

# Miss Cole's Maths Group

## Fractions (continued)

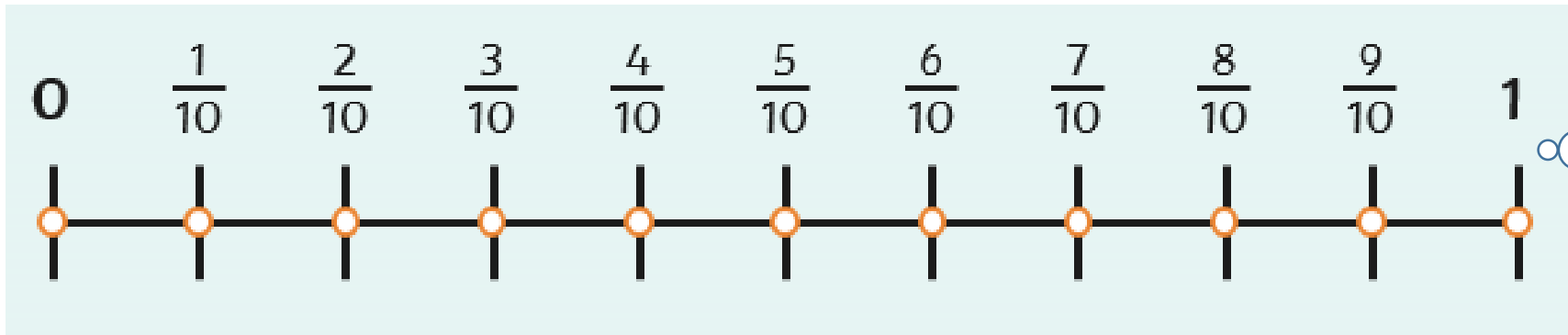
Write today's date and LO in your work book.

4.5.20

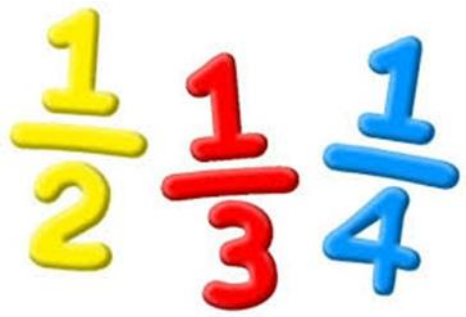
LO: To show fractions on a number line

Starter:

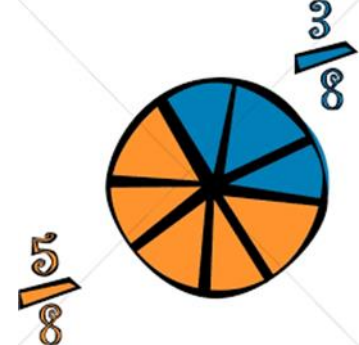
Count in tenths – use the number line to help you:



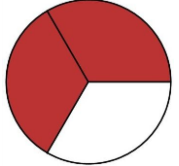
Notice that the final number is 1. This represents 1 whole number.



# Revision





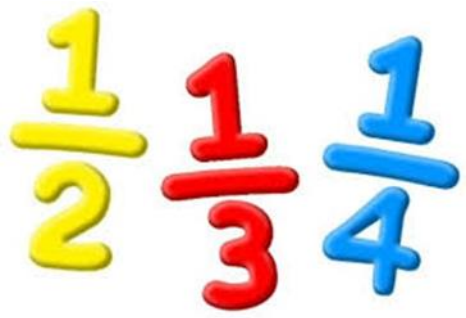
Take some time to revise some of last weeks key learning:

- Fractions are **parts of a whole**.
- You can have fractions of number/amounts e.g.  $\frac{1}{2}$  of 8 = 4
- You can have fractions of shape e.g.  $\frac{2}{3}$  of a circle = 

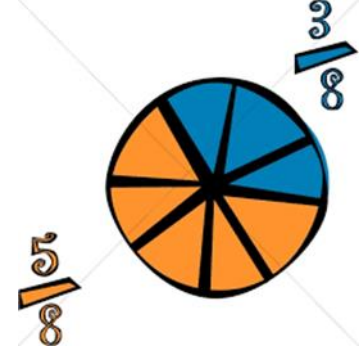
- The **top** number is known as a **numerator**.
- The **bottom** number is known as a **denominator**.

$\frac{?}{2}$  = half / halves  
 $\frac{?}{3}$  = third / thirds  
 $\frac{?}{4}$  = quarter / quarters  
 $\frac{?}{5}$  = fifth / fifths  
 $\frac{?}{6}$  = sixth / sixths  
 $\frac{?}{7}$  = seventh / sevenths

$\frac{?}{8}$  = eighth / eighths  
 $\frac{?}{9}$  = ninth / ninths  
 $\frac{?}{10}$  = tenth / tenths  
e.g.  $\frac{1}{3}$  = one third =   
 $\frac{2}{3}$  = two thirds = 

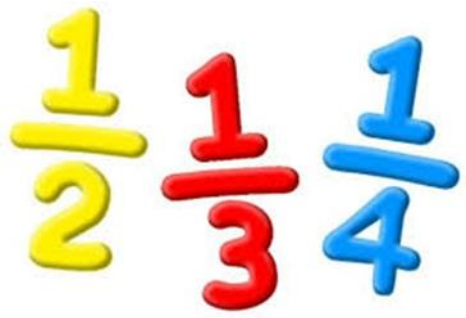


# Revision

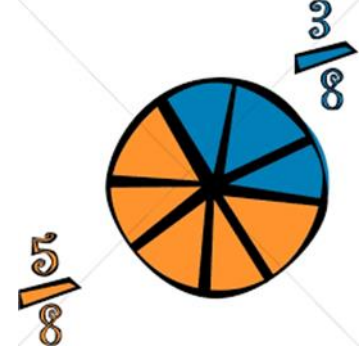


Take some time to revise some of last weeks key learning:

- A **numerator** (top number) shows how many parts you have.
- The **denominator** (bottom number) shows how many parts make up the whole.
- **Unit fractions** are when the **numerator is 1**.
- **Non-unit fractions** are when the **numerator is any other number except from 1**.



# Revision



When the numerator is less than the denominator, the fraction is less than one whole.

When the numerator is equal to the denominator, the fraction is equal to one whole.

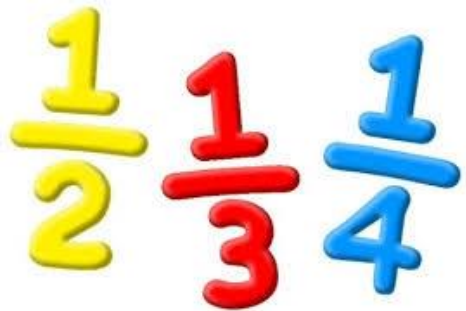
e.g.  $\frac{3}{4}$

The numerator – 3, is less than the denominator – 4.  
Therefore the fraction is less than the whole.

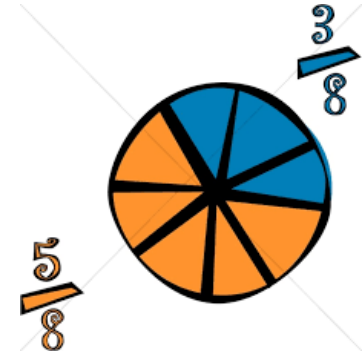
e.g.  $\frac{4}{4}$

The numerator – 4, is equal to the denominator – 4.  
Therefore the fraction is equal to the whole.

**Remember**  
**=/equal**  
**means the same**



# Revision



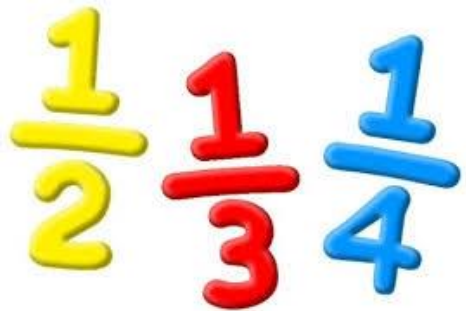
Take some time to revise some of last weeks key learning:

A **tenth** can be written in **words** – tenth

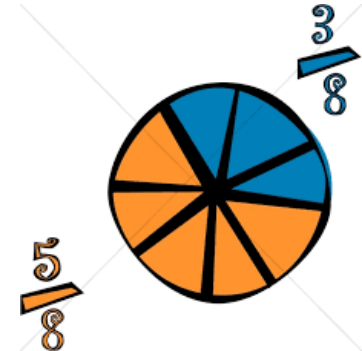
A **tenth** can be written as a **fraction** –  $\frac{1}{10}$

A **tenth** can be written as a **decimal** – 0.1

A **tenth** is 1 part out of 10 e.g.  $\frac{2}{10}$  of 10 is 2



# Fractions



## Here are some new terms that you may come across this week:

**Improper Fraction:** An improper fraction is when the numerator (the top number) is larger than the denominator (bottom number).

**Examples of Improper Fractions:**  $4/2$  (four halves),  $8/3$  (eight thirds),  $6/5$  (six fifths)

**Mixed Number:** A mixed number is when you have a whole number and a fraction together. You can change improper fractions into mixed numbers which you will learn more about in Year 4.

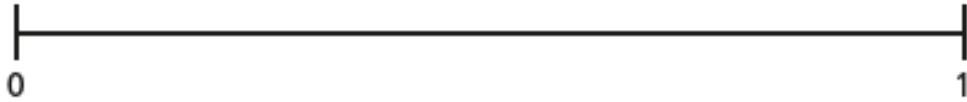
**Examples of Mixed Numbers:**

$1 \frac{1}{2}$  (one whole and one half),  $3 \frac{3}{4}$  (three wholes and three quarters),  $2 \frac{3}{5}$  (two wholes and three fifths)

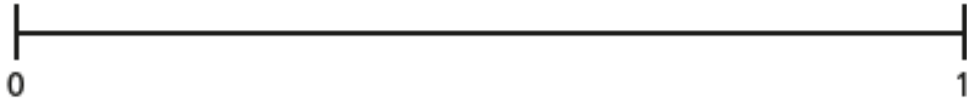
# Challenge 1

Draw an arrow to show the fractions on the number lines.

