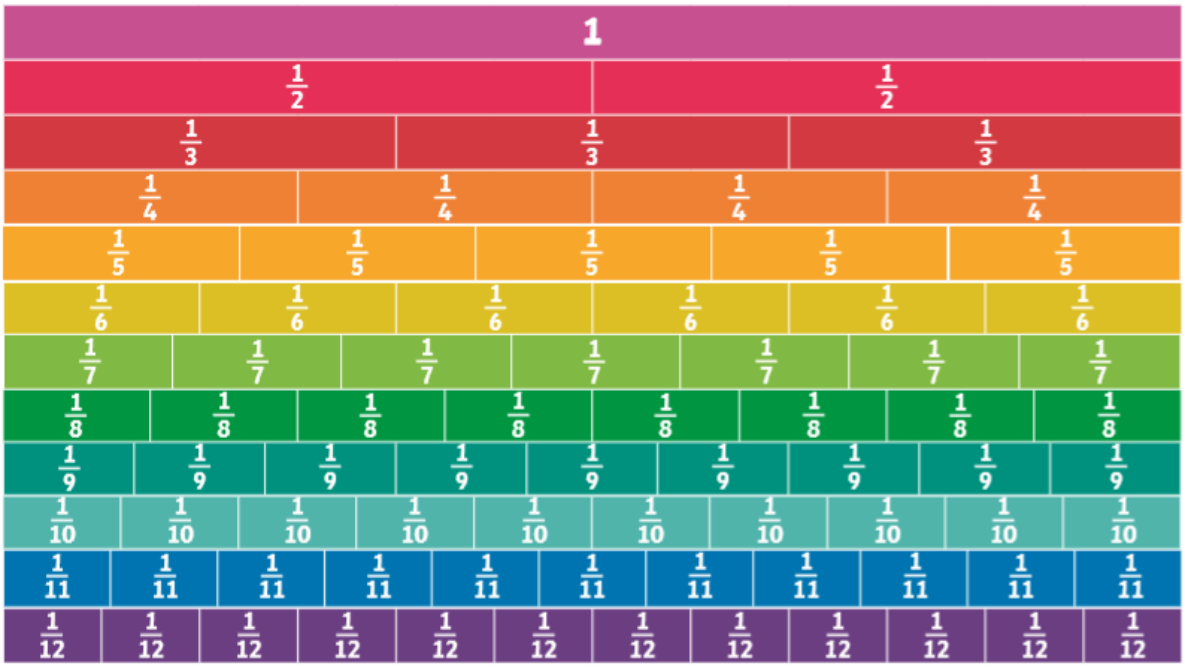


Review & Recap

Challenge 7

Equivalent Fractions (Teaching guide for parents)

Fractions Wall

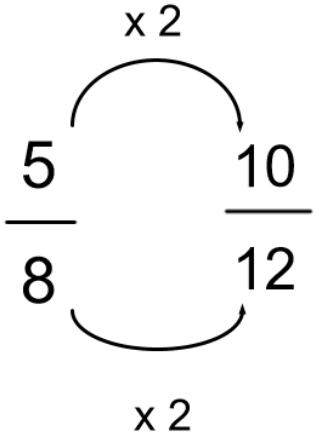


This can be used to find equivalent fractions.

E.g. $\frac{1}{2}$ is equal to $\frac{2}{4}$, $\frac{3}{6}$, $\frac{4}{8}$ ...

Another way to find equivalent fractions...

Whatever you do to the denominator, you HAVE to do the same to the numerator (multiplication or division)



Complete the challenges below into your work booklet. For most questions, you can just show your working out and your answer. If it asks to circle the answer, write out all the numbers into your booklet then circle.

Q1. Use the fraction wall to find an equivalent fraction for:

a) $\frac{3}{4}$ b) $\frac{6}{9}$ c) $\frac{2}{6}$

Q2. Circle the **two** fractions that have the same value.

$\frac{2}{10}$ $\frac{1}{3}$ $\frac{1}{2}$

$\frac{5}{10}$ $\frac{1}{4}$

Q3.

Write three equivalent fractions for these using the fraction wall alongside another way we have been taught (use teaching guide to help).

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

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

3. $\frac{3}{4} =$

4. $\frac{4}{5} =$

Q4.

Write three equivalent fractions for these using the fraction wall alongside another way we have been taught (use teaching guide to help).

5. $\frac{2}{3} =$

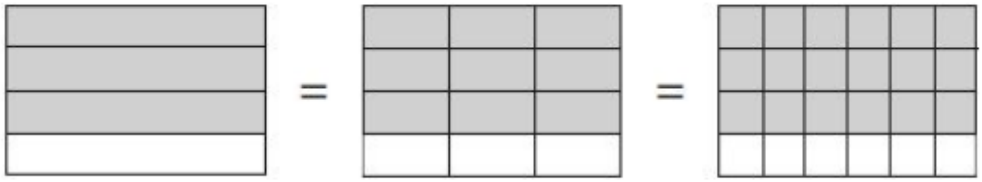
6. $\frac{5}{6} =$

7. $\frac{3}{10} =$

8. $\frac{7}{8} =$

Q5.

These diagrams show three equivalent fractions.

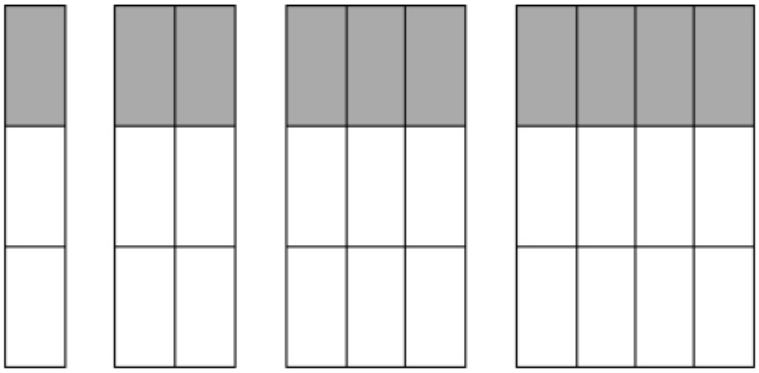


Write the missing values.

$$\frac{3}{4} = \frac{9}{\square} = \frac{\square}{24}$$

Q6.

