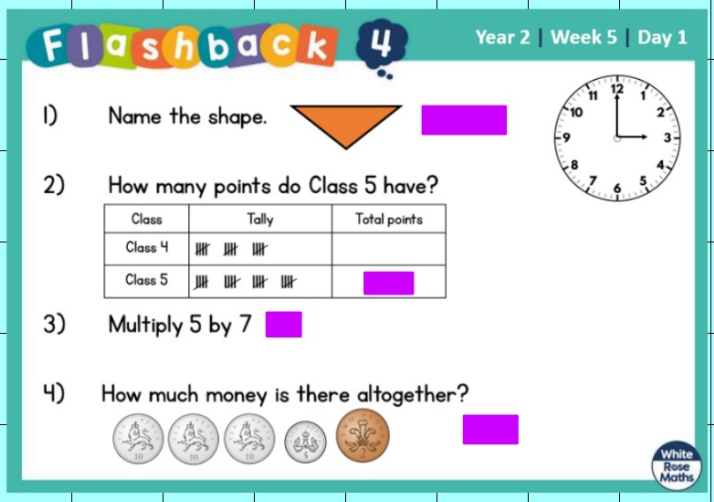
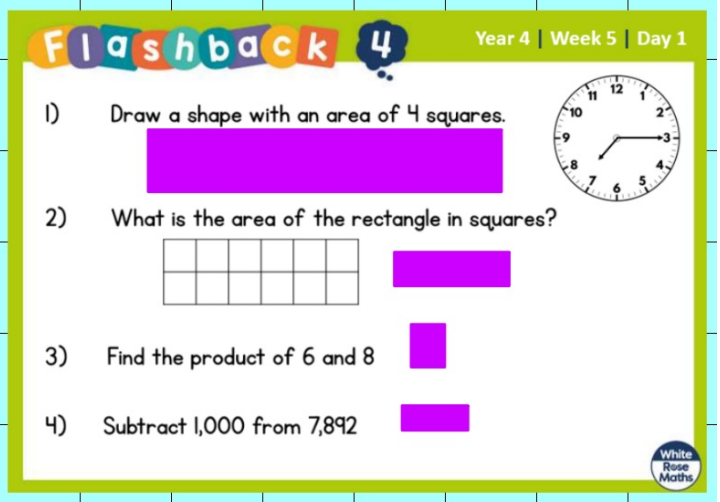
Fractions

31.01.22

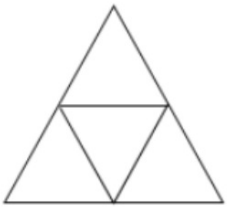
LO: To make equal parts.
I can make and recognise equal parts.
I know that a whole is one object or one quantity.
I understand that there is more than one way to split a shape into equal parts.

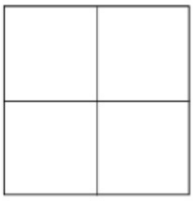
LO: To understand non-unit and unit fractions.
I can explain the similarities and differences between unit and non-unit fractions.
I know how to read a fraction.
I understand what the numerator and denominator represent.

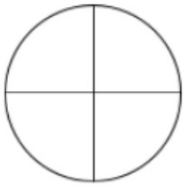




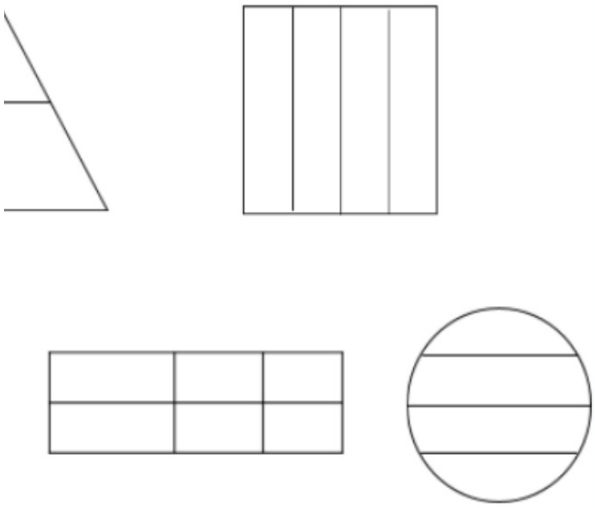
What do you notice?







have **equal** parts?

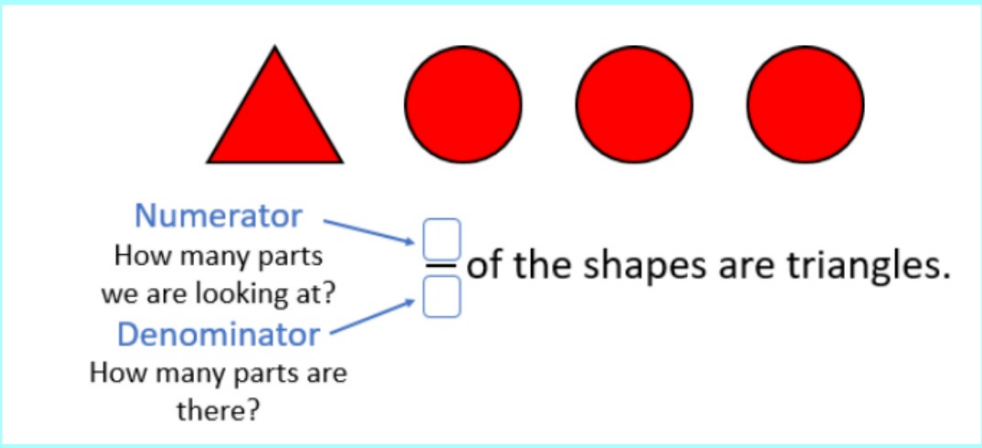


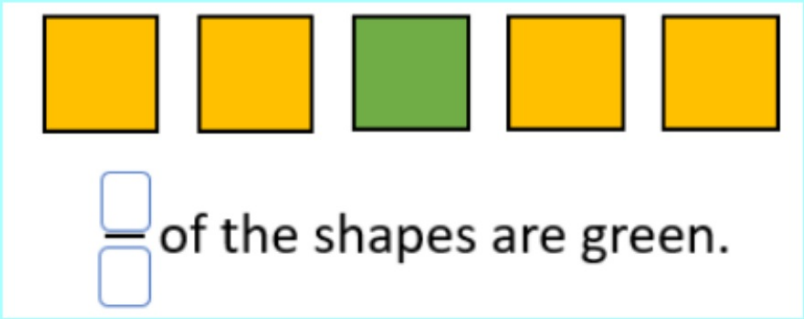
Are the groups equal or unequal?

a)

b)

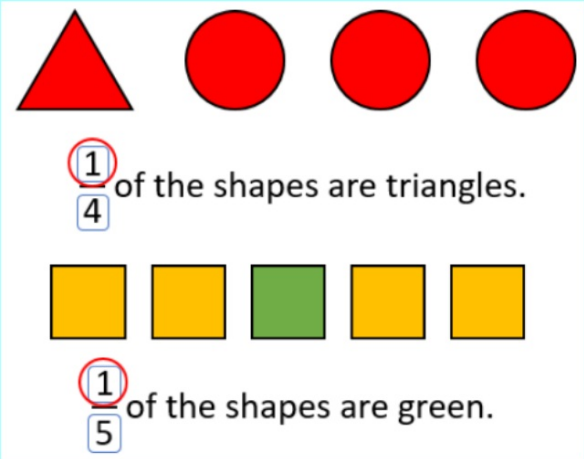
group A start

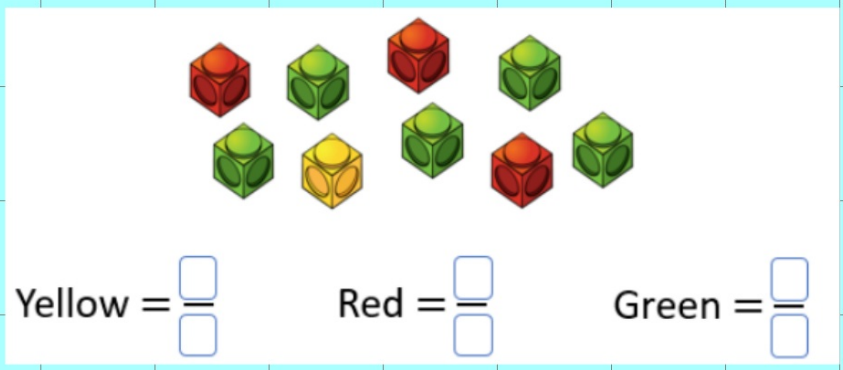




What is the same? What is different?