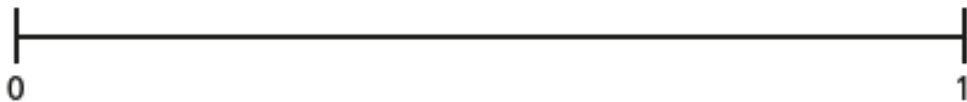
a)  $\frac{1}{2}$



b)  $\frac{1}{3}$

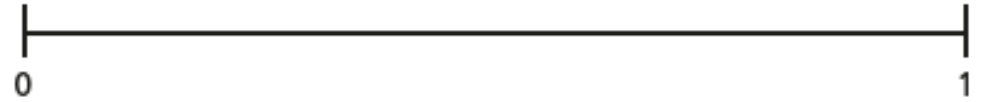


c)  $\frac{1}{4}$

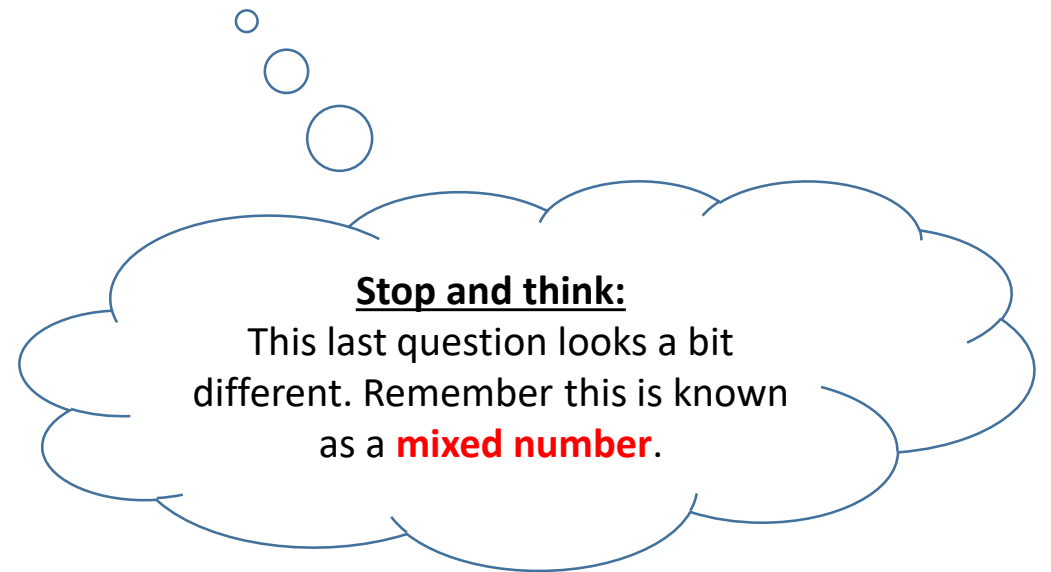
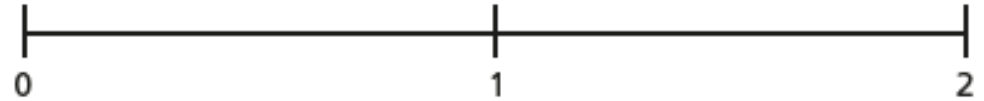


Draw an arrow to estimate where each fraction belongs on the number line.

a)  $\frac{3}{4}$



b)  $1$  and  $\frac{2}{3}$



**Stop and think:**

This last question looks a bit different. Remember this is known as a **mixed number**.

You can check your answers at the end

# Challenge 2

Look carefully at the fractions wall. It will help you compare these fractions.

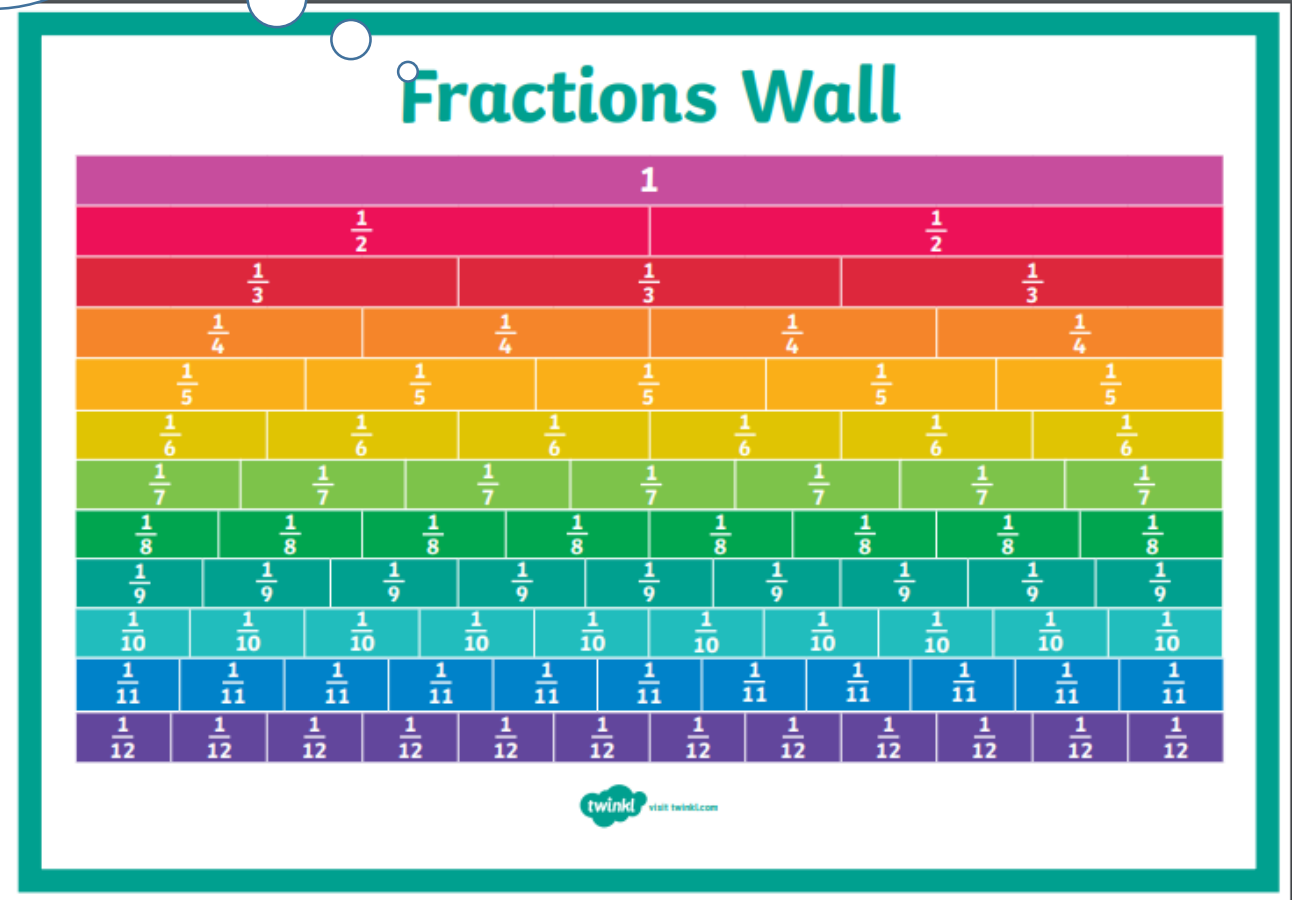
Remember, the smaller the **denominator**, the larger the part as it is closer to the 1 whole.

Write  $<$ ,  $>$  or  $=$  to compare the fractions.

a)  $\frac{1}{2}$  ○  $\frac{1}{4}$

b)  $\frac{1}{4}$  ○  $\frac{1}{3}$

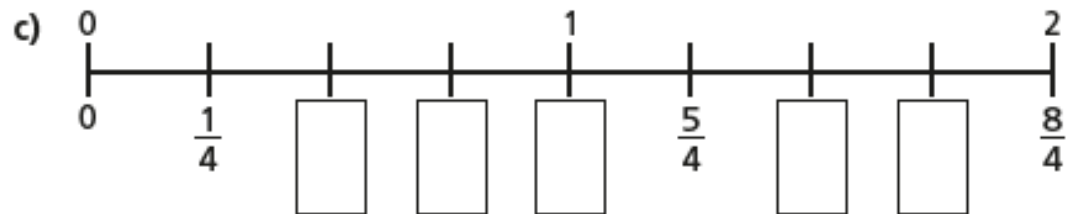
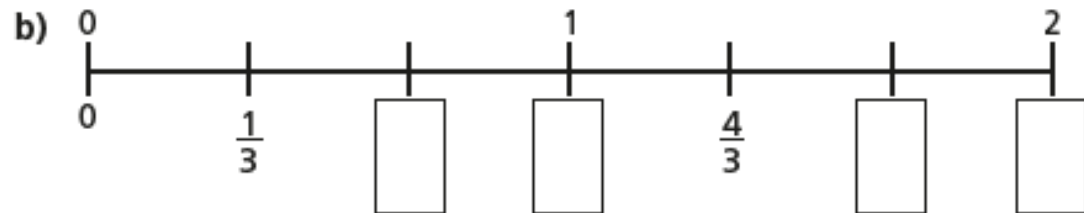
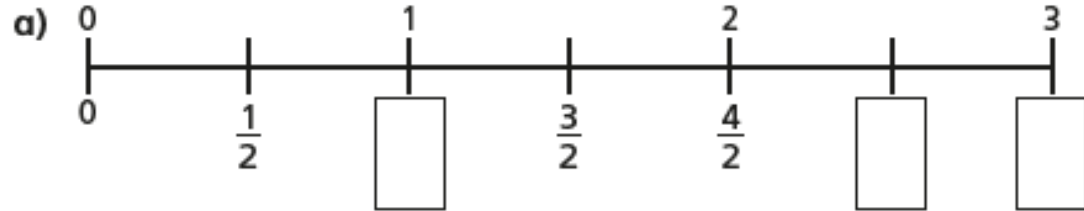
c)  $\frac{1}{3}$  ○  $\frac{1}{2}$



You can check your answers at the end

# Challenge 3

Write the missing fractions on the number lines.