Look at the diagrams.



Complete the fractions.

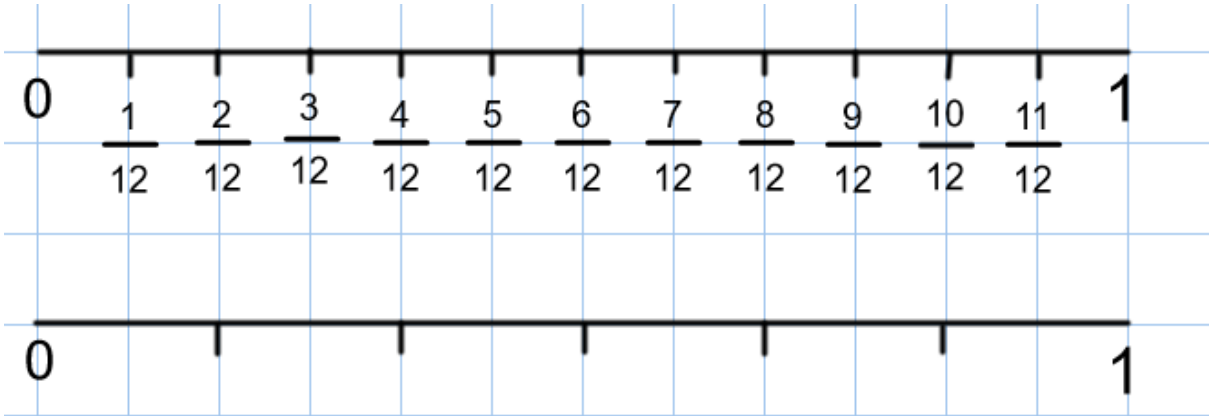
$$\frac{1}{3} = \frac{\square}{6} = \frac{3}{\square} = \frac{\square}{12}$$

Q7.

Complete the following fractions to make the fractions equivalent.

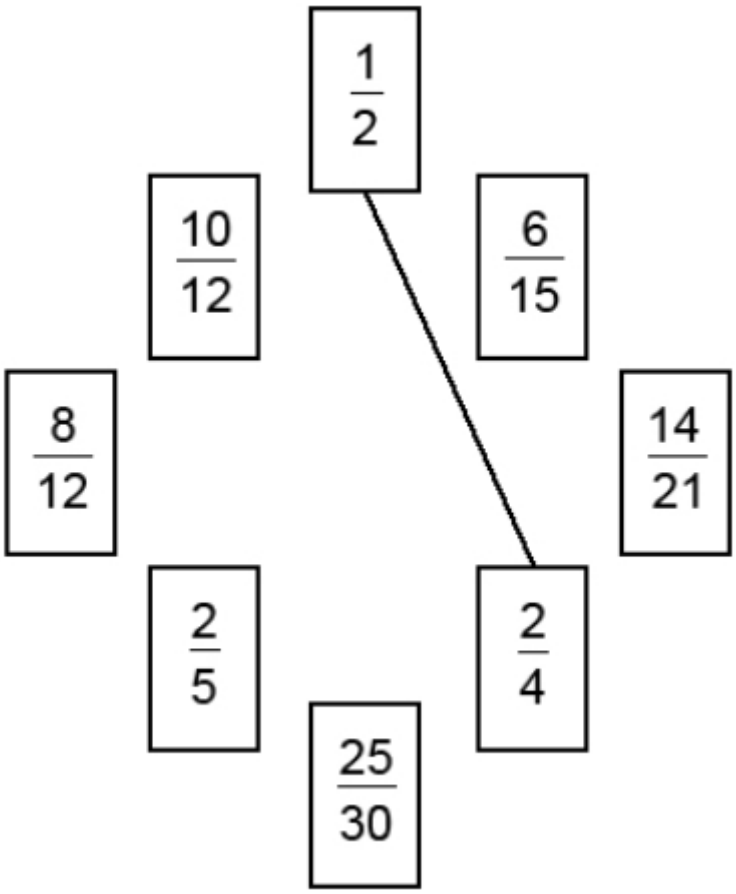
1.	2.	3.	4.
$\frac{1}{2} = \frac{\square}{8}$	$\frac{3}{\square} = \frac{6}{10}$	$\frac{3}{4} = \frac{12}{\square}$	$\frac{\square}{10} = \frac{1}{2}$

Q8.

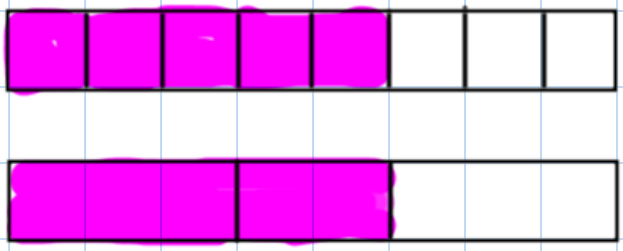


What is the second numberline going up in? Can you find an equivalent fraction to 8/12 using the second numberline?

Q9. Write out the pairs of equivalent fractions. One has been done for you.



Q10.



Miss Boyd says she has found equivalent fractions.

Is she correct? How do you know?

Look closely at the parts and use your reasoning skills.

Challenge 8

Review & Recap

Fractions of Amounts (Teaching guide for parents)

$\frac{4}{7}$ of £28 = £28 ÷ 7 = £4

£4 x 4 = **£16**

Remember, to find fractions of amounts you have to divide the whole number by the denominator then multiply the number you get by the numerator.

$\frac{1}{7}$ of £28 = £28 ÷ 7 = £4

£4 x 1 = **£4**

If the fraction is a UNIT FRACTION then you will be multiplying your answer by itself.

To find fractions of shapes, you have to see how many EQUAL parts the shape has been divided into/ needs to be divided into and how many you need to shade in using your knowledge of fractions (use the fraction cover page to help with this).

Complete the challenges below into your work booklet. For most questions, you can just show your working out and your answer. If it asks to circle the answer, write out all the numbers into your booklet then circle.

Q1.