If a fraction has a 1 in the numerator, this is called a <u>unit fraction</u>.



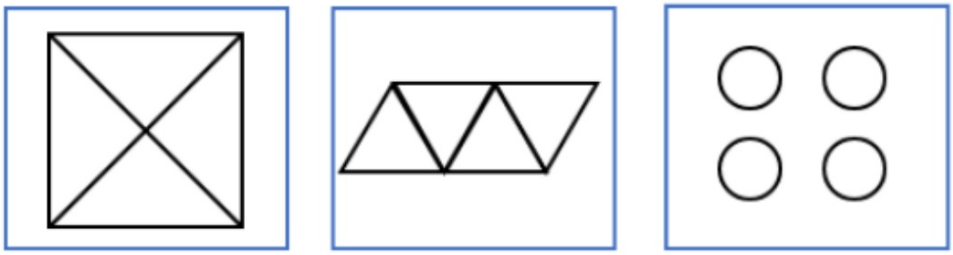


Which is a unit fraction?

What are the fractions with a numerator greater than 1 called?

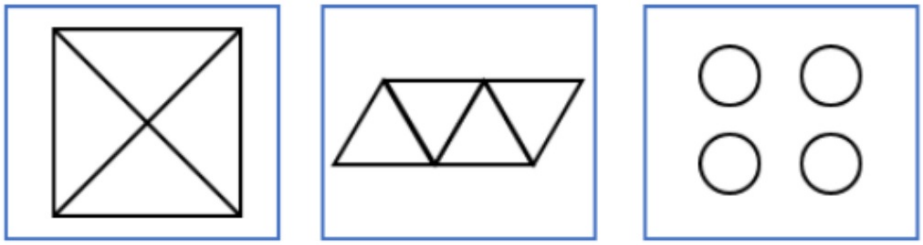
What type of fraction is this?

Show $\frac{1}{4}$ on each of the representations.

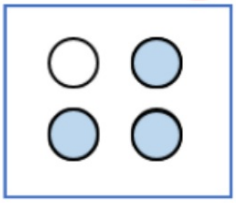


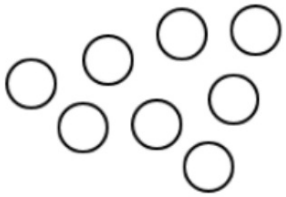
What type of fraction is this?

Show $\frac{3}{4}$ on each of the representations.



Show $\frac{3}{4}$ on each of the representations.





I'm thinking of a fraction...

1	2	3	4	5

My fraction has a numerator 3 less than the denominator

Mine is a unit-fraction with an odd number as a denominator

$\frac{\square}{\square}$

Which digit card is left?

$\frac{\square}{\square}$

1 Write fractions to complete the sentences.

a) ☐ of the counters are yellow.

b) ☐ of the counters are red.

2 Write fractions to complete the sentences.

a) ☐ of the tower is green.

b) ☐ of the tower is yellow.

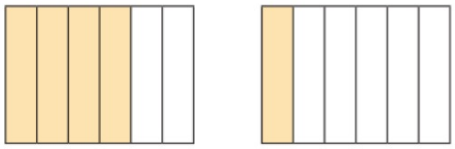
c) ☐ of the tower is blue.

3 What fraction of each shape is shaded?

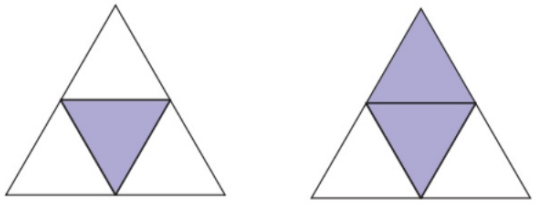
a)

b)

c)



d)

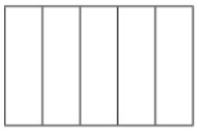


e)

Which is the unit fraction in each pair of shapes?

How did you know which was the unit fraction?

4

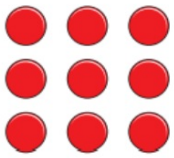


a) Colour $\frac{1}{5}$ of each shape.

b) Colour $\frac{3}{5}$ of each shape.

What is the same and what is different about your answers?

5



a) Circle $\frac{1}{3}$ of the counters.

b) Circle $\frac{2}{3}$ of the counters.

What is the same and what is different about your answers?

6 Write the fractions in the table.

$\frac{1}{6}$	$\frac{2}{3}$	$\frac{3}{4}$	$\frac{1}{10}$	$\frac{1}{8}$
$\frac{3}{5}$	$\frac{1}{4}$	$\frac{1}{99}$	$\frac{6}{1}$	$\frac{1}{250}$

Unit fractions	Non-unit fractions

Write two more examples of your own in each column.

7 **a)** What is a unit fraction? What is a non-unit fraction?

Talk about it with a partner.

b) Complete the sentences.

An example of a unit fraction is ☐

The numerator is always ☐

An example of a non-unit fraction is ☐

The numerator is always greater than ☐

Extension

Sort the fractions into the table.

	Fractions equal to one whole	Fractions less than one whole
Unit fractions		
Non-unit fractions		

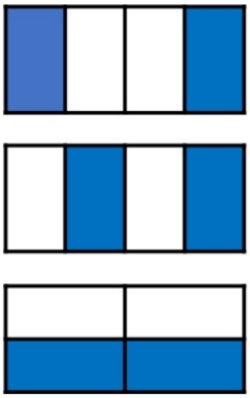
Are there any boxes in the table empty? Why?

$\frac{3}{4}$	$\frac{3}{5}$	$\frac{1}{3}$	$\frac{1}{4}$	$\frac{2}{2}$	$\frac{4}{4}$	$\frac{2}{5}$	$\frac{1}{2}$

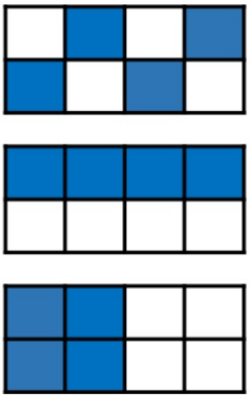
True or False?

Unit and non-unit fractions

2 out of 4 equal parts are shaded



4 out of 8 equal parts are shaded

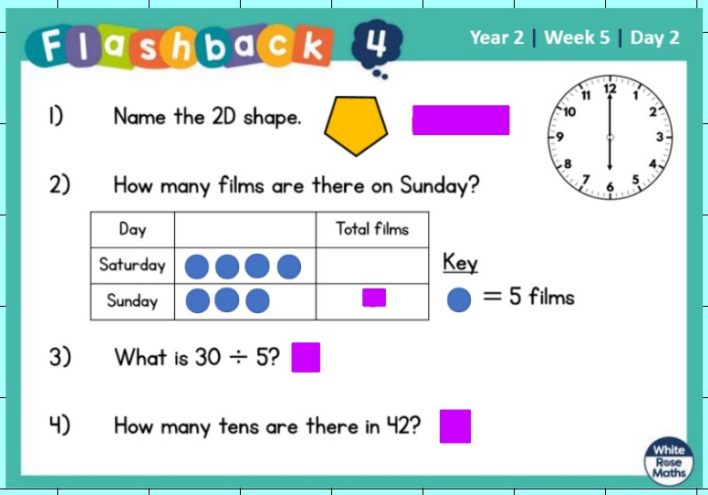


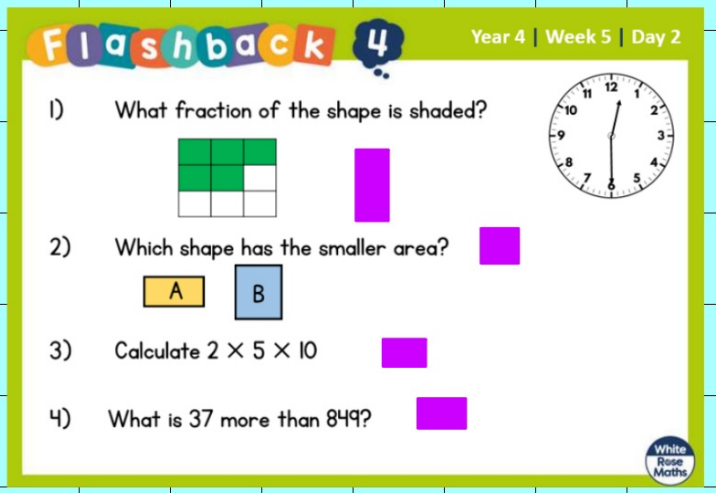
White Rose Maths

01.02.22

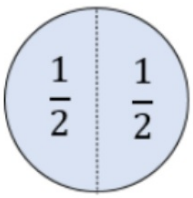
LO: To recognise a half.
I can use the notation $\frac{1}{2}$ alongside 'half' and 'halves'.
I know what numerator and denominator is.
I understand that halving is splitting a whole into two equal parts.