Record your answers as fractions and **improper fractions** – don't worry if the **numerator** is bigger than the **denominator**.

d) Write three fractions that are equivalent to one whole.

Use the number lines to help you.

What do you notice?

\_\_\_\_\_  
\_\_\_\_\_

You can check your answers at the end

# Challenge 4

Write each fraction under the correct heading.

$\frac{2}{3}$

$\frac{4}{4}$

$\frac{5}{3}$

$\frac{1}{8}$

$\frac{3}{3}$

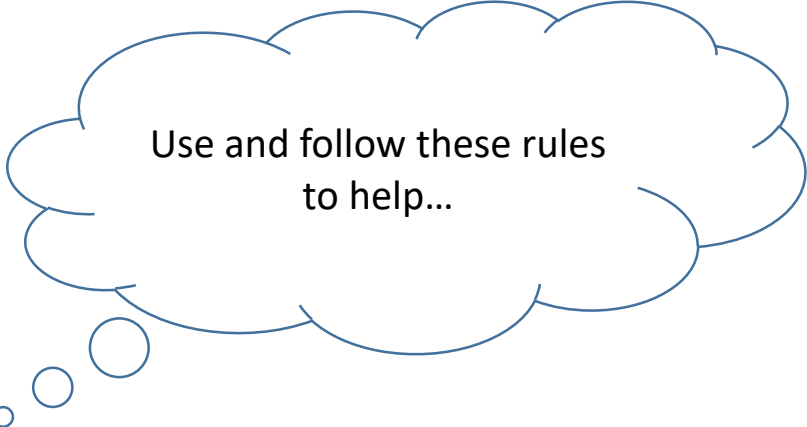
$\frac{3}{4}$

$\frac{7}{4}$

$\frac{8}{8}$

$\frac{7}{8}$

| Less than one whole | Equal to one whole | More than one whole |
|---------------------|--------------------|---------------------|
|                     |                    |                     |



Use and follow these rules to help...

When the numerator is less than the denominator, the fraction is less than one whole.

When the numerator is equal to the denominator, the fraction is equal to one whole.

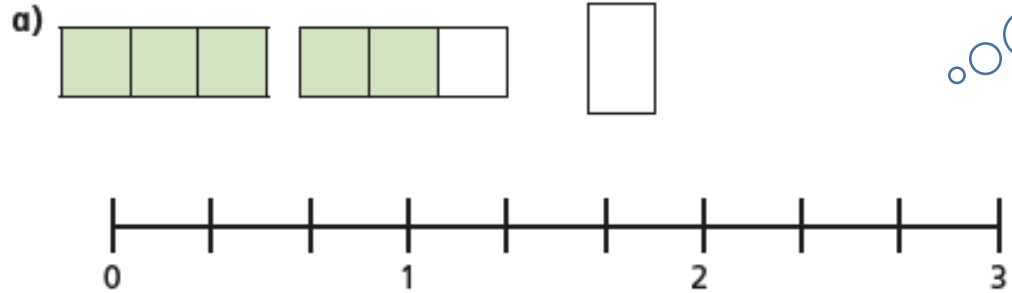
When the numerator is **greater than** the denominator, the fraction is **greater** than the whole.

You can check your answers on the **NEXT SLIDE**

# Optional – Extra Challenges

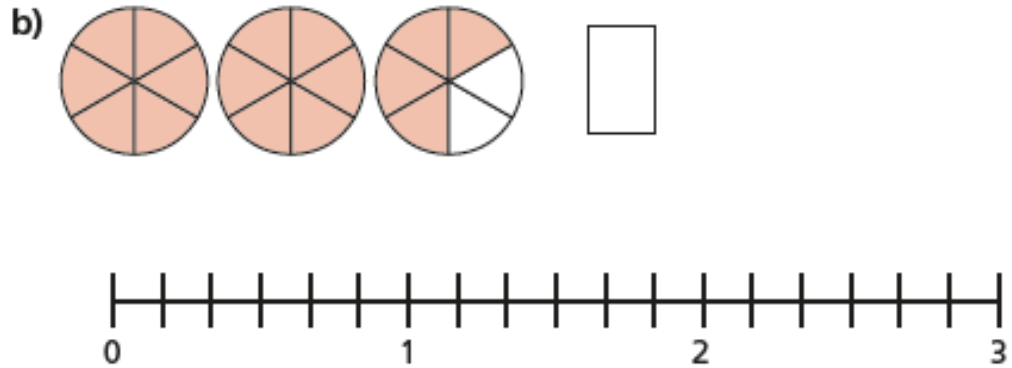
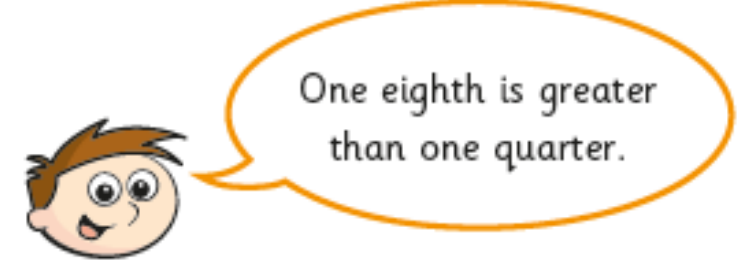
What fraction is shown in each diagram?

Draw an arrow to show the fraction on the number line.

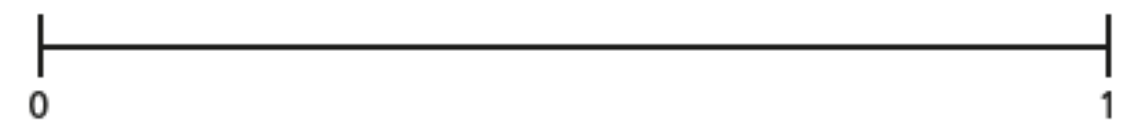


Please write your answers as **improper fractions**.

You can also look back at your fractions wall.



Do you agree with Teddy? \_\_\_\_\_  
Use the number line to show why.

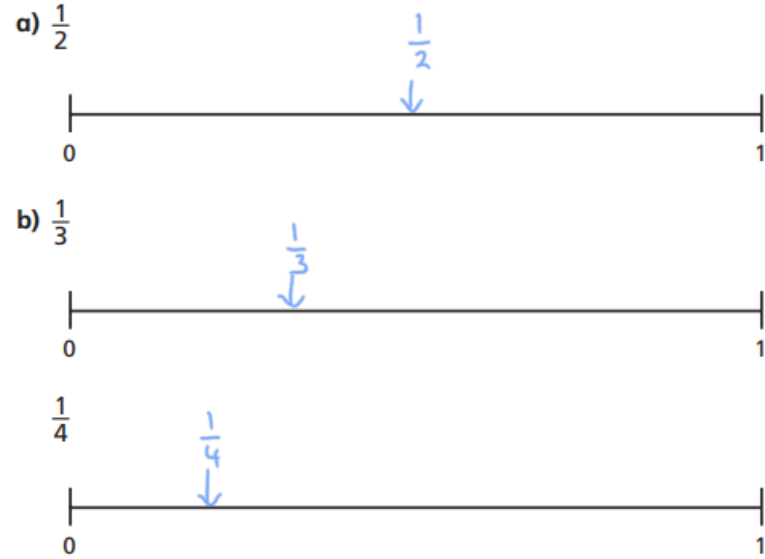


You can check your answers on the NEXT SLIDE

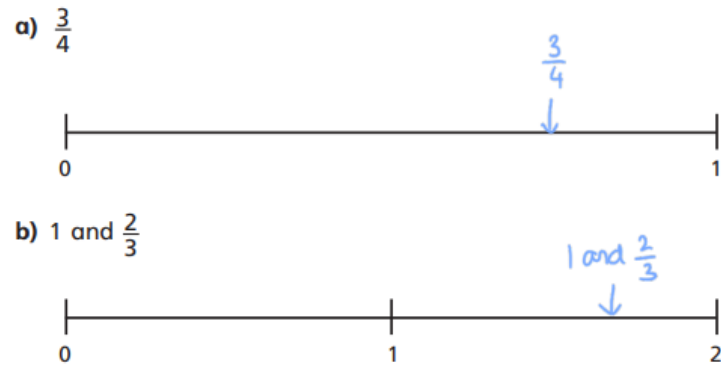
# Answers

1.

Draw an arrow to show the fractions on the number lines.



Draw an arrow to estimate where each fraction belongs on the number line.



2.