$\frac{7}{9}$ of 45 =

1 mark

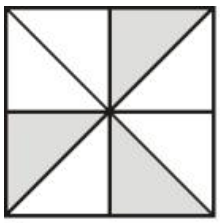
Q2.

$\frac{1}{6}$ of 24 =

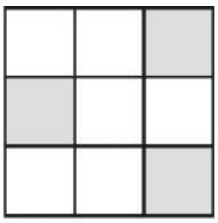
1 mark

Q3. Each of these diagrams is divided into equal parts.

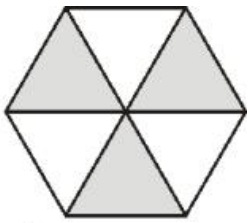
Some of the parts are shaded.



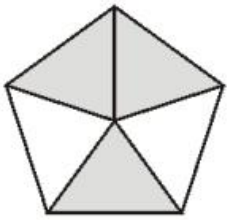
A



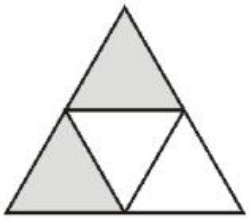
B



C



D



E

Write the letters of all the diagrams that have exactly $\frac{1}{2}$ shaded.

_____

1 mark

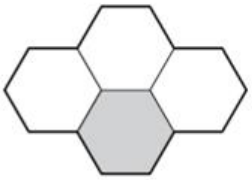
Which of the diagrams has exactly $\frac{1}{3}$ shaded?

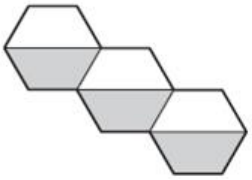
1 mark

Use your knowledge of equivalent fractions to help you with this question.

Q4. Here are three shapes made from regular hexagons.

Write the **fraction** of each shape that is shaded.

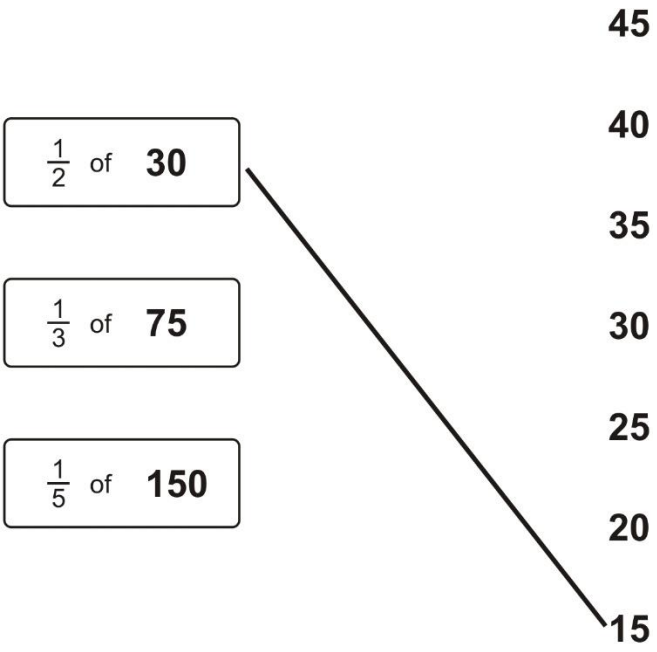




Q5.

Match each box to the correct number.

One has been done for you.



Q6.

Annie had 36 sweets.

She ate $\frac{2}{3}$ of them.

Ben had 40 sweets.

He ate $\frac{1}{5}$ of them.

How many more sweets did Annie eat than Ben?

Q7.

Sam has 90 bricks.

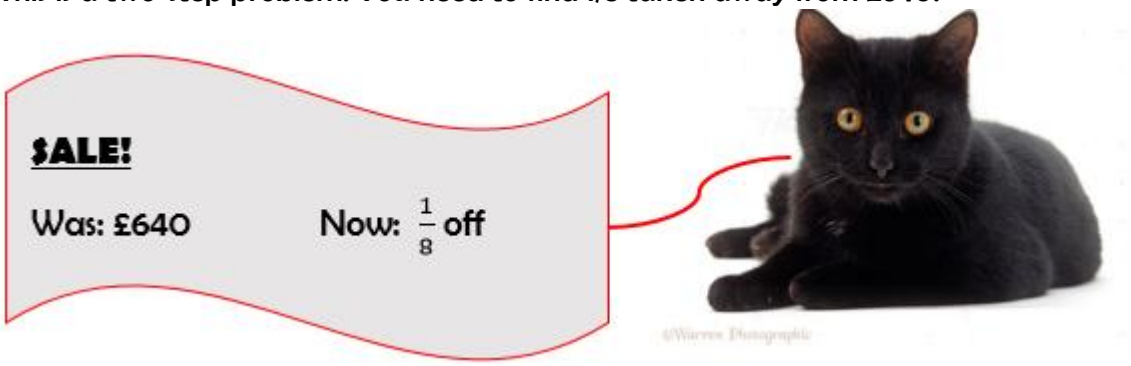
He uses $\frac{3}{5}$ of them to build a tower.

Grace has 120 bricks.

She uses $\frac{5}{6}$ of them to build a tower.

How many bricks are left over altogether?

Q8. This is a two-step problem. You need to find 1/8 taken away from £640.



Q9. You are looking to find 3/9 of £27.

SALE!

Was: £27

Now: $\frac{3}{9}$ of original price

10.

SALE!