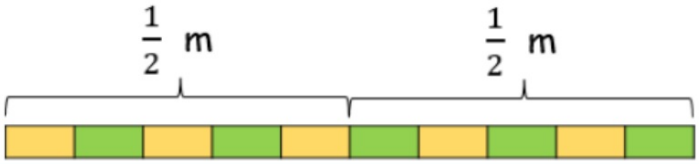
LO: To understand what a fraction is.
I can recognise a range of fractions.
I know what numerators, denominators, unit fractions and non-unit fractions are.
I understand that fractions can be represented in different ways.





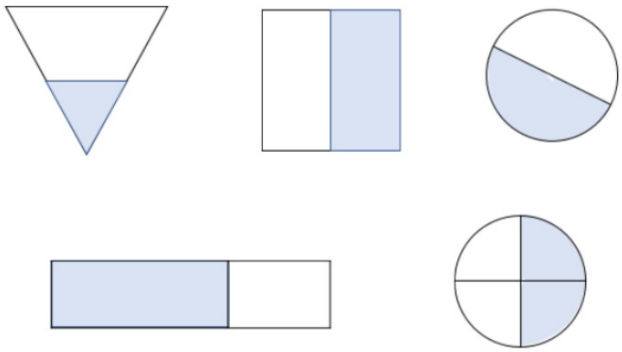
Here are some more halves.





What does a half mean?

Which of these shapes have one half shaded?



Eva wants to colour half of each set of shapes.

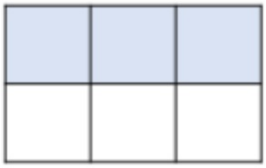
a) ○ ○ ○ ○

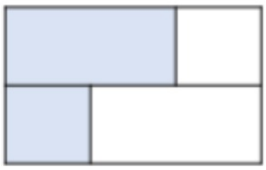
b) △ △ △ △ △ △

c) □ □

ı shape.
the whole shape?
ɛ than one way to do this?

Which shapes have exactly
shaded?





Group A start

What fraction is being represented?

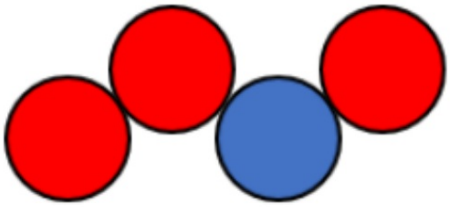
There are ☐ equal parts altogether.

☐ out of ☐ equal parts is shaded.

☐ of the shape is shaded.

This is a _____ fraction.

What fraction are shaded red?



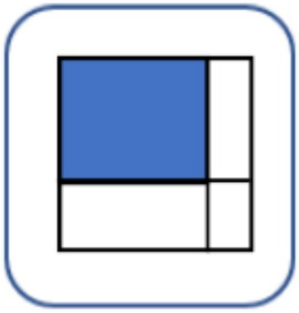
There are ☐ equal parts altogether.

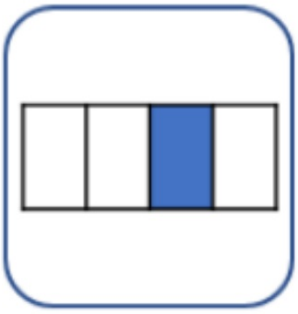
☐ out of ☐ equal parts are shaded red.

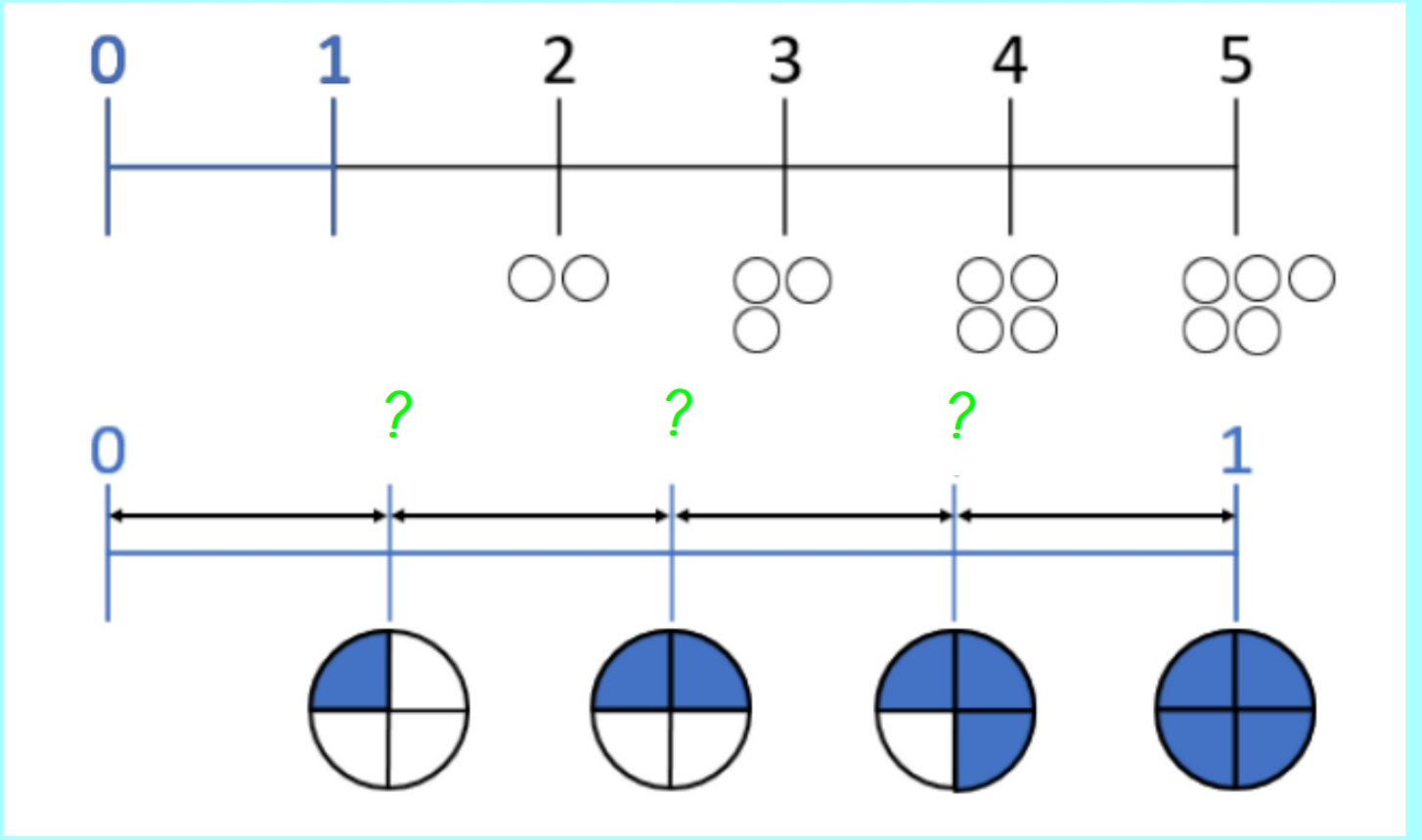
☐ of the shapes are shaded red.

This is a _____ fraction.

Which of these representations shows $\frac{1}{4}$? Why?