Write  $<$ ,  $>$  or  $=$  to compare the fractions.

a)  $\frac{1}{2} > \frac{1}{4}$

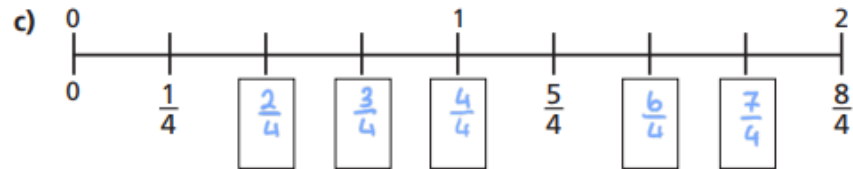
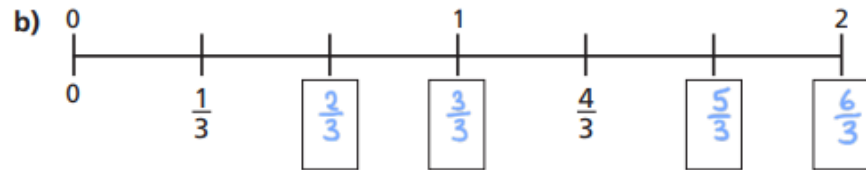
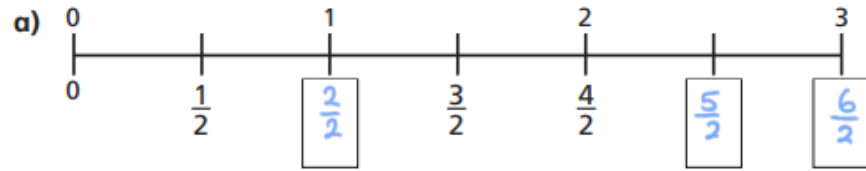
b)  $\frac{1}{4} < \frac{1}{3}$

c)  $\frac{1}{3} < \frac{1}{2}$

# Answers

3.

Write the missing fractions on the number lines.



d) Write three fractions that are equivalent to one whole.

Use the number lines to help you.

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

What do you notice?

The numerator is equal to the denominator.

4.

Write each fraction under the correct heading.

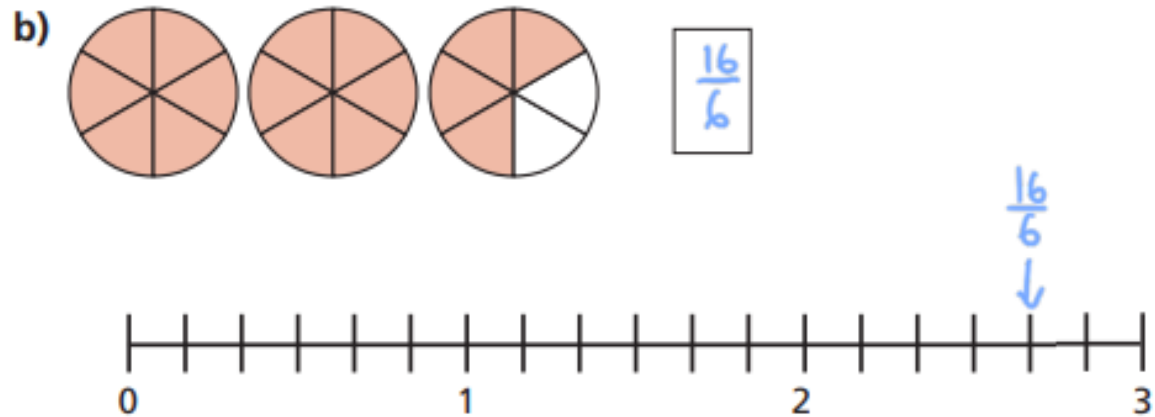
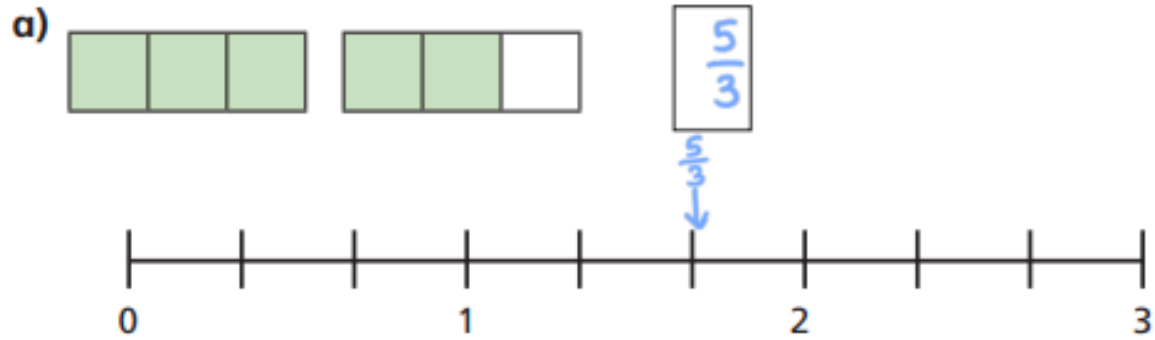
$\frac{2}{3}$      $\frac{4}{4}$      $\frac{5}{3}$      $\frac{1}{8}$      $\frac{3}{3}$   
 $\frac{3}{4}$      $\frac{7}{4}$      $\frac{8}{8}$      $\frac{7}{8}$

| Less than one whole  | Equal to one whole                        | More than one whole         |
|--|---|-----------------------------|
| $\frac{2}{3}$ $\frac{3}{4}$ $\frac{1}{8}$<br><br>$\frac{7}{8}$ | $\frac{4}{4}$ $\frac{8}{8}$ $\frac{3}{3}$ | $\frac{7}{4}$ $\frac{5}{3}$ |

# Answers – Optional Challenges

What fraction is shown in each diagram?

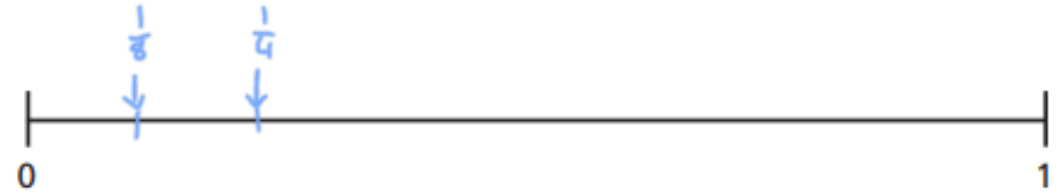
Draw an arrow to show the fraction on the number line.



One eighth is greater than one quarter.

Do you agree with Teddy? NO

Use the number line to show why.



# Miss Cole's Maths Group

Write today's date and LO in your work book.

5.5.20

LO: To find fractions of amounts

Starter:

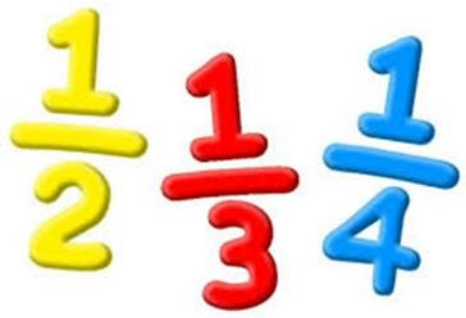
Write out your **3x table**.

$0 \times 3 = 0$ ,  $1 \times 3 = 3$ ,  $2 \times 3 = 6$ ... continue up to  $12 \times 3$ .

You could listen to this catch song to help practise your 3x tables.

<https://www.youtube.com/watch?v=1OPTfVcoC04>





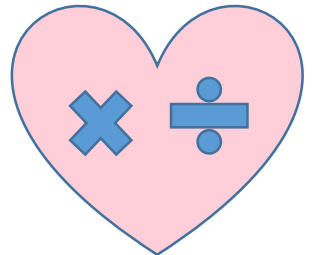
# Fractions linked to Division



Remember that fractions are linked to division:

- When we find half ( $\frac{1}{2}$ ), we share between 2
- When we find a quarter ( $\frac{1}{4}$ ), we share between 4
- When we find a fifth ( $\frac{1}{5}$ ), we share between 5
- ... and so on...
- Remember that **division** and **multiplication** have a special relationship... the **inverse/opposite** of division is multiplication.

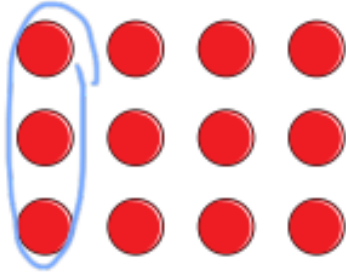
This will help with Challenge 3 in your learning today.



# Challenge 1

## Example

Here are some counters.

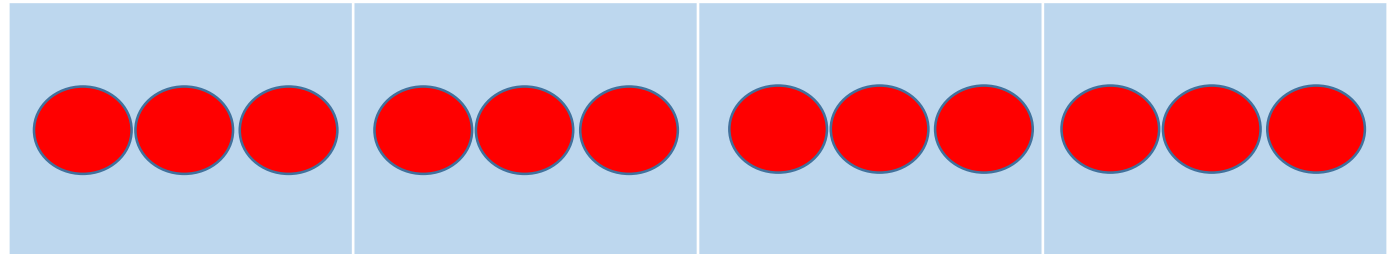


a) Circle  $\frac{1}{4}$  of the counters.

b) How many counters did you circle?

c) What is  $\frac{1}{4}$  of 12?

