## Schofield $\&$ Sims



whole

$\frac{1}{3}$

half

## Know and use the notation for quarters of shapes

## Key point

The word 'quarter' is used when something is split into four equal parts.
The number 4 on the bottom of a fraction tells us it is quarters.
The top number tells us how many quarters.

one-quarter

two-quarters

three-quarters

four-quarters

## Get started

1 Colour $\frac{1}{4}$ of the jigsaw.


2 Tick the kite that is $\frac{3}{4}$ orange.


3 Complete the fraction to show two-quarters. $\frac{2}{4}$

4 Colour $\frac{2}{4}$ of the circle.


5
Write a fraction in the box to show how much of this flower is orange.


6 Colour $\frac{4}{4}$ of this pattern.


## Now try these

7 Circle the fraction that shows three out of four equal parts.
$\begin{array}{lllll}\frac{1}{4} & \frac{4}{3} & \frac{2}{4} & \frac{3}{4} & \frac{1}{2}\end{array}$
8 Tick the picture that shows $\frac{3}{4}$ of a pie.


9 Circle the fraction that shows two-quarters.
$\begin{array}{llll}\frac{1}{4} & \frac{2}{4} & \frac{4}{4} & \frac{3}{4}\end{array}$
10 Tick the squares that are $\frac{3}{4}$ shaded.




11 Circle the amount which is more:
$\frac{2}{4}$ of an apple $\frac{3}{4}$ of an apple
12 What number is on the bottom of the fraction when you write three-quarters in digits? $\qquad$

## Challenge

13 Fill in the box to show one whole. $\frac{4}{4}$
14 Jo eats $\frac{1}{4}$ of this sandwich.
What fraction of the sandwich is not eaten? $\qquad$ $\frac{3}{4}$ _


15 Two children each eat $\frac{1}{4}$ of a cereal bar. How much of the bar is left? $\frac{2}{4}$ or $\frac{1}{2}$
16 Yes or no? $\frac{1}{2}$ and $\frac{2}{4}$ are the same amount. Yes $\triangle$ No $\square$


17 Yes or no? $\frac{3}{4}$ and $\frac{1}{4}$ together make a whole. Yes
 No $\qquad$
18 Write a fraction in the box to show the total of one-half of a cake and one-quarter of a cake.
$\frac{1}{2}+\frac{1}{4}=\frac{3}{4}$


## Know and use the notation for quarters of sets

## Key point

To find quarters of a set of objects, sort the objects into four equal groups.

$\frac{1}{4}$ of this set of $t$-shirts is white.
$\frac{3}{4}$ of this set of t-shirts is orange.

## Get started

1


2 Colour one-quarter of this set of counters.


3 Draw crosses on three-quarters of the set of counters above.

4 These jelly beans are in 4 equal groups.

Draw a ring around $\frac{3}{4}$ of all the jelly beans.


5 Draw a ring around $\frac{3}{4}$ of this set of apricots.


6 Yes or no? Two-quarters of these boots are stripy.



## Now try these

7 Yes or no? $\frac{1}{4}$ of these counters are orange. Yes $\square$ $\mathrm{No} \Omega \bigcirc$
8 Tick the picture that does not show one-quarter of the rectangle shaded.


9 Which picture shows loops around two-quarters of the berries in the set?
Picture $\qquad$

Picture A


Picture $B$


Picture C


10 Here are 16 cakes.
How many cakes is $\frac{1}{4}$ of all the cakes? $\qquad$


## Challenge

13
A melon has 8 equal slices. How many slices is $\frac{2}{4}$ of the melon? $\qquad$
14 Becca has 8 grapes. How many grapes is $\frac{3}{4}$ of them? $\qquad$ 6

15 There are 20 squares in the grid. $\frac{1}{4}$ of the squares are orange.
Colour $\frac{2}{4}$ of the squares in a different colour.

16 What fraction of the 20 squares are now not coloured? $\qquad$ $\frac{1}{4}$

|  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

17 A line is the same length as 12 cubes.
How many cubes are the same length as $\frac{3}{4}$ of the line? $\qquad$ 9


18 Complete the pattern. $\frac{1}{4}$ of 12 is $3 \quad \frac{2}{4}$ of 12 is 6 $\frac{3}{4}$ of 12 is $\square$

## Understand that fractions join to make wholes

Key point


Two-halves make one whole.


Four-quarters make one whole.


One-half and two-quarters make one whole.