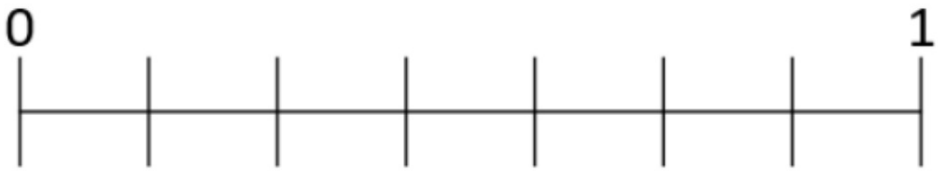





0
1
2
3
4
5
0
?
?
?
1

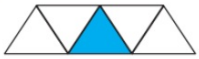
What fraction is the arrow pointing to?

Where would $\frac{6}{7}$ be on this number line?



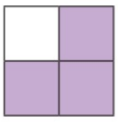
1 What fraction of each shape is shaded?

a)



b)

c)



d)

2 Shade each diagram to represent the fractions.

a)

$\frac{1}{6}$

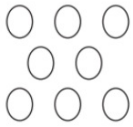
b)

$\frac{5}{6}$

c)

$\frac{5}{8}$

d)



$\frac{5}{8}$

3 Which are unit fractions?

$\frac{1}{3}$ $\frac{1}{5}$ $\frac{3}{5}$ $\frac{1}{8}$ $\frac{2}{3}$ $\frac{10}{11}$

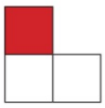
How do you know?

4 **a)** Which shapes have one third shaded?

A

B

C



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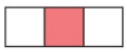

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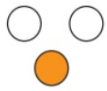

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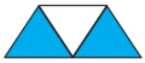
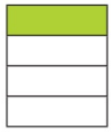


G



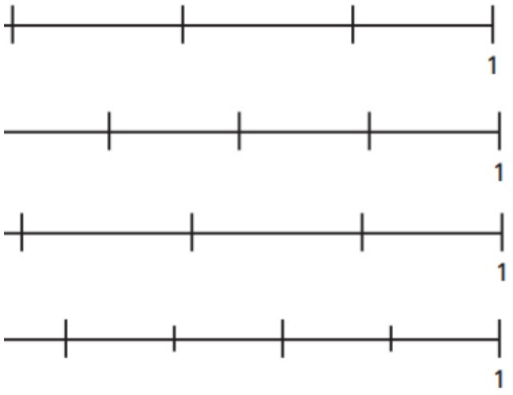
b) Complete the sentences to describe the shapes with one third shaded.

There are ☐ equal parts altogether.

☐ out of ☐ equal parts is shaded.

☐ of the shape is shaded.

ow the position of the fraction on the



6 Draw an arrow to show the position of $\frac{5}{5}$ on the number line.

What do you notice?

7 Draw four different representations of $\frac{3}{4}$

8 Amir has drawn some 2D shapes.

a) What fraction of the shapes are triangles?

b) What fraction of the shapes are squares?

c) What fraction of the shapes have four sides?

d) Draw 2D shapes to match the description.

$\frac{1}{5}$ are squares, $\frac{2}{5}$ are triangles, $\frac{3}{5}$ have more than 3 sides.

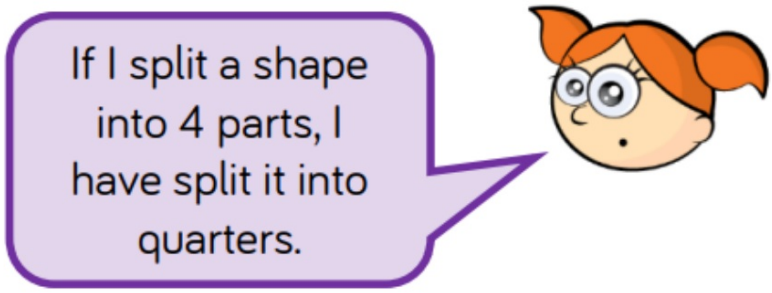
Compare shapes with a partner.

What is the same about your shapes? Is anything different?

Extension

Always, Sometimes, Never?

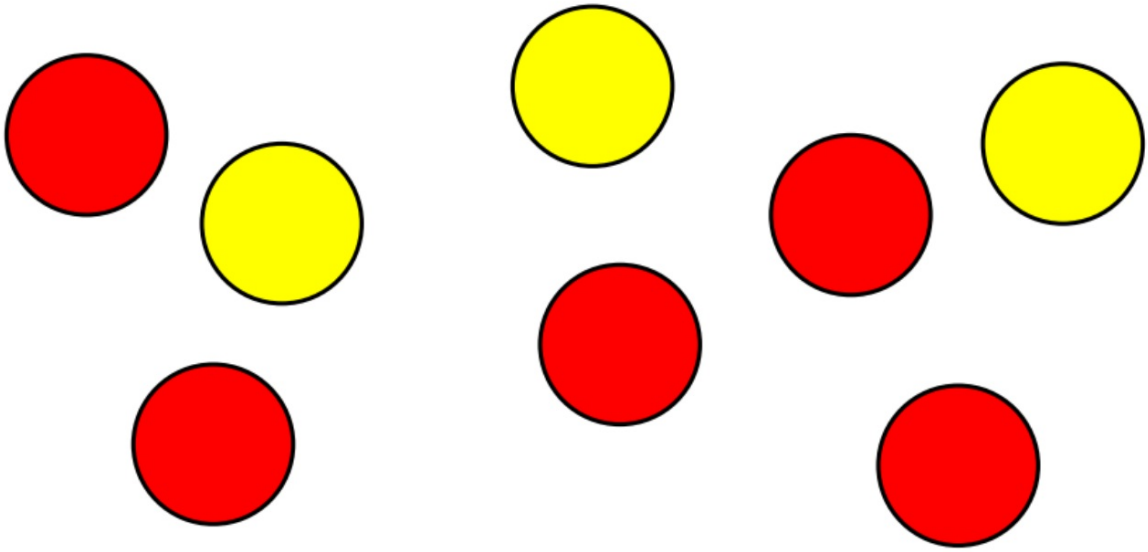
Alex says,



Explain your answer.

True or False?

$\frac{3}{8}$ of the counters are yellow.

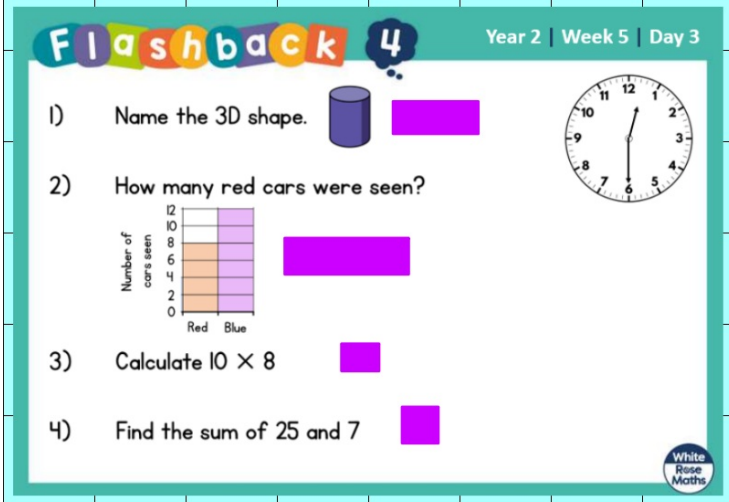


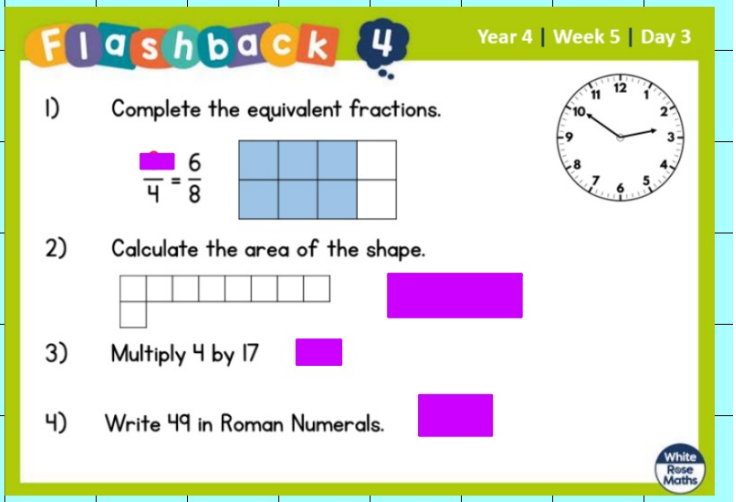
White Rose Maths

02.02.22

LO: To find a half.
I can find a half of a set of objects or quantity.
I know that this is linked to dividing by 2.
I understand that I can use sharing to find a half.