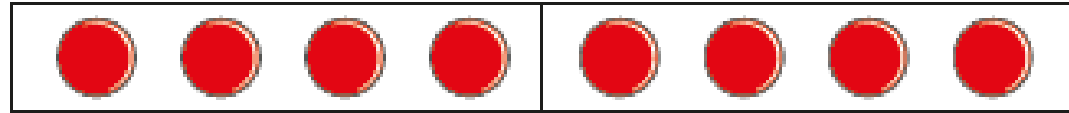
This **bar model** is split into 4 parts to the table because we are finding  $\frac{1}{4}$ . We are sharing between 4.



# Challenge 1

Draw counters in the bar models to help you complete each number sentence. The first one has been done for you.

a)  $\frac{1}{2}$  of 8 =



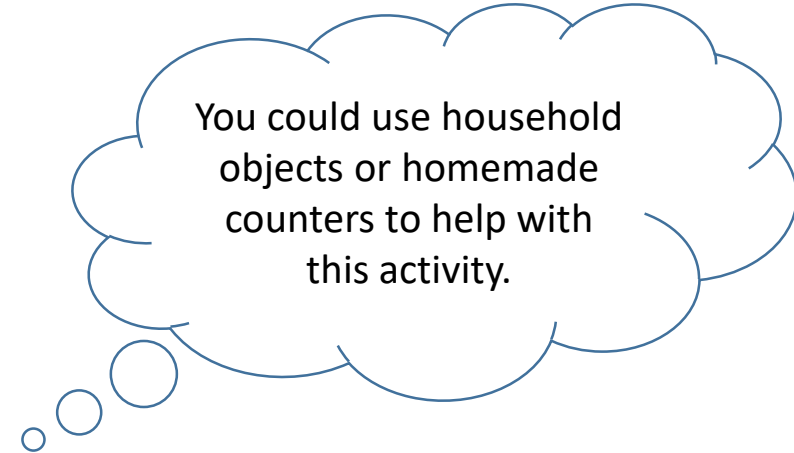
b)  $\frac{1}{2}$  of 16 =



c)  $\frac{1}{4}$  of 8 =



d)  $\frac{1}{4}$  of 16 =



You can check your answers at the end

# Challenge 2

Nijah uses a bar model and place value counters to find  $\frac{1}{3}$  of 36



Use Nijah's method to complete the calculations.

a)  $\frac{1}{3}$  of 96 =

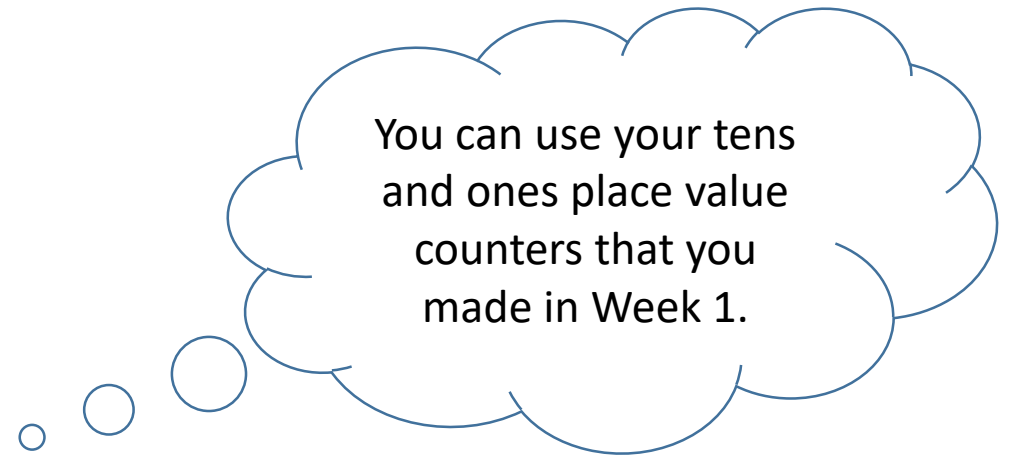
c)  $\frac{1}{4}$  of 52 =

d)  $\frac{1}{3}$  of 63 =

f)  $\frac{1}{4}$  of 92 =

b)  $\frac{1}{5}$  of 60 =

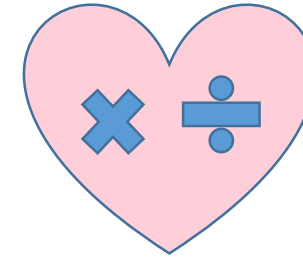
e)  $\frac{1}{4}$  of 48 =



You can check your answers at the end

# Challenge 3

Here we have some missing number problems.



Complete the number sentences.

a)  $\frac{1}{2}$  of  = 30

c)  $\frac{1}{5}$  of  = 50

b)  $\frac{1}{4}$  of  = 20

Remember you can use column multiplication method that you practised last week.

a)  $\frac{1}{2} ? = 30$

Remember we can use the **inverse** (the opposite) to help.

The inverse of  $\frac{1}{2}$  is double or **x by 2**.

So, Double 30 = 60

$30 \times 2 = 60$

The inverse of  $\frac{1}{4}$  is x by 4.

The inverse of  $\frac{1}{5}$  is x by 5

You can check your answers at the end

# Challenge 4

Which amount is greater? Tick your answer.

$\frac{1}{3}$  of £75      or       $\frac{1}{5}$  of £75

Show your workings.

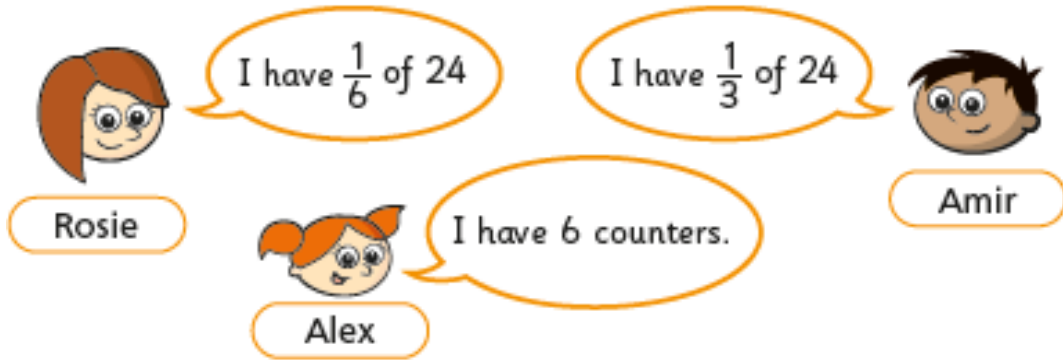
1. Remember to use a bar model, drawings and tens and ones counters to help.

2. Remember you can swap a tens counter for ten ones so you can share equally.

You can check your answers on the **NEXT SLIDE**

# Optional – Extra Challenge

Rosie, Amir and Alex each find a fraction of 24 using counters.



a) Order the children from least counters to most counters.

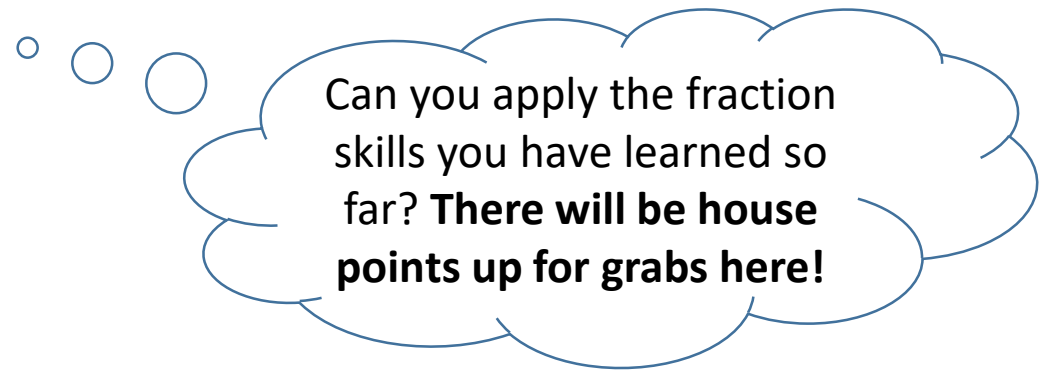
\_\_\_\_\_

least counters                      most counters

b) What fraction of the counters does Alex have?

c) Rosie and Amir put their counters together.

Write their total number of counters as a fraction of 24



You can check your answers on the **NEXT SLIDE**

# Answers

1. Draw counters in the bar models to help you complete each number sentence. The first one has been done for you.

a)  $\frac{1}{2}$  of 8 =  

b)  $\frac{1}{2}$  of 16 =  

c)  $\frac{1}{4}$  of 8 =  

d)  $\frac{1}{4}$  of 16 =  

2. a)  $\frac{1}{3}$  of 96 =

c)  $\frac{1}{4}$  of 52 =

b)  $\frac{1}{5}$  of 60 =

d)  $\frac{1}{3}$  of 63 =

f)  $\frac{1}{4}$  of 92 =

e)  $\frac{1}{4}$  of 48 =

3. Complete the number sentences.

a)  $\frac{1}{2}$  of  = 30

c)  $\frac{1}{5}$  of  = 50

b)  $\frac{1}{4}$  of  = 20

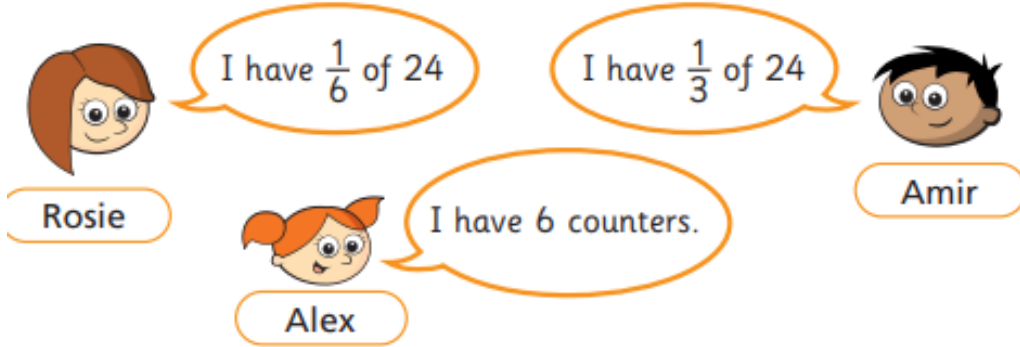
4. Which amount is greater? Tick your answer.