One-quarter and three-quarters make one whole.

## Get started

1 How many quarters make one whole? _ 4 quarters

4 Yes or no? $\frac{1}{2}+\frac{1}{2}=1$ whole Yes $\triangle$ No $\square$

2 Fill in the missing word.
One-half and one- half together make one whole.

3 Draw dots on half of this circle and stripes on two-quarters. Is the whole circle patterned now?


$$
\text { Yes } \square \text { No } \square
$$



5 How many whole oranges are there in total?
$\qquad$


6
Yes or no? These pieces make one whole pizza in total.


Yes


No $\qquad$

## Now try these

7 Yes or no? One-half and two-quarters together make one whole. Yes

$8 \frac{1}{4}$ of a whole bun is eaten. What fraction of the bun is left? $\qquad$


9 Dan eats $\frac{1}{2}$ of a waffle and Sam eats $\frac{2}{4}$ of it. Is the whole waffle eaten? Yes $\square$ No $\square$

10 Kim eats $\frac{3}{4}$ of a biscuit. How much biscuit is left? $\qquad$


11 Yes or no? One-quarter and two-quarters together make one whole. Yes $\square$ No $\square$

12 Fill in the missing word.
Two-quarters and two- $\qquad$ quarters together make one whole.

## Challenge

13
How many whole pies are there in total? $\qquad$ 2


14 This glass is $\frac{2}{4}$ full of orange juice. Ben now fills the glass to the top. What fraction has he added?

$$
\frac{2}{4} \text { or } \frac{1}{2}
$$



15 Circle the correct answer. $\frac{1}{4}+\frac{1}{4}+\frac{1}{2}=$ ?
one-quarter two-quarters three-quarters

16 How many wholes is this in total? $\frac{1}{4}+\frac{1}{2}+\frac{1}{4}+\frac{1}{4}+\frac{1}{2}+\frac{1}{4}=$ $\qquad$
17 Jade spends one-quarter of her money on toys and half of her money on sweets. Circle the fraction of her money she has left.

Lou has three cans of cola. She drinks some cola out of each can. There is $\frac{1}{4}$ left in one can, $\frac{1}{2}$ left in another can and $\frac{3}{4}$ left in the last can. Is the total amount left more or less than a full can?
$\qquad$ more

## Find $\frac{1}{2}$ of numbers and write fraction statements

## Key point

Half of a number of objects is found by sorting them into two equal groups.


Half of 8 ducks is 4 ducks.
Half of 8 is 4 .
$\frac{1}{2}$ of $8=4$

## Get started

1 What number is half of 6 ?


2 Colour half of this set of 8 hats.


3 How many is $\frac{1}{2}$ of 8 hats? $\qquad$
4 Fill in the missing number. $\frac{1}{2}$ of 10 is 5
5 Find $\frac{1}{2}$ of 4. 2

6 Yes or no? $\frac{1}{2}$ of 2 is 1 Yes $\triangle$ No $\square$

## Now try these

7 A farmer has 12 sheep. She puts half of them into a pen. How many is that? $\qquad$

8 One whole cake has 8 slices.
How many slices is half the cake? $\qquad$ 4


9 One-half of the 10 houses in this street are for sale.
How many houses are for sale? $\qquad$ 5


10 Halve the number 2.
1

11 A line is the same length as 12 cubes.


How many cubes are the same length as half the line? $\qquad$ 6

12 Fill in the missing number. $\frac{1}{2}$ of 10 is 5

## Challenge

13 It takes Ali 12 steps to walk from the door to his chair. How many steps does it take him to walk halfway from the door to his chair? $\qquad$


14 Fill in the missing numbers to show how many squares are orange.

$$
\begin{array}{|c|}
\hline \frac{1}{2} \\
\hline
\end{array}
$$



15 Fill in the missing numbers to show 'one-half of twenty equals ten'.

$$
\begin{array}{|l|}
\hline \frac{1}{2} \\
\text { of } \\
\hline
\end{array}
$$

16 A large pizza is cut into equal slices. One-half of the pizza is 6 slices. How many slices are in the whole pizza? $\qquad$ 12

17 Complete the pattern.
$\frac{1}{2}$ of $2=1 \quad \frac{1}{2}$ of $4=2 \quad \frac{1}{2}$ of $6=\square \quad \frac{1}{2}$ of $8=\square 4 \quad \frac{1}{2}$ of $10=5$
18
A factory makes 40 socks.
Halve 40 to find the number of pairs of socks it makes. $\qquad$ 20


## Make $\frac{1}{2}, \frac{1}{4}$ and $\frac{3}{4}$ turns and know $\frac{1}{2}$ is the same as $\frac{2}{4}$

## Key point



A full turn is when something is turned all the way round until it is in the same position again.