LO: To find and understand tenths.
I can represent tenths in different ways and use words and fractions to describe them.
I know what a tenth is.
I understand that tenths arise from dividing one whole into 10 equal parts.





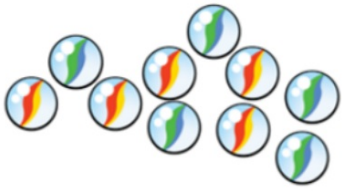
Here are 12 flowers.

The flowers are shared equally between 2 pots.
How many flowers will be in each pot?

Here are 14 flowers.

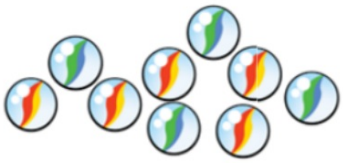
The flowers are shared equally between 2 pots.
How many flowers will be in each pot?

Here are 10 marbles.



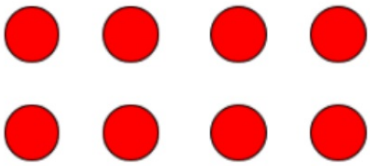
Ron and Amir need half each to start their game.
How many marbles will they each get?

They have lost a marble. Now there are 9

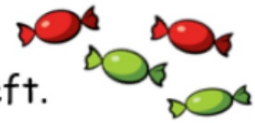


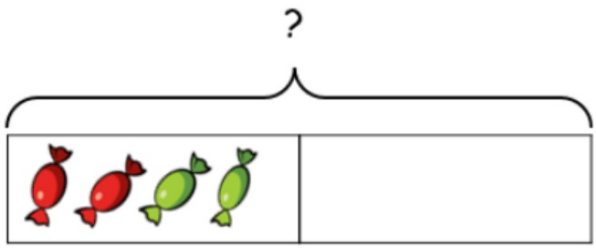
Can Ron and Amir halve 9 marbles?

his array to help him find $\frac{1}{2}$ of 12



Ron bought some sweets.
He has eaten half of them.
Here are the sweets he has left.





$\frac{1}{2}$ of $\square$ $= 4$

How many sweets did Ron have to begin with

Group A start

What fraction of the flowers are blue?

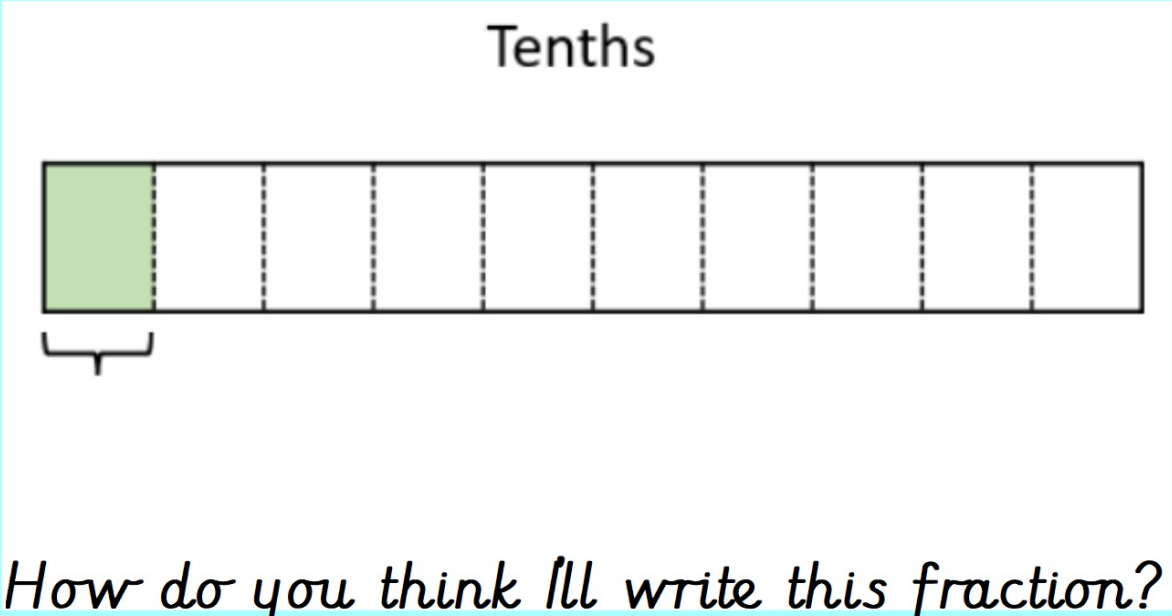
There are ☐ flowers altogether.

☐ out of ☐ flowers are blue.

☐ of the flowers are blue.

This is a _____ fraction.

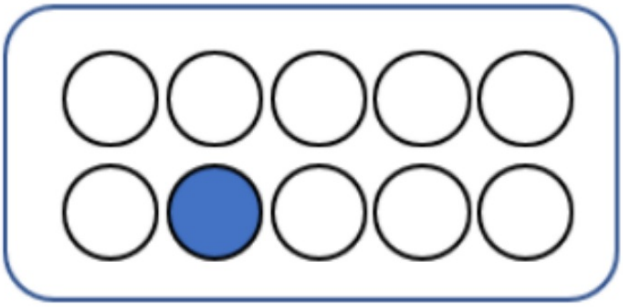
Now, can you tell me the fraction of flowers that are orange?

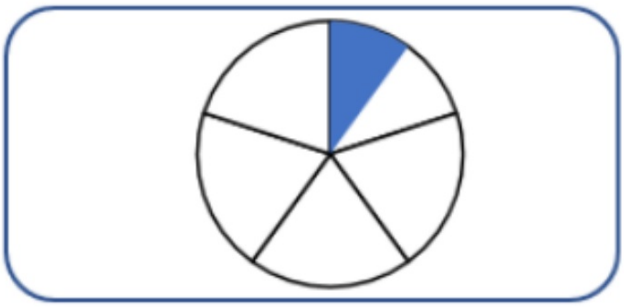


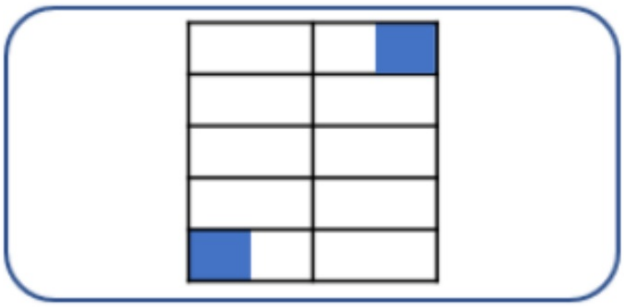
How do you think I'll write this fraction?

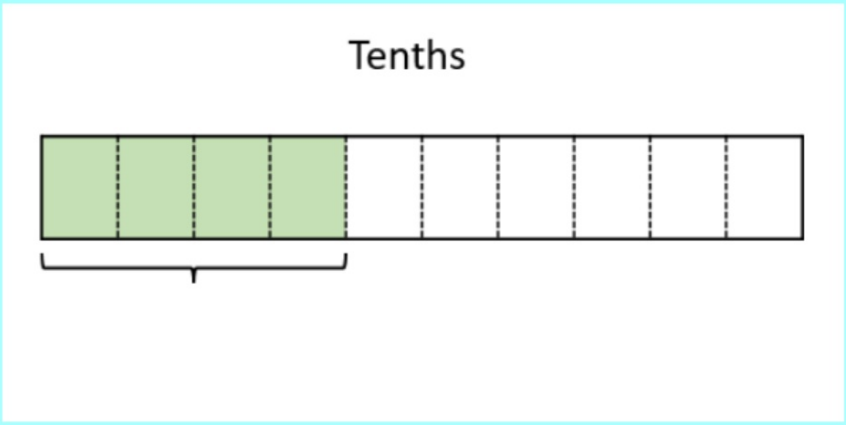
What will the other fractions be?