$\frac{1}{3}$  of £75

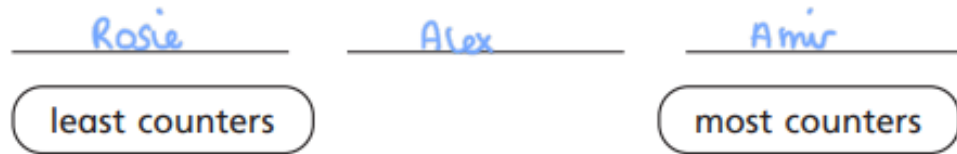
or

$\frac{1}{5}$  of £75

# Answers – Optional Challenge



a) Order the children from least counters to most counters.



b) What fraction of the counters does Alex have?

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

c) Rosie and Amir put their counters together.

Write their total number of counters as a fraction of 24

$$\frac{12}{24}$$

# Miss Cole's Maths Group

Write today's date and LO in your work book.

6.5.20

LO: To find fractions of amounts

Starter:

Write out your **6x table**. You can double your 3x table to help.

$0 \times 6 = 6$ ,  $1 \times 6 = 6$ ,  $2 \times 6 = 12$ ... continue up to  $12 \times 6$ .

You could listen to this catch song to help practise your 6x tables.

<https://www.youtube.com/watch?v=e7rYbk9PNuM>



## Starter/Revision

Can you answer the question below?

What is  $\frac{6}{6}$  of 18?

How do you know?

You can check your answers at the end

# Challenge 1

This is exactly the same skill that we practised yesterday, but notice we are working with **non-unit fractions** this time.

Remember the **numerator** tells us how many parts of the whole we have.

E.g. for  $\frac{2}{3}$  – add 2 of the parts together.

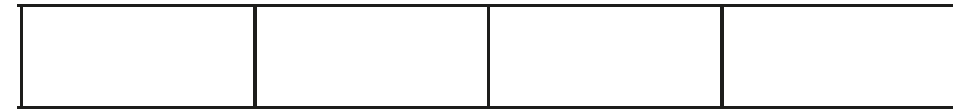
**Non-unit fractions** are when the numerator is any other number **except** from 1.

Draw counters in the bar models to help you complete each number sentence.

a)  $\frac{2}{3}$  of 15 =



b)  $\frac{3}{4}$  of 8 =



c)  $\frac{2}{5}$  of 20 =



You can check your answers at the end

## Challenge 2

Write these number sentences out correctly in your work books.

Match the questions and answers.

$$\frac{2}{3} \text{ of } 9 = ?$$

9

$$\frac{3}{5} \text{ of } 15 = ?$$

6

$$\frac{5}{6} \text{ of } 12 = ?$$

15

$$\frac{3}{4} \text{ of } 20 = ?$$

10

You can check your answers at the end

# Challenge 3

Kim uses a bar model and place value counters to find  $\frac{2}{3}$  of 36



Use Kim's method to complete the number sentences.

a)  $\frac{2}{3}$  of 96 =

d)  $\frac{2}{3}$  of 63 =

b)  $\frac{3}{5}$  of 60 =

e)  $\frac{3}{4}$  of 48 =

c)  $\frac{3}{4}$  of 52 =

f)  $\frac{3}{4}$  of 92 =

You can check your answers at the end

# Challenge 4



Tommy

To find  $\frac{3}{4}$  of 12,  
you divide by 4 and then  
multiply the answer by 3

To find  $\frac{3}{4}$  of 12,  
you divide by 3 and then  
multiply the answer by 4



Dexter

Who is correct? \_\_\_\_\_

How do you know? Show your working.

It might help to think  
back to what the  
**numerator** and  
**denominator** represent.

A **numerator** (top number) shows  
how many parts you have.

The **denominator** (bottom number)  
shows how many parts make up the  
whole.

You can check your answers at the end

# Optional – Extra Challenge

Dora, Whitney and Ron each find a fraction of 24 using counters.

Dora: I have  $\frac{5}{6}$  of 24

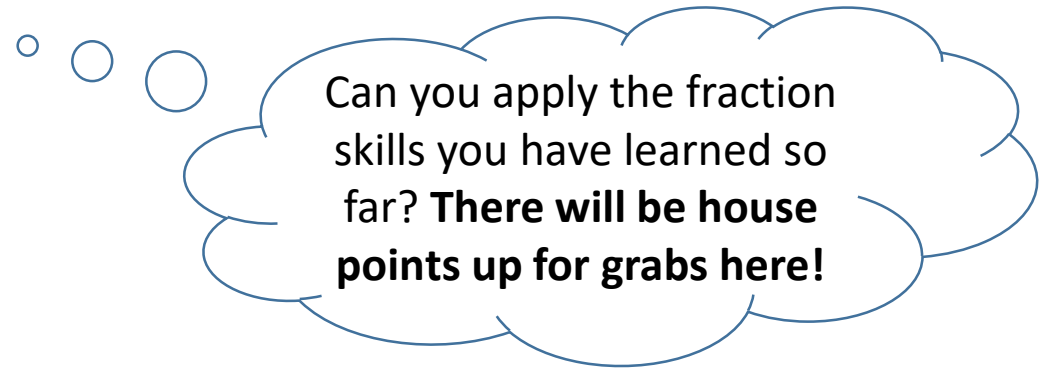
Whitney: I have  $\frac{2}{3}$  of 24

Ron: I have 18 counters.

a) Who has the most counters? Show your workings.

---

b) How many more counters does Dora have than Whitney?



You can check your answers on the **NEXT SLIDE**

# Answers

# Starter:

What is  $\frac{6}{6}$  of 18?

How do you know?

18

1. Draw counters in the bar models to help you complete each number sentence.

a)  $\frac{2}{3}$  of 15 =  

b)  $\frac{3}{4}$  of 8 =  

c)  $\frac{2}{5}$  of 20 =  

3. Use Kim's method to complete the number sentences.

a)  $\frac{2}{3}$  of 96 =   $\frac{2}{3}$  of 63 =

b)  $\frac{3}{5}$  of 60 =   $\frac{3}{4}$  of 48 =

c)  $\frac{3}{4}$  of 52 =   $\frac{3}{4}$  of 92 =

2. Match the questions and answers.

|                         |  |                                 |
|-------------------------|--|---------------------------------|
| $\frac{2}{3}$ of 9 = ?  |  | <input type="text" value="9"/>  |
| $\frac{3}{5}$ of 15 = ? |  | <input type="text" value="6"/>  |
| $\frac{5}{6}$ of 12 = ? |  | <input type="text" value="15"/> |
| $\frac{3}{4}$ of 20 = ? |  | <input type="text" value="10"/> |

4.



To find  $\frac{3}{4}$  of 12,  
you divide by 4 and then  
multiply the answer by 3

To find  $\frac{3}{4}$  of 12,  
you divide by 3 and then  
multiply the answer by 4

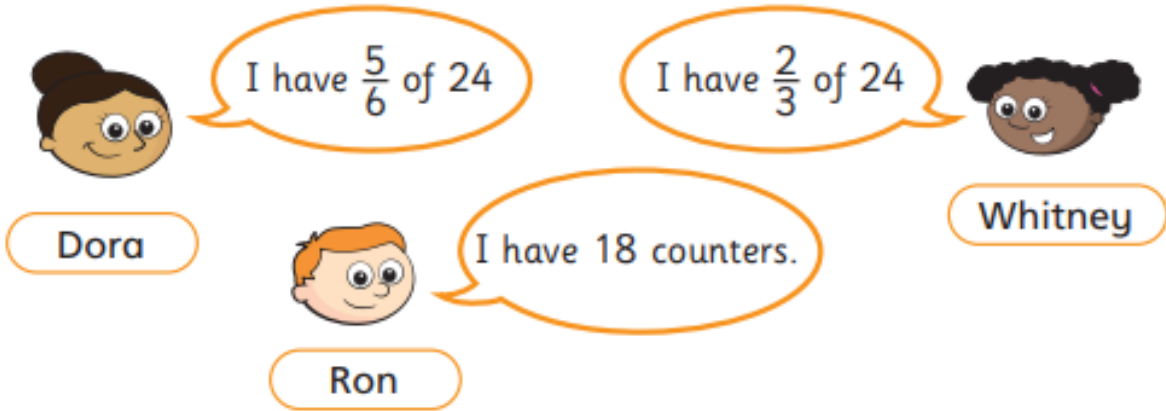


Who is correct? Tommy

How do you know? Show your working.

# Answers – Optional Challenge

Dora, Whitney and Ron each find a fraction of 24 using counters.



a) Who has the most counters? Show your workings.

$$\frac{5}{6} \text{ of } 24 = 20 \quad \frac{2}{3} \text{ of } 24 = 16$$

Dora

b) How many more counters does Dora have than Whitney?

4

# Miss Cole's Maths Group

Write today's date and LO in your work book.