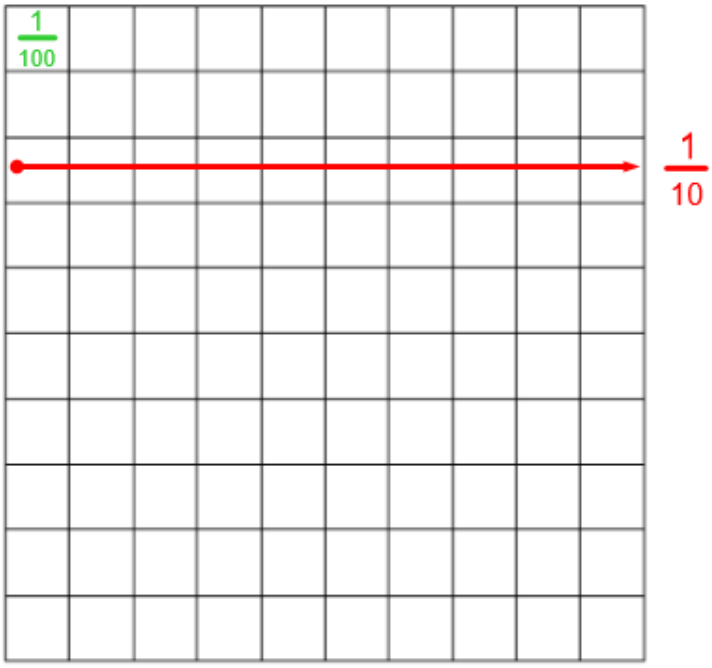
Was: £32

Now: $\frac{1}{4}$ off

Challenge 9

Fairly new Concept

Recognising Decimal Equivalents (Teaching guide for parents)



We can use a hundred square to understand decimal equivalents to tenths and hundredths $\frac{?}{10}$ $\frac{?}{100}$

Each square is one out of 100 squares therefore is represented as $\frac{1}{100}$ as a fraction.

Each row/column is one out of 10 rows/ columns therefore is represented as $\frac{1}{10}$ as a fraction.

We can transfer our 'tenth' (1/10) and 'hundredth' (1/100) into a place value chart by following the correct terminology.

$\frac{1}{100}$ =

	tenths	hundredths
O	t	h
0	0	1

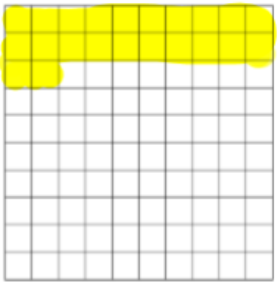
The value is put into the hundredths column.

$\frac{1}{10}$ =

	tenths	hundredths
O	t	h
0	1	0

The value is put into the tenths column.

If you have fraction where the denominator is 100 and the numerator is two digits then the two digits would fall in the tenths and hundredths column as you are theoretically covering rows as well as squares.



22 out of 100 squares have been shaded = $\frac{22}{100}$

Another view, 2 rows and two squares have been shaded = $\frac{2}{10}$ and $\frac{2}{100}$

$\frac{2}{100}$ =

	tenths	hundredths
O	t	h
0	0	2

+ $\frac{2}{10}$ =

	tenths	hundredths
O	t	h
0	2	0

= 0.22

Decimals are always written with 0. infront when there is no whole number. If we added a whole number, the decimal would begin with 1. depending on how many whole numbers you add and the fraction would be $1\frac{?}{?}$

The decimal equivalents to:

$\frac{1}{4}$ = 0.25

$\frac{1}{2}$ = 0.5

$\frac{3}{4}$ = 0.75

These are something they have to learn off by heart!

Complete the challenges below into your work booklet. For most questions, you can just show your working out and your answer. If it asks to circle the answer, write out all the numbers into your booklet then circle.

Q1.

Circle the number that is equal to $\frac{3}{4}$

0.34 7.5 3.4 0.075 0.75

Q2.

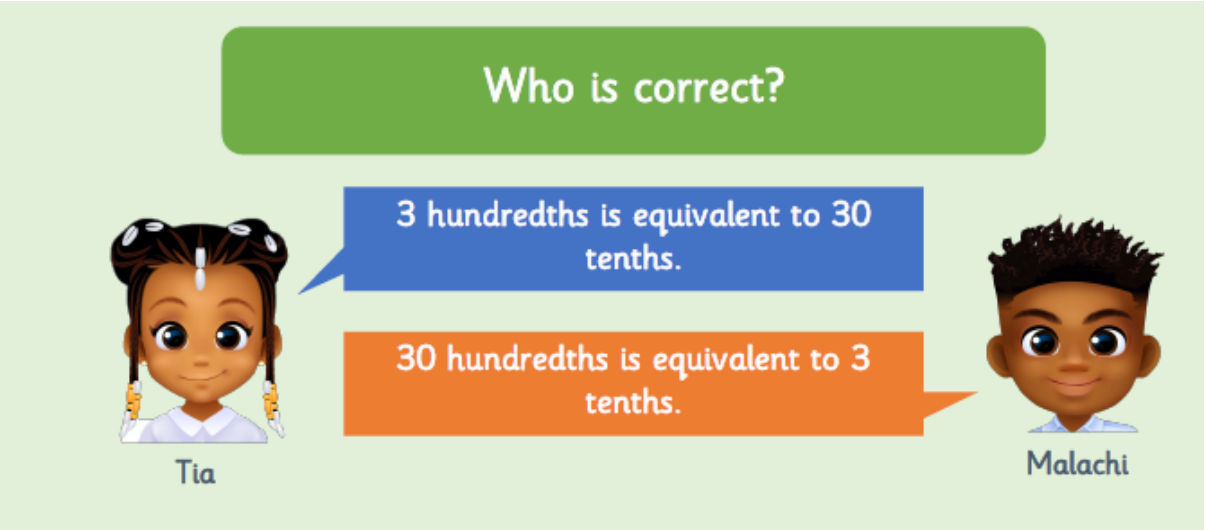
$0.25 = \frac{\square}{4}$

Q3.