Which of these representations shows $\frac{1}{10}$? Why?





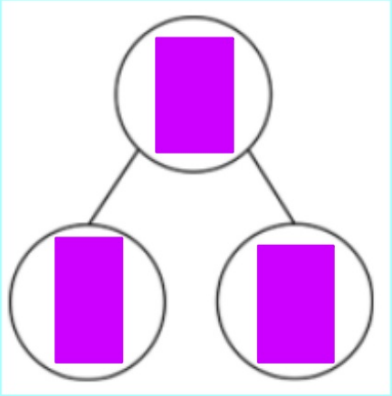




What fraction is shaded?

What fraction is not shaded?

What fraction of the cubes are red?
What fraction are yellow?



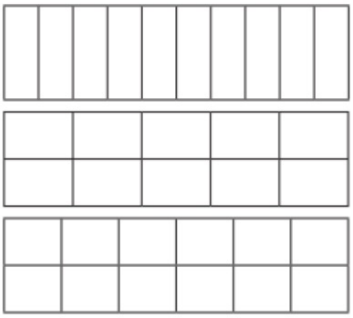
What fraction of the cubes are red?
What fraction are blue?
What fraction are yellow?

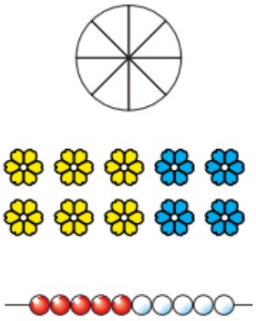
$\frac{7}{10}$ of the gummy bears are purple.

What fraction could be blue?

What fraction could be yellow?

1 Which pictures show tenths?





2 Write fractions to complete the sentences.

a) ☐ of the counters are yellow.

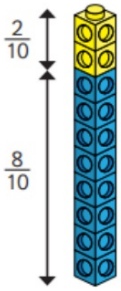
b) ☐ of the counters are red.

c) ☐ of the counters are green.

3 Amir has some blue and yellow cubes.

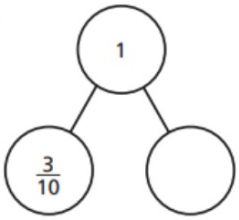
He makes a tower using 10 cubes.

Investigate how many different towers Amir can make with 10 cubes, if every tower has a different fraction of blue and yellow cubes.

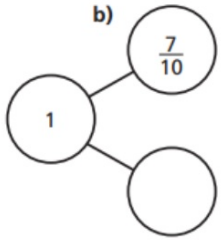


4 Complete the part-whole models.

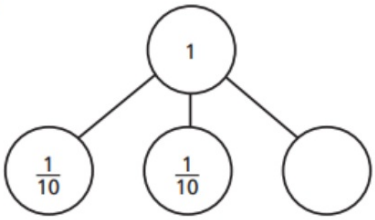
a)



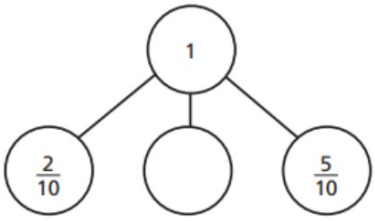
b)



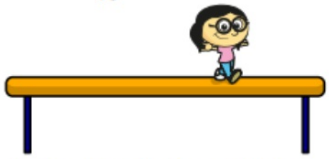
c)



d)



5 Annie has travelled $\frac{7}{10}$ of the way across a balance beam.



How many tenths does she have left to travel?

6 10 boys share 3 pizzas equally.

What fraction of a pizza do they each get?

7 Dani has a bag of sweets.

$\frac{1}{2}$ of the sweets are red.

$\frac{3}{10}$ of the sweets are yellow.

The rest are green.

What fraction of the sweets are green?

8 Mo also has a bag of sweets.

$\frac{4}{10}$ of his sweets are red.

The rest are green or yellow.

What fraction of Mo's sweets could be green?

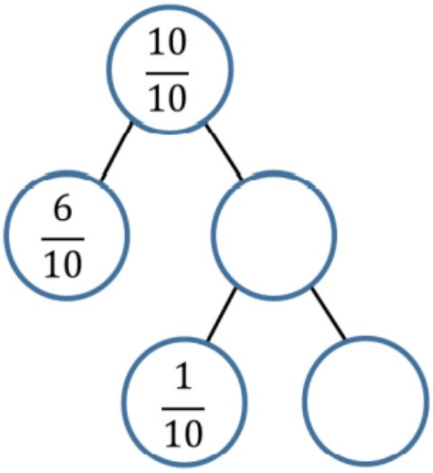
What fraction could be yellow?

How many possible answers can you find?

Compare answers with a partner.

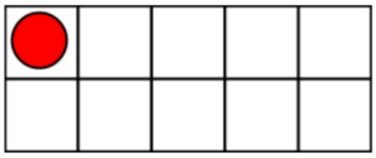
Extension

Fill in the missing values.
Explain how you got your answers.



True or False?

All models show 1 tenth

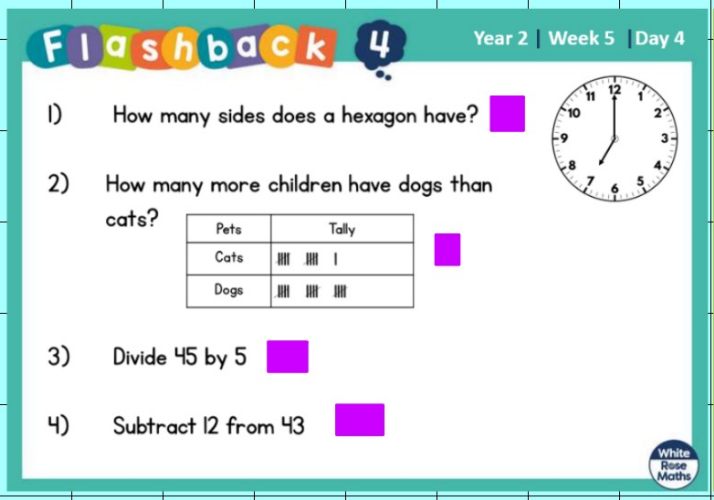


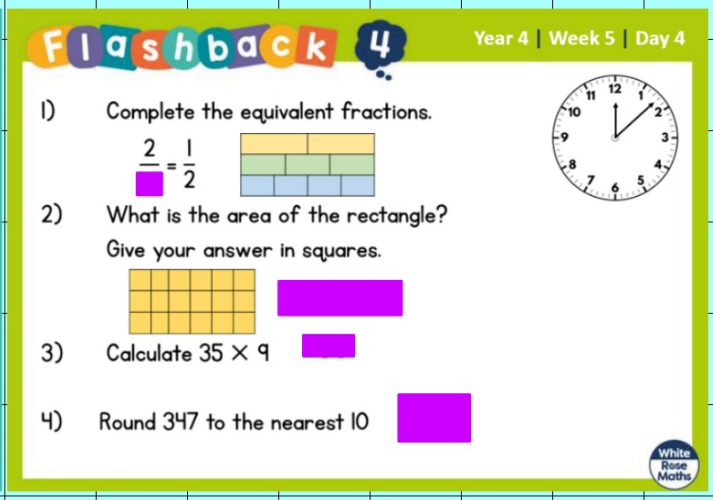
White Rose Maths

03.02.22

LO: To find equivalent fractions (1)
I can make a fractions wall to help me identify equivalent fractions.
I know that a fraction can have more than 1 equivalent fraction.
I understand what equivalent means.

LO: To recognise a quarter.
I can identify a quarter within a shape or a quantity.
I know that a quarter is also written as $\frac{1}{4}$.
I understand that a quarter is splitting the whole into 4 equal parts and each part is a quarter





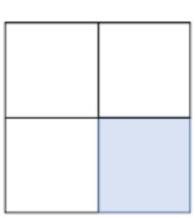
We can recognise a quarter when a shape, measure or quantity has been split into **4 equal parts.**

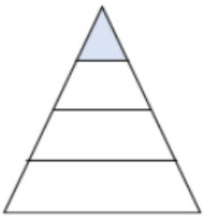
Which cheesecake has been split into 4 equal parts?