7.5.20

LO: To find fractions of amounts and solve word problems using this skill

Starter:

Find the answer to these 3x and 6x multiplication sums (see next slide). Remember you can draw arrays to help you find the answer or double your 3x table to find 6x.

e.g.  $3 \times 4 = 12$  so  $3 \times 8 = 24$

# Starter:

Find the answer to these 3x and 6x multiplication sums. Remember you can draw arrays to help you find the answer or double your 3x table to find 6x.

e.g.  $3 \times 4 = 12$  so  $3 \times 8 = 24$

- $3 \times 3 =$
- $5 \times 3 =$
- $7 \times 3 =$
- $2 \times 3 =$
- $8 \times 3 =$
- $3 \times 6 =$
- $5 \times 6 =$
- $7 \times 6 =$
- $2 \times 6 =$
- $8 \times 6 =$
- $1 \times 6 =$
- $9 \times 3 =$
- $3 \times 6 =$
- $6 \times 3 =$
- $4 \times 6 =$

**Remember you can continue to practise your times tables on Times Tables Rock Stars (TTRS) too!**

**Today you have a choice to make with your learning.** How do you feel about the fraction skills you have learnt so far? Are you confident with finding fractions of amounts? If you would like to continue practising this skill, complete as many of the fraction number sentences below as you can and check your answers on **slide 44**. If you would like a further challenge, have a go at solving the word problems which come up on the next few slides. You could even do some of each. This is an opportunity to practise your fraction skills. 😊

|                     |                      |
|---------------------|----------------------|
| $\frac{1}{2}$ of 50 | <input type="text"/> |
| $\frac{2}{3}$ of 36 | <input type="text"/> |
| $\frac{3}{4}$ of 48 | <input type="text"/> |
| $\frac{3}{4}$ of 44 | <input type="text"/> |
| $\frac{1}{3}$ of 21 | <input type="text"/> |
| $\frac{2}{3}$ of 42 | <input type="text"/> |

|                     |                      |
|---------------------|----------------------|
| $\frac{3}{4}$ of 12 | <input type="text"/> |
| $\frac{2}{3}$ of 27 | <input type="text"/> |
| $\frac{2}{4}$ of 44 | <input type="text"/> |
| $\frac{1}{3}$ of 15 | <input type="text"/> |
| $\frac{2}{3}$ of 33 | <input type="text"/> |
| $\frac{1}{4}$ of 40 | <input type="text"/> |
| $\frac{1}{4}$ of 8  | <input type="text"/> |

**You can check your answers at the end**

# Word Problems:



## Read

Read the question.  
What is the important information?

## Understand

Understand the question.  
What do you need to find out?

## Choose

Choose the correct method of calculation and operation(s).

## Solve

Solve the problem.  
Make sure you follow the steps.

## Answer

Answer the question.  
What were you meant to find out?

## Check

Check your answer.  
Use the inverse to check your working out.

Remember RUCSAC when solving problems.

These steps will help you reach success!

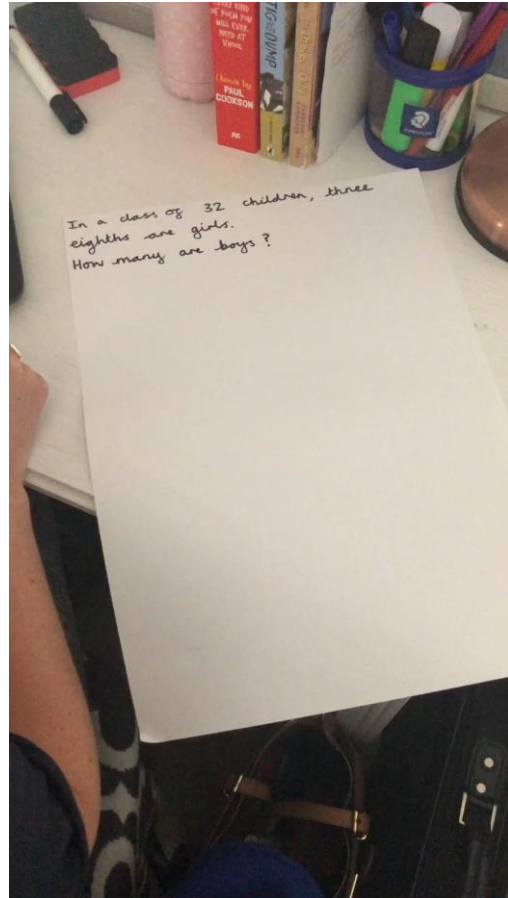
# Example Word Problem:

Look carefully at the steps taken to solve this problem.

In a class of 32 children, three eighths are girls.  
How many children are boys?

20

Watch the video  
to see the  
problem solved.

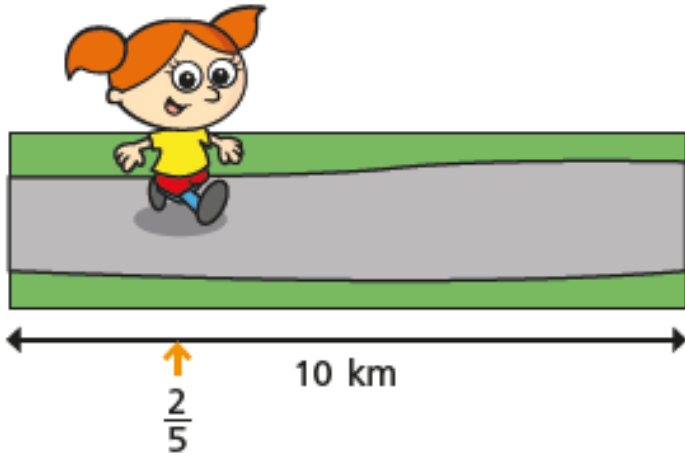


- **Step 1:** Pick out the key information – what do you already know? Highlight or underline this.
- **Step 2:** Can you put this information into a bar model? It helps to visualise the problem. What is the whole? What other information do you know or need to work out?
- **Step 3:** Think carefully about what the problem is asking you and break this down into smaller, achievable steps.
- **Step 4:** Remember to persevere – you can do it!

**Note:** Don't worry if you don't do all of today's problems. Work through what you can, it is an opportunity to practise and apply your skills.

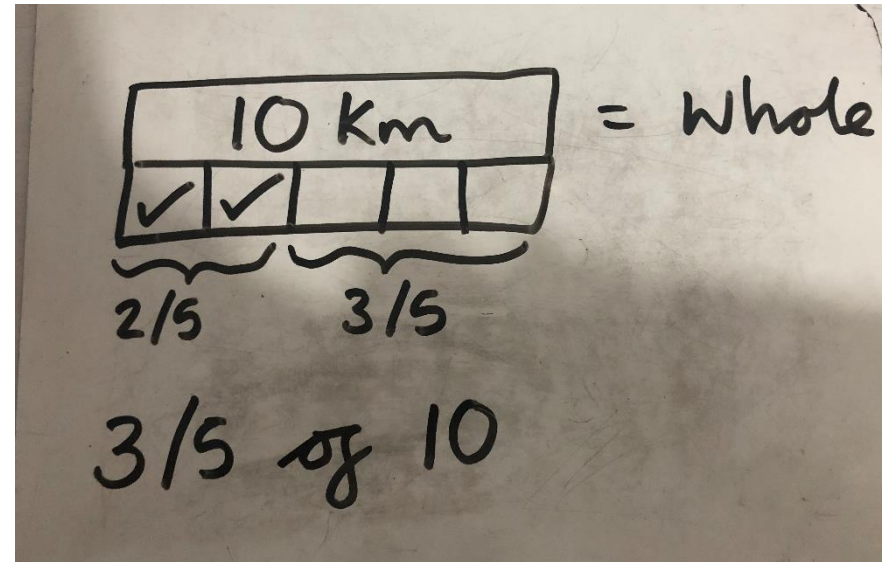
# Challenge 1

Alex is taking part in a 10 km race.



She has run two fifths of the race.

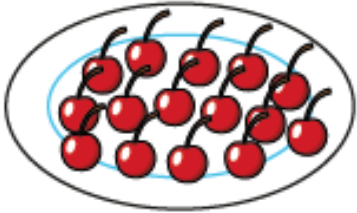
What distance does she have left to run?

 km

You can check your answers at the end

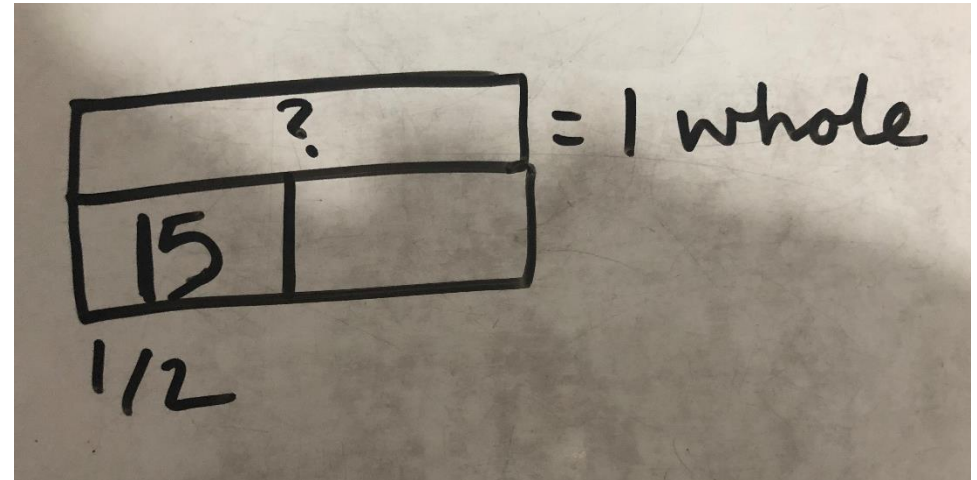
# Challenge 2

Teddy opens a bag of cherries and puts  $\frac{1}{2}$  on a plate.



How many cherries were there in the whole bag?

I have drawn some bar models to help me solve these problems, hopefully they help you too.