Circle the numbers that are equal to $\frac{1}{2}$

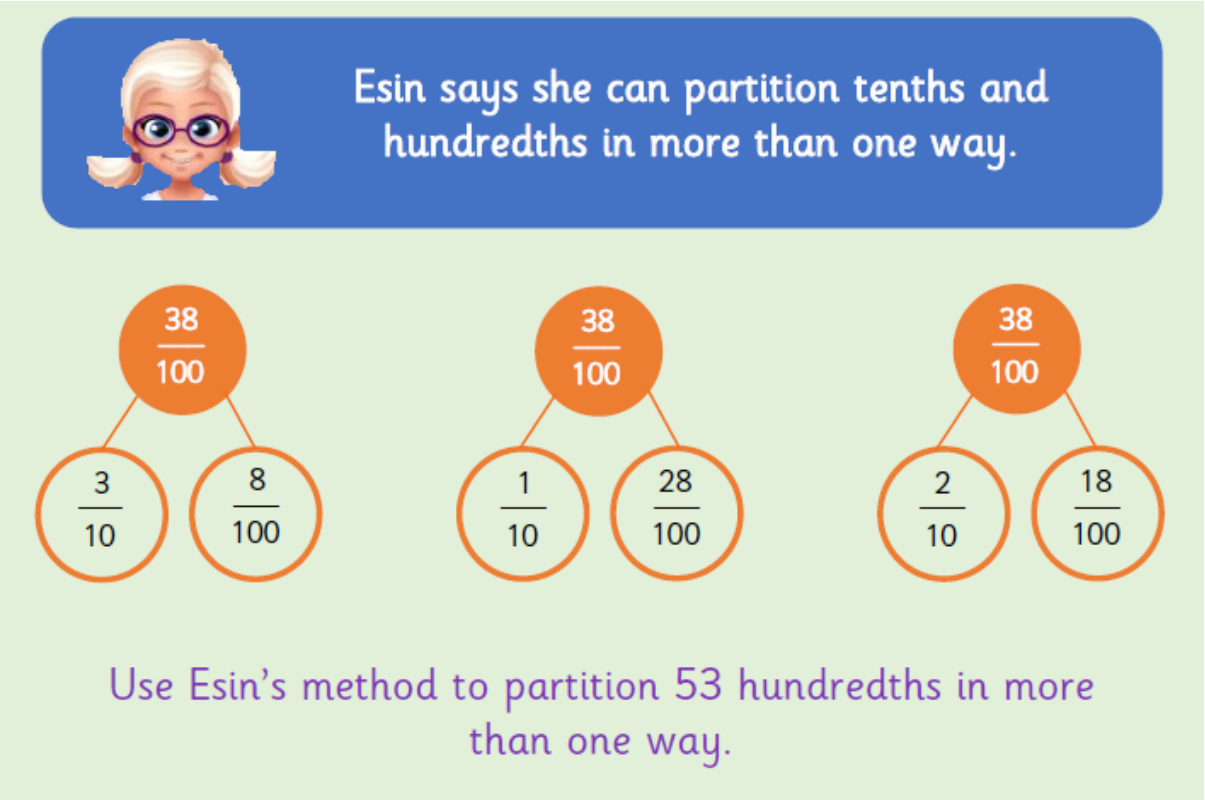
0.12 0.5 5.0 0.05 0.50

Q4.



Explain how you know.

Q5.



Q6.

Who is correct?

Zach

2.5 is equivalent to 2 whole and 5 tenths.

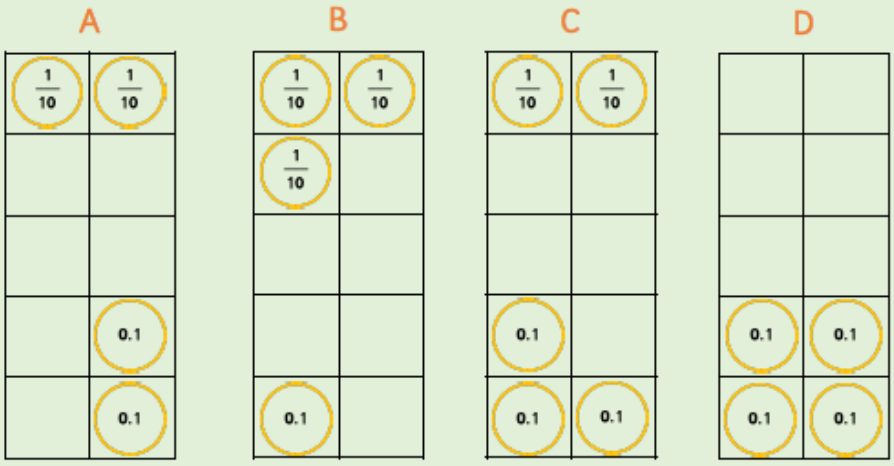
2.5 is equivalent to 25 tenths

Leanna

Explain why.

Q7.

Which ten frame is the odd one out?



Explain your answer.

Q8.

Two children are making eleven tenths.

Rosie

Ones	Tenths
1	0.1

Ones	Tenths
	0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1 0.1

Tia

Who has made it correctly? Explain your answer.

Q9. What is $\frac{67}{100}$ as a decimal?

Q10. What is $\frac{8}{10}$ as a decimal?

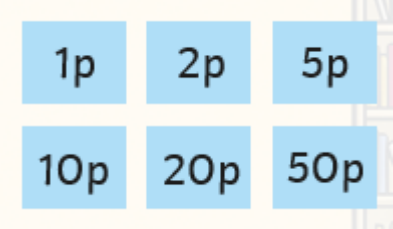
Challenge 10

New Concept

Money Problems with Fractions and Decimals (Teaching guide for parents)

We already have the skill of finding fractions of various amounts of money. However, we can take this skill further by finding what fraction and decimal of an amount British coins are.

What fraction and decimal of £1 are the following coins?



To find the answer to this question, we need to think about how many of each coin fit into £1. E.g.

- There are 100 pennies in £1 therefore the fraction for one penny would be 1 out of 100 $\frac{1}{100}$
- There are 50 2p's in £1 therefore the fraction for a 2p coin would be 1 out of 50 $\frac{1}{50}$

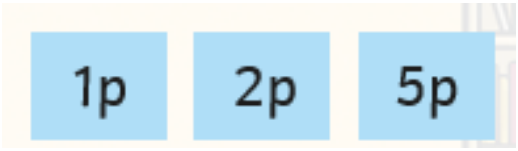
Then we would have to use our knowledge of how to find decimal equivalents to work out these decimal equivalents (recap the last session if unsure).

- If the fraction for how many pennies are in £1 is $\frac{1}{100}$ then the decimal equivalent would be 0.01.

To help understand how many of each coin are in £1 then you can use actual coins to help you. If you do not have coins then you can use counters or any household item that you have a bunch of.