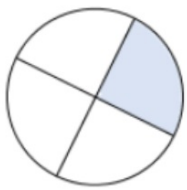
This shape has been divided into 4 **equal parts**.

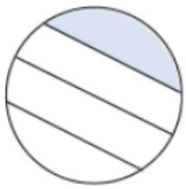
Each part is **one quarter** of the whole shape.

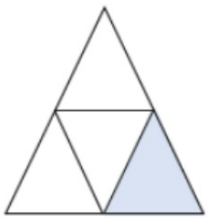
Which shapes have one quarter shaded?



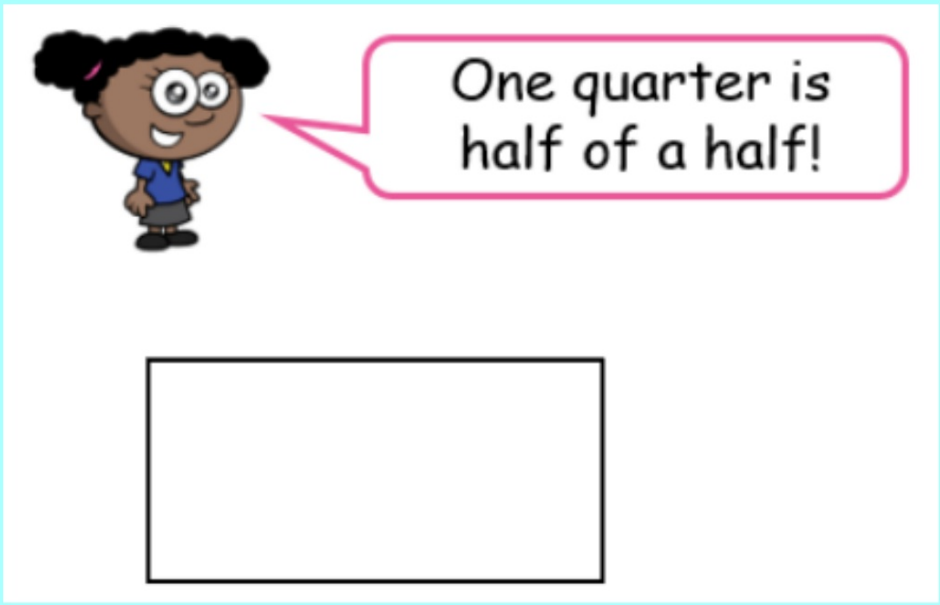








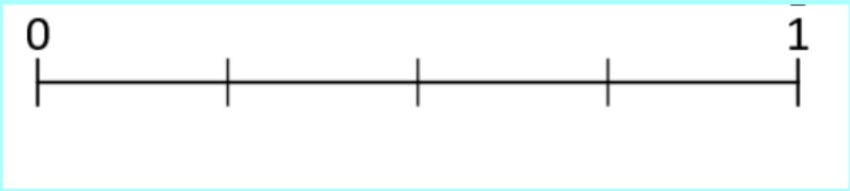
Here is one quarter of a shape.
Can you draw the whole shape?
Is there more than one way to do this?

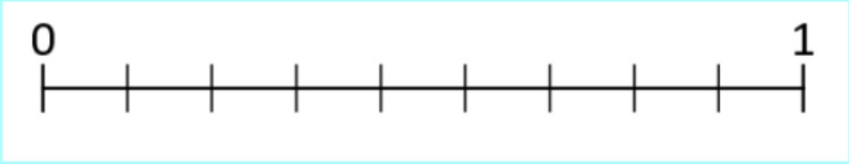


How can we prove that Dora is correct?

Group A start

What fractions will go on the following number lines?





Make fractions wall

What do you notice?

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

What other equivalent fractions can you find?

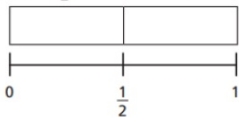
$\frac{5}{12}$ is halfway between ● and ★.

Draw an arrow to where ★ is on the number line.

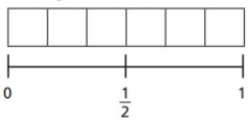
What fraction is represented by the ★?

Shade the bar models to represent the fractions.

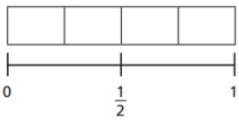
a) Shade $\frac{1}{2}$ of the bar model.



c) Shade $\frac{3}{6}$ of the bar model.



b) Shade $\frac{2}{4}$ of the bar model.

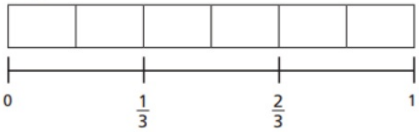


d) What do you notice?

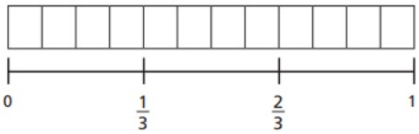
e) Write another fraction that is equivalent to $\frac{1}{2}$

2 Shade $\frac{2}{3}$ of each bar model.

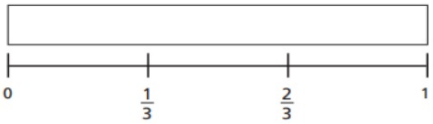
a)



b)



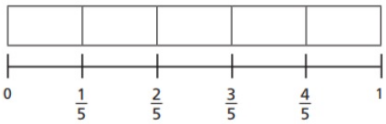
c)

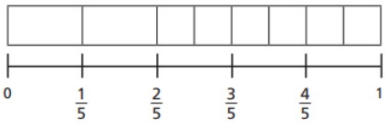


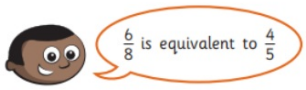
d) Use your answers to parts a), b) and c) to complete the equivalent fractions.

$$\frac{2}{3} = \frac{\square}{6} = \frac{8}{\square} = \frac{\square}{15}$$

3 Mo is finding equivalent fractions.



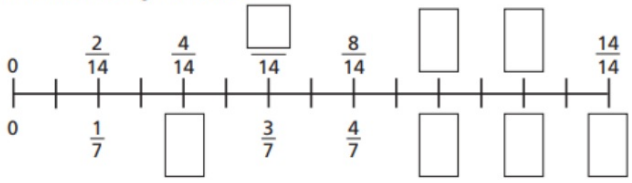




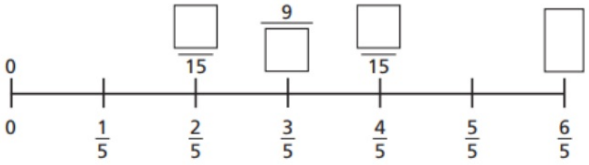
Do you agree with Mo?
Explain your answer.

4 Find the missing numbers.

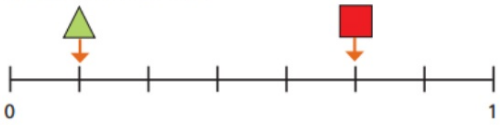
a)



b)



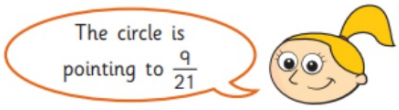
5 Here is a number line.



a) What fraction is each shape pointing to?

b) A circle is halfway between the triangle and the square.
Draw the circle on the number line.

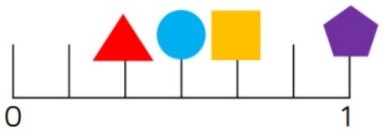
c)



Do you agree with Eva?
Show how you worked this out.

d) Write three equivalent fractions for each shape.
Compare answers with a partner.

Extension



Use the clues to work out which fraction is being described for each shape.

- My denominator is 6 and my numerator is half of my denominator.
- I am equivalent to $\frac{4}{12}$
- I am equivalent to one whole
- I am equivalent to $\frac{2}{3}$

Can you write what fraction each shape is worth? Can you record an equivalent fraction for each one?

True or False?

A fraction can have more than one equivalent fraction.

White Rose Maths

04.02.22

Flashback 4

Year 2 | Week 5 | Day 5

1) Which shape has 8 sides?

2) If ● = 10, use symbols to represent 35

3) What is 2 × 7?