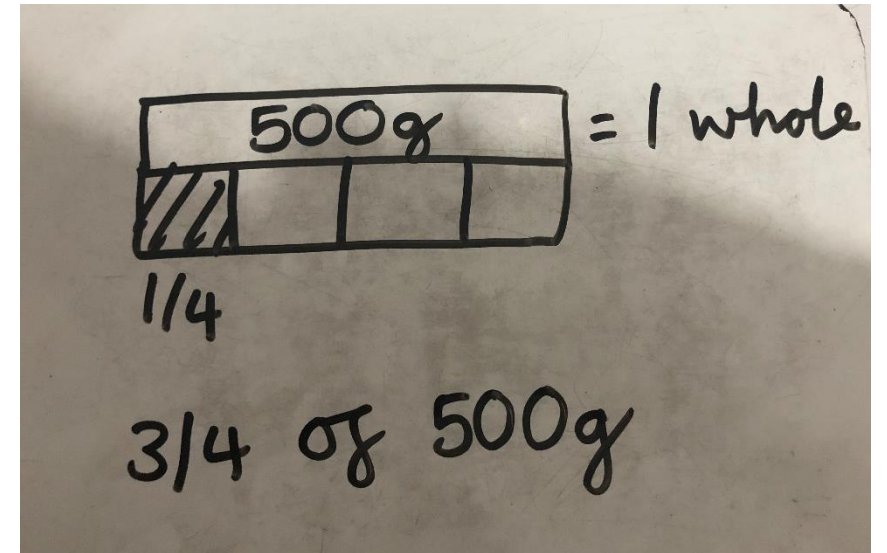
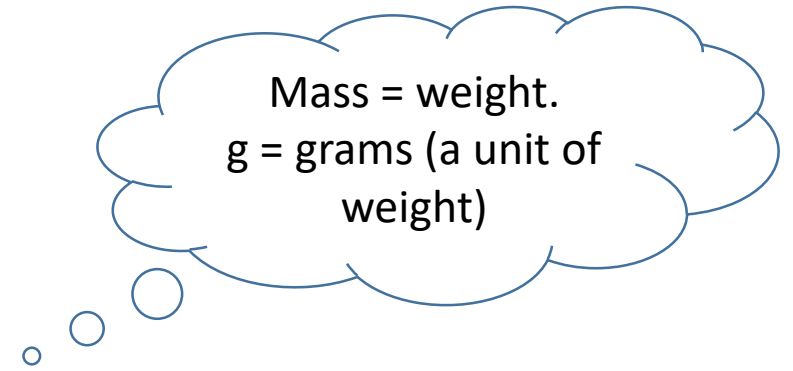
You can check your answers at the end

# Challenge 3

A bag of potatoes weighs 500 g.

Annie's dad uses one quarter of the potatoes to make a shepherd's pie.

What is the mass of the potatoes left in the bag?

 g

You can check your answers at the end

# Challenge 4

Dexter spends one third of his money.  
He has these coins left.



How much did Dexter spend?

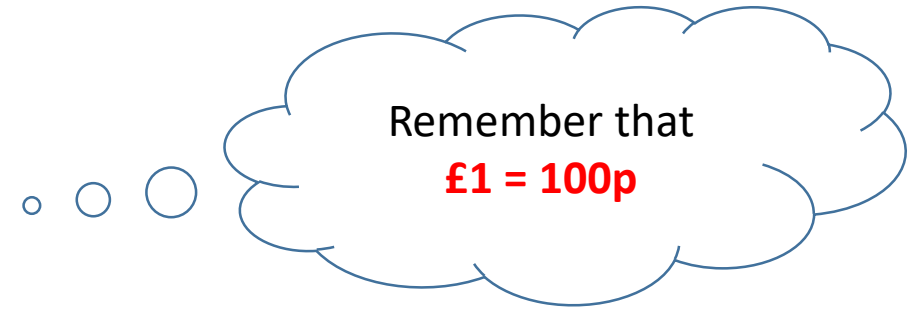
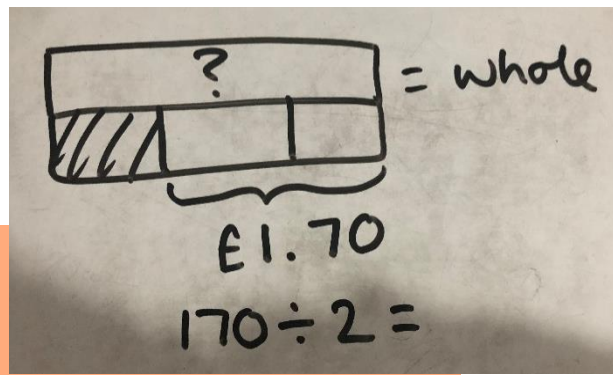
£  and  p

Filip has £3 and 20p.



He spends half of his money.  
How much does he have left?

£  and  p



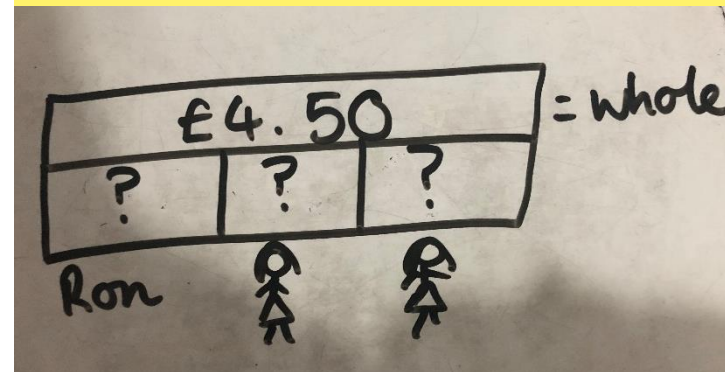
Ron has £4 and 50p.

He decides to share the money equally between himself and his two sisters.



How much money will each child get?

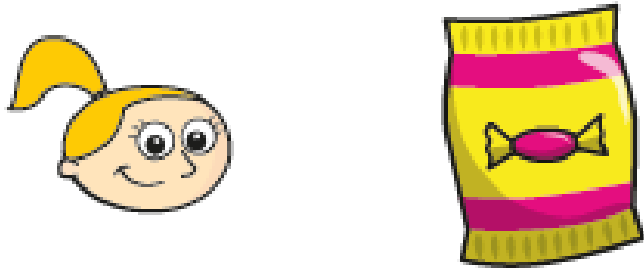
£  and  p



You can check your answers at the end

# Optional – Extra Challenge

Eva has a bag of 20 sweets.



She eats  $\frac{1}{4}$  of the sweets.

She gives  $\frac{1}{5}$  of the sweets that are left to Dora and 2 sweets to her mum.

How many sweets does Eva have left?

There are more steps to this problem, but you can do it if you break it down and look carefully at the fractions

You can check your answers on the NEXT SLIDE

# Answers

## Alternative Skills Practise:

$\frac{1}{2}$  of 50

**25**

$\frac{3}{4}$  of 12

**9**

$\frac{2}{3}$  of 36

**24**

$\frac{2}{3}$  of 27

**18**

$\frac{3}{4}$  of 48

**36**

$\frac{2}{4}$  of 44

**22**

$\frac{3}{4}$  of 44

**33**

$\frac{1}{3}$  of 15

**5**

$\frac{1}{3}$  of 21

**7**

$\frac{2}{3}$  of 33

**22**

$\frac{2}{3}$  of 42

**28**

$\frac{1}{4}$  of 40

**10**

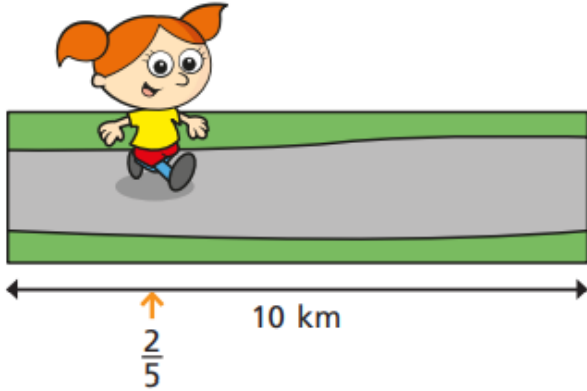
$\frac{1}{4}$  of 8

**2**

# Answers

1.

Alex is taking part in a 10 km race.



She has run two fifths of the race.

What distance does she have left to run?

6 km

3.

A bag of potatoes weighs 500 g.

Annie's dad uses one quarter of the potatoes to make a shepherd's pie.

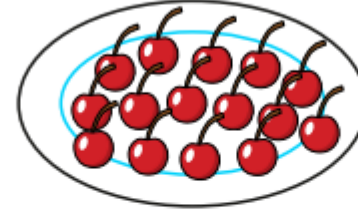
What is the mass of the potatoes left in the bag?



375 g

2.

Teddy opens a bag of cherries and puts  $\frac{1}{2}$  on a plate.



How many cherries were there in the whole bag?

30

# Answers

4.

Filip has £3 and 20p.



He spends half of his money.

How much does he have left?

£  and  p

Dexter spends one third of his money.

He has these coins left.



How much did Dexter spend?

£  and  p

Ron has £4 and 50p.

He decides to share the money equally between himself and his two sisters.

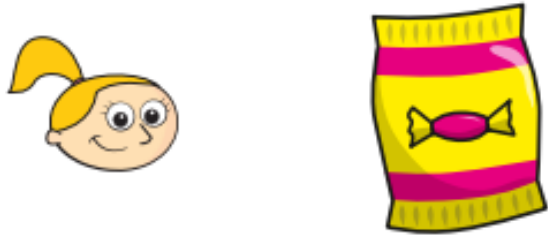


How much money will each child get?

£  and  p

# Answers – Optional Challenge

Eva has a bag of 20 sweets.



She eats  $\frac{1}{4}$  of the sweets.

She gives  $\frac{1}{5}$  of the sweets that are left to Dora and 2 sweets to her mum.

How many sweets does Eva have left?

10

Well done for your amazing maths work and perseverance this week!



Have a lovely, long bank holiday weekend!