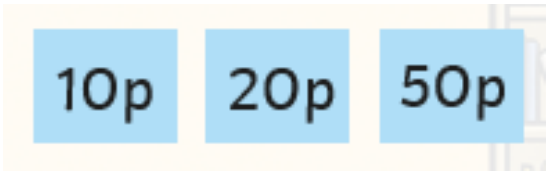
Complete the challenges below into your work booklet. For most questions, you can just show your working out and your answer. If it asks to circle the answer, write out all the numbers into your booklet then circle.

Q1. What fraction of £1 are the following coins?



Q2. Now you have found the fraction, convert these into decimals to find the decimal equivalents.

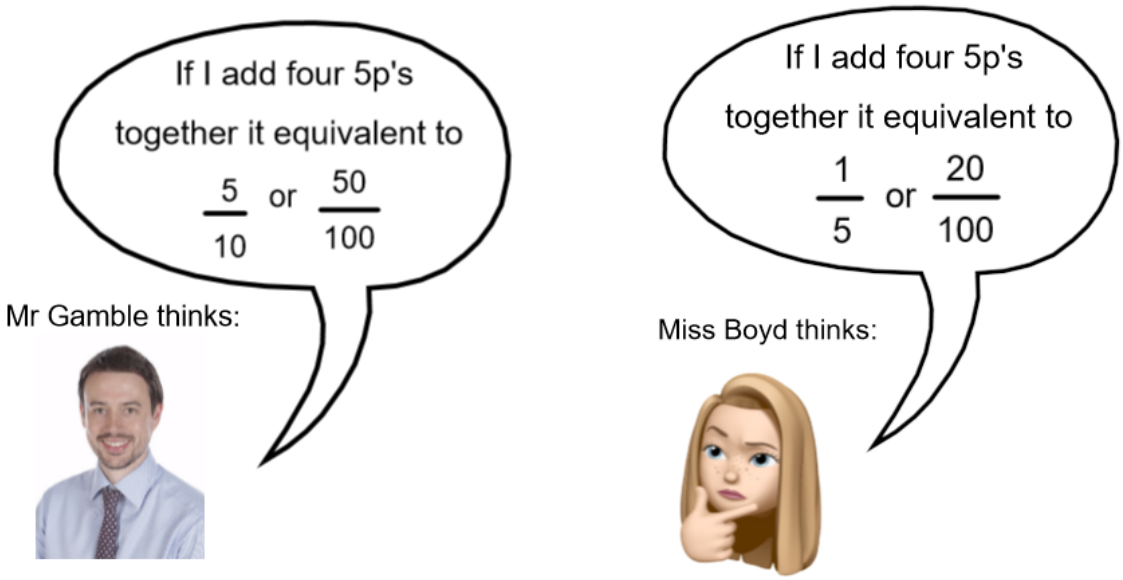
Q3. What fraction of £1 are the following coins?



Q4. Now you have found the fraction, convert these into decimals to find the decimal equivalents.

Q5. If I added two 20p's and a 10p together, what fraction of £1 would this be?

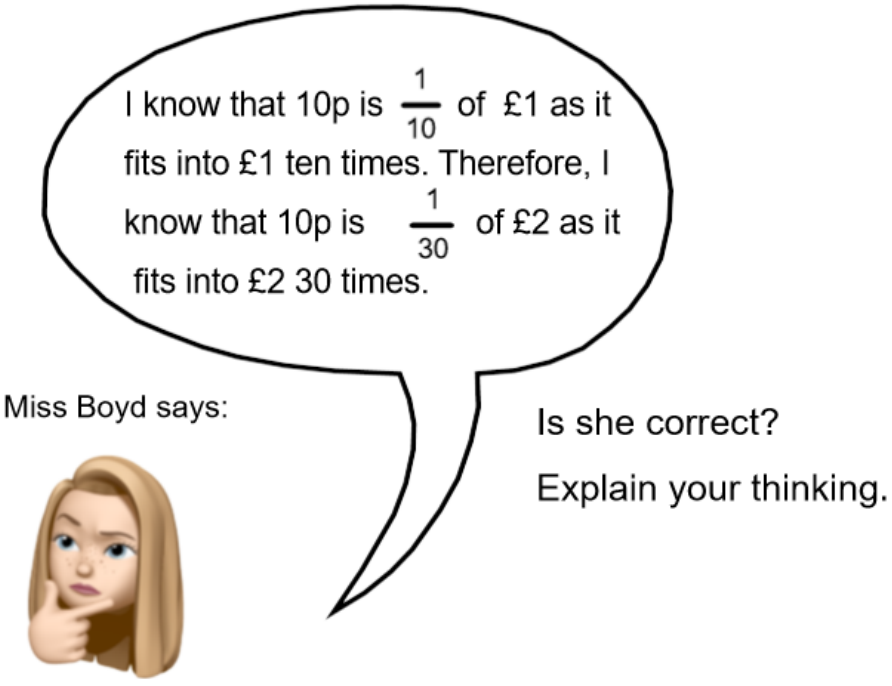
Q6.



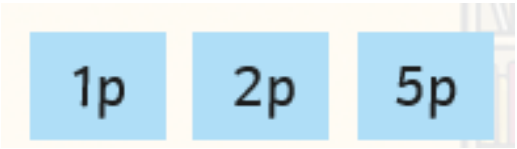
Who is correct? Explain your thinking.

Q7. If 50p is $\frac{1}{2}$ of £1 then what fraction of £2 is 50p?

Q8.



Q9. What fraction of £2 are the following coins?



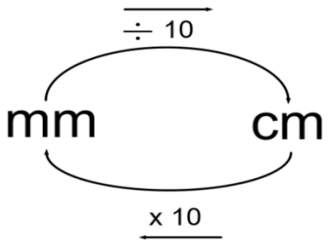
Q10. What fraction of £2 are the following coins?