4) Order the numbers from smallest to greatest.

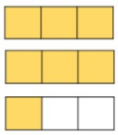
27, 9, 35

White Rose Maths

Flashback 4

Year 4 | Week 5 | Day 5

1) Complete the sentence.



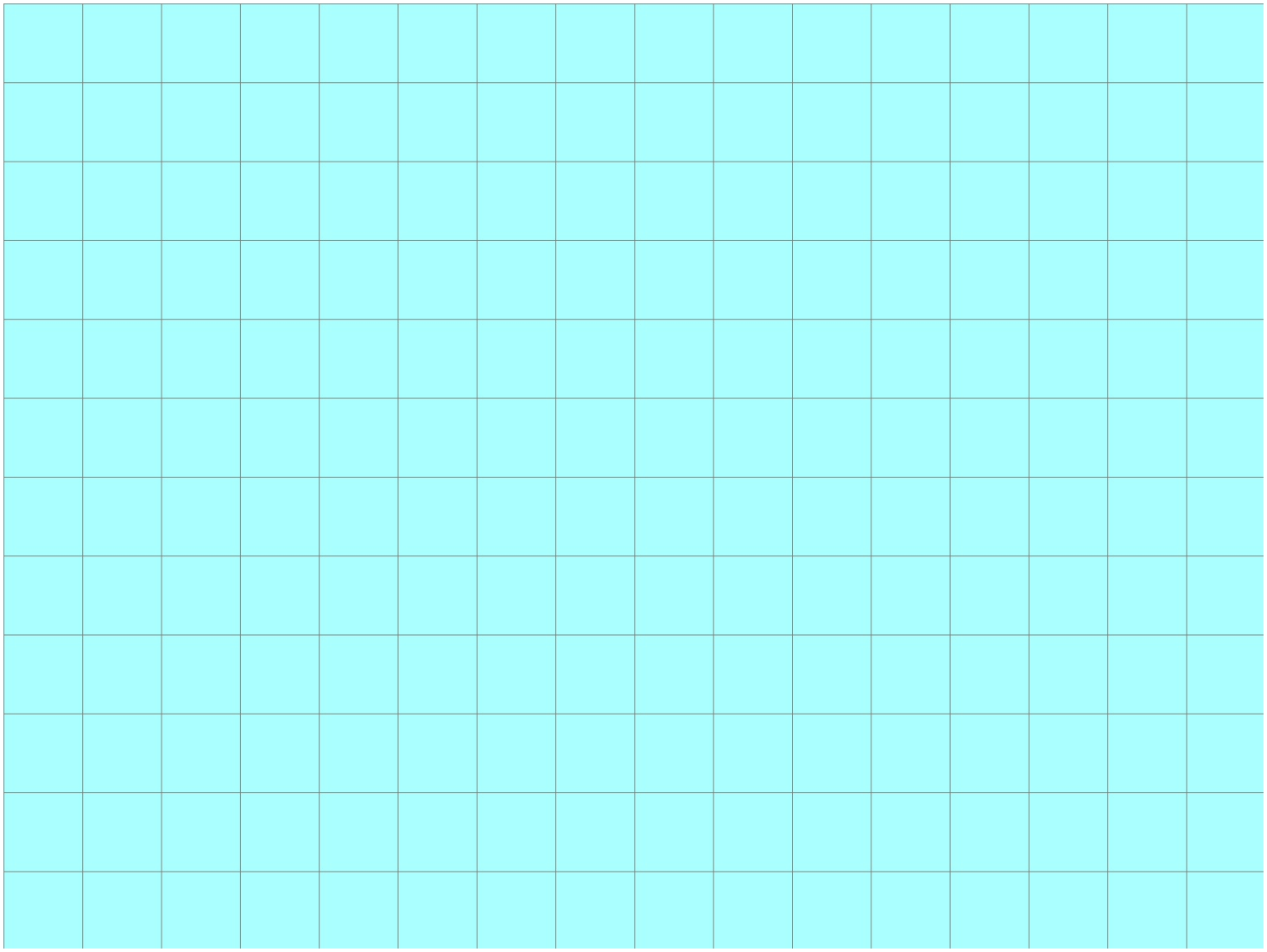
There are ____ thirds altogether.

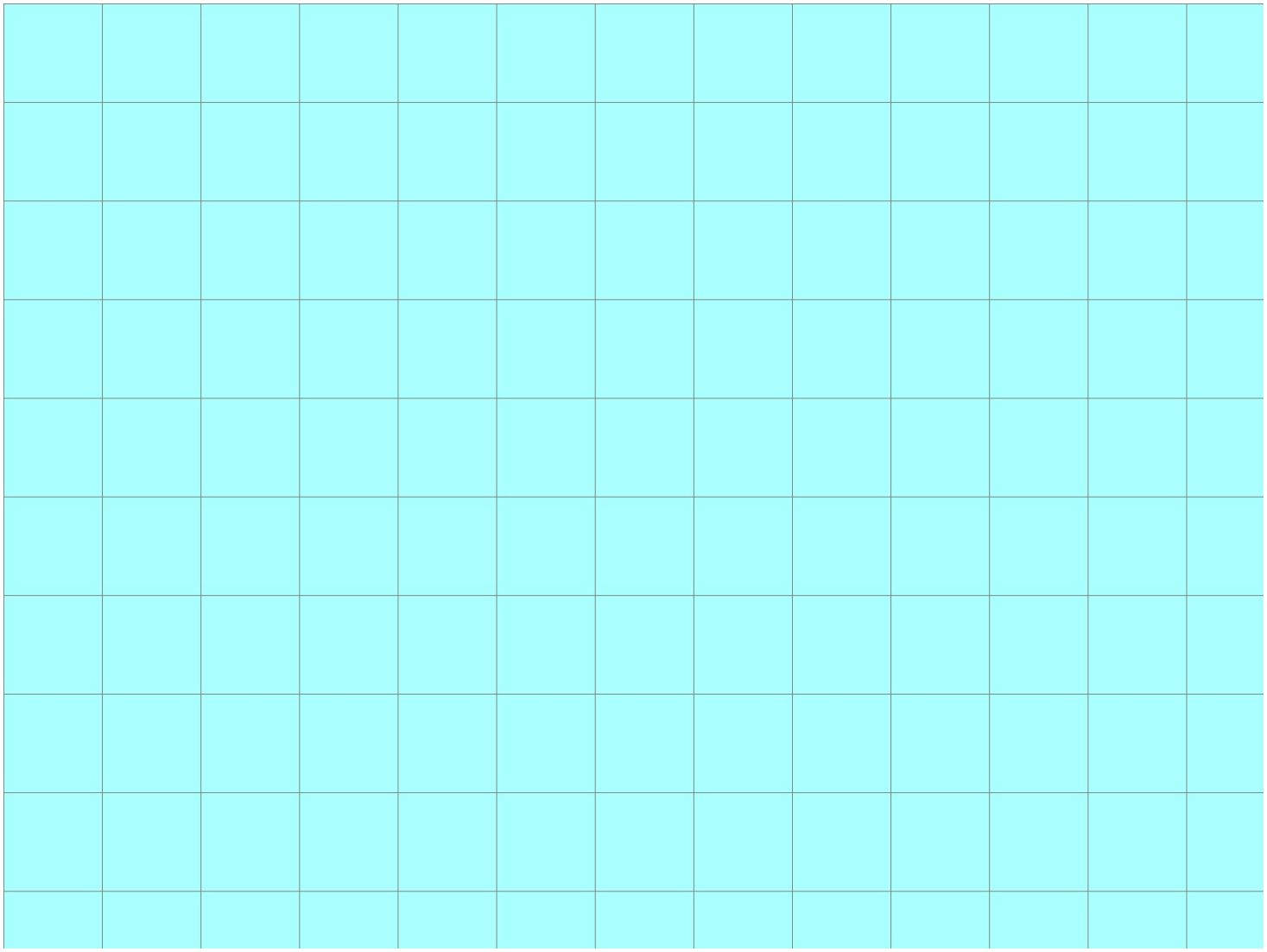
2) Draw a shape with an area of 8 squares.

3) Multiply 124 by 4

4) What is the value of the digit 5 in 7,567?

White Rose Maths





True of false?