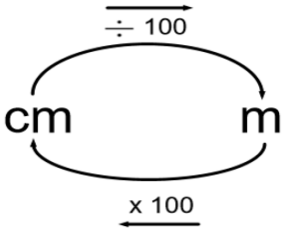
Challenge 11

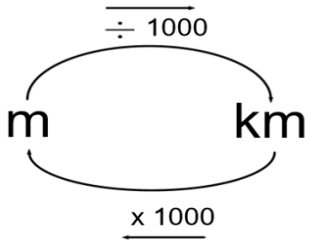
Review & Recap

Converting Measurements (Teaching guide for parents)

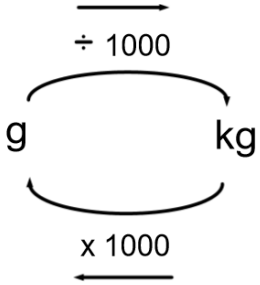
Converting length (millimetres, centimetres an kilometres)



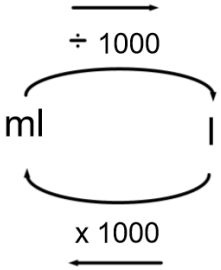




Converting weight/mass (grams and kilograms)



Converting capacity (millilitres and litres)



To convert into a different measurement of length, weight or capacity, simply follow the rules above to help find your answer.

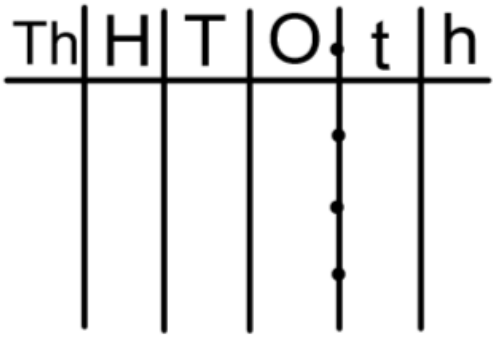
E.g. Q. What is 675mm in cm?

Looking above at the help sheets, we can see that to change mm into cm you need to divide by 10. The answer is 67.5cm. We can use our knowledge of dividing and multiplying by 10, 100 and 100 to help us answer these questions.

If you are struggling to multiply and divide by 10, 100 and 1000 then draw out a place value chart with your number in it's correct place.

When multiplying by 10 you move the digits one place to the left, by 100 you move the digits two places to the left and by 1000 you move them 3 places to the left as the number is getting larger.

When dividing by 10 you move the digits one place to the right, by 100 you move the digits two places to the right and by 1000 you move the digits 3 places to the left as the number is getting smaller.



Complete the challenges below into your work booklet. For most questions, you can just show your working out and your answer. If it asks to circle the answer, write out all the numbers into your booklet then circle.

Q1. Convert these various lengths:

6373mm into cm

3620m into km

73.6km into m

5.8m into cm

Q2. Convert these various weights:

8750g into kg

7.48kg into g

2780g into kg

56.7kg into g

Q3. Convert these various capacities:

7480ml into l

29.6l into ml

2680ml into l

3.58l into ml

Q4. How many metres in 2 km?

A	B	C	D
2 m	20 m	200 m	2,000 m

Q5.

Mike drives $5\frac{1}{2}$ kilometres.
How far is this in metres?

A	B	C	D
550 metres	5,050 metres	5,500 metres	5,120 metres

Explain how you know.

Q6.

Tia has converted some measurements into different units.

3m 300 cm = 6,000mm

8,800m = 88km

1l 200ml - 1,200ml

6kg 700g = 6700kg

Find and explain her mistakes.

Q7.

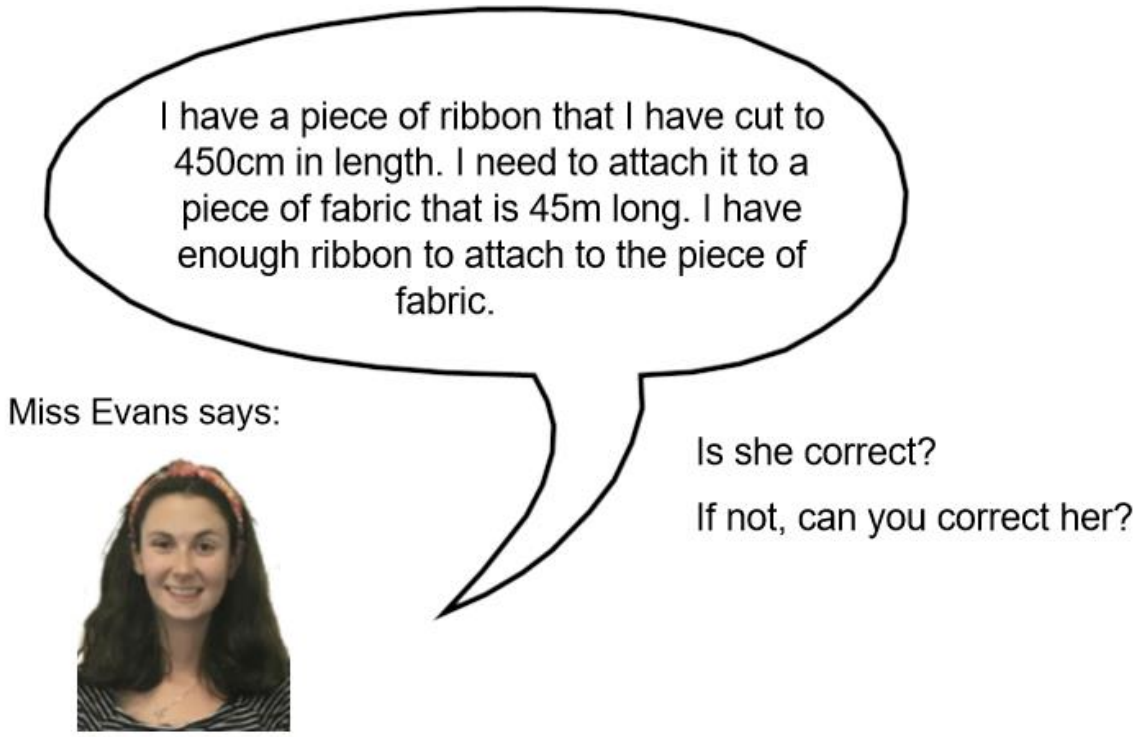
2 km and 70 m = ☐ m

A	B	C	D
72	2,700	2070	270

Explain how you know.

Q8. You are trying to bake a cake. You have a bag full of plain flour that you need to use and you are working out how much you need. The recipe asks for 375g however you have a massive 1.2kg bag of flour. You weigh out your 375g using your scales, how much flour do you have left in the bag?

Q9.



Q10.

Miss Boyd says:

If I have a full 1 litre bottle of water and a poured out 750ml into another container, then I will be left with 2.50l.

Miss Evans says:

If I have a full 1 litre bottle of water and a poured out 750ml into another container, then I will be left with 0.25l.

Who is correct? How do you know?

Challenge 12

New Concept

Measure problems with fractions and decimals (Teaching guide for parents)

This skill is similar to finding fractions and decimals of amounts (challenge 8) however we need to involve our knowledge of measurements and converting to aid us (refer to the last challenge).

Length:	Weight:	Capacity:
mm	g	ml
cm	kg	l
m		
km		

Q. What is $\frac{1}{6}$ of 2m 52cm?

To help us answer this question, we need to convert our measurement into *one* unit of length only. We can convert 2m 52cm into only cm. We know that to change 2m into cm we x 100 which = 200cm then we can add on the 52cm to equal 252cm.

Next, we need to divide our new number by the denominator.

$$6\overline{)2^{2}5^{1}2\text{ cm}} \quad 0\,4\,2\text{ cm}$$

Our final step is to multiply our answer by the numerator. In this case, we are multiplying 42cm by 1 which = 42cm.

$\frac{1}{6}$ of 2m 52cm = 42cm.

Q. What is 0.75 of 248g?

To find a decimal of a number we can change the decimal into a fraction (challenge 9) and work it out that way using our knowledge of equivalent fractions and decimals.

0.75 = $\frac{75}{100}$ We also know that 0.75 is equivalent to $\frac{3}{4}$.

248g divided by the denominator (248 ÷ 4 = 62)

62g multiplied by the numerator (62 x 3 = 186)

Answer: 0.75 of 248g = 186g

Complete the challenges below into your work booklet. For most questions, you can just show your working out and your answer. If it asks to circle the answer, write out all the numbers into your booklet then circle.

Q1. What is $\frac{6}{8}$ of 4m 24cm?

Q2. What is 0.5 of 8762ml?

Q3. What is $\frac{5}{7}$ of 6l 692ml? Give your answer in litres and millilitres.

Q4. What is 0.25 of 3kg 500g?

Q5.

Four children complete the long jump.

Child	Distance
Tom	
Ellie	1 *m* and 80 *cm*
Polat	2 *m* and 10 *cm*
Leno	2 *m* and 15 *cm*

Tom jumps $\frac{1}{6}$ further than Ellie.

How far does Tom jump?

A 30 *cm*

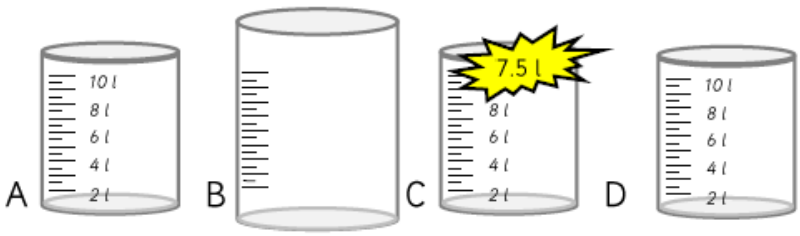
B 2 *m* and 10 *cm*

C 1 *m* and 50 *cm*

D 1 *m* and 10 *cm*

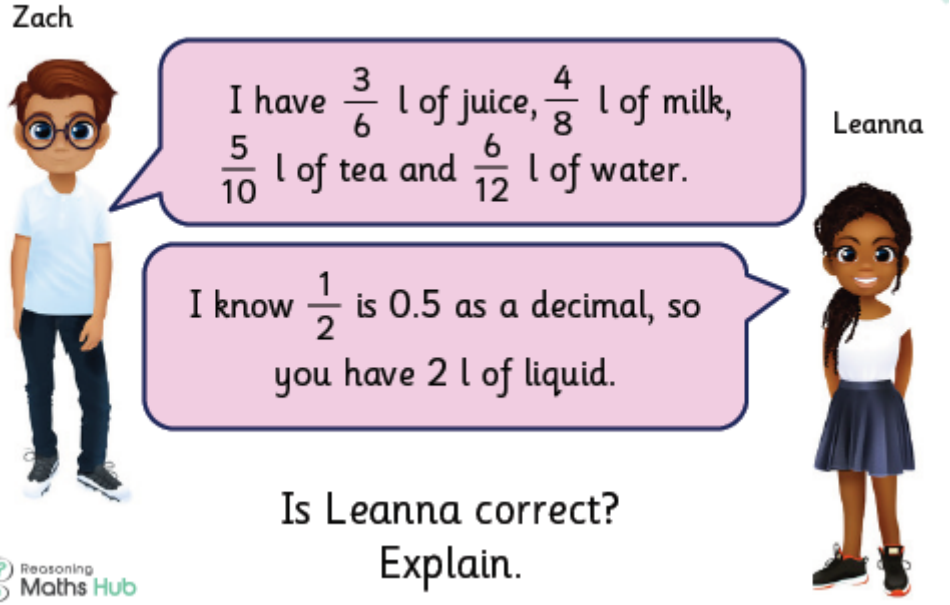
Q6.

Use the clues to find out the amount of liquid in each container.



- Container A holds 2.5 l of liquid more than container C.
- Container B holds the same amount as A and D together.
- Container D holds half of the liquid that container A holds.

Q7. Use your knowledge of equivalent fractions to help you understand this question.



Q8.

James participated in a charity run. The distance James had to run was 7km 875m. James tried to run the whole distance but could only run $\frac{5}{9}$ of the distance. How far did he run in km and m?

Q9.

Maria decided to bake an Easter cheesecake for the celebration. Here are her ingredients:

100g digestive biscuits

40g butter

240g cream cheese

175g white chocolate

150ml double cream

She realises that she only has 0.25 of the amount of cream cheese she needs to make this cake. How many more grams of cream cheese does she need to get from the shop?

Q10. True or False?

$\frac{4}{7}$ of 4l 186ml = 598ml.

Explain your reasoning.