A $\frac{1}{4}$ turn is one-quarter of a full turn.
A $\frac{1}{2}$ turn or $\frac{2}{4}$ of a turn is one-half of a full turn.
A $\frac{3}{4}$ turn is three-quarters of a full turn.

## Get started

1 This dial turns clockwise. What number will the line point to after half a turn from zero? $\qquad$ 2


2 Look at the dial again. What number will the line point to after one-quarter of a turn from zero? $\qquad$

Tim turns the dial clockwise from zero to the number 3. What fraction of a full turn is that?
$\qquad$
 This jigsaw piece is turned through a $\frac{1}{2}$ turn.

Tick to show what it looks like now.
 Turn this tile a $\frac{1}{4}$ turn clockwise. Tick the correct answer.


What object will this girl face after a $\frac{1}{2}$ turn? the football


## Now try these

7
This windmill has one orange sail. How many quarter turns are needed to bring the orange sail back to the same position? 4


8 Tick the one which shows the position after a $\frac{1}{2}$ turn.


9 What number will the big hand on the clock point to after a $\frac{1}{4}$ turn? $\qquad$ 3

10
The big hand of the clock points to 9 and then turns clockwise to point to 6 . How many quarters of a full turn has the hand turned? $\qquad$

$11 \mathbf{Y}$ This tile is turned a $\frac{3}{4}$ turn clockwise. Tick to show what it looks like now.


12 Yes or no? A turn of two-quarters is the same as half a turn. Yes
 No $\square$

## Challenge

13 Yes or no? If the top layer of this cube is turned a $\frac{1}{4}$ turn clockwise, the orange squares will all be together.


14 The big hand of a clock points to the number 4. What number will it point to after a quarter turn clockwise? $\qquad$ 7 Rose turns this lid clockwise. What turn has Rose made? Write your answer as a fraction. $\qquad$


16 Lukas turns a $\frac{1}{4}$ turn clockwise. He then turns another $\frac{1}{4}$ turn clockwise. Tick to show the total turn that Lukas has made.

$$
\frac{1}{4} \text { turn } \square \quad \frac{1}{2} \operatorname{turn} \square \quad \frac{3}{4} \operatorname{turn} \square
$$

17 Harry turns a key in a lock through half a turn. He then turns it a $\frac{1}{4}$ turn more. What fraction of a whole turn has he turned the key altogether? $\qquad$ $\frac{3}{4}$

18 Yes or no? If you turn a $\frac{1}{4}$ turn clockwise, you end up facing the same way as if you had turned a $\frac{3}{4}$ turn anticlockwise.


## Count in fractions and use $\frac{1}{2}$ and $\frac{2}{4}$ on number lines

## Key point

Counting in halves


Counting in quarters


Remember that two-quarters is equal to one-half.

$$
\text { 路 }=
$$

## Get started

1 How many stars are there? $3 \frac{1}{2}$ MiN Hz

2 What number is one-half more than $1 \frac{1}{2}$ ? $\qquad$

3
What number is the arrow pointing to? $1 \frac{1}{2}$


4 How many doughnuts is this? $\qquad$ $1 \frac{1}{4}$


5 Write the missing fraction. $\qquad$


6
Write the number of biscuits.

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



## Now try these

7 What is one-quarter more than $1 \frac{3}{4}$ ? $\qquad$

9 What is three-quarters
more than $1 \frac{1}{4} ?$
10 When counting on in quarters, what number comes between $2 \frac{3}{4}$ and $3 \frac{1}{4}$ ? $\qquad$

11 How heavy are the apples?
$3 \frac{1}{2} \mathrm{~kg}$


12 What number is missing from the sequence?
$0, \frac{1}{2}, 1,1 \frac{1}{2}, 2,2 \frac{1}{2}, 3,3 \frac{1}{2}$

## Challenge

13 Write the next number in this sequence.
$1,1 \frac{1}{4}, 1 \frac{1}{2}, 1 \frac{3}{4}, 2$, $\qquad$

14
Use the number line to help you find another way of writing a fraction equal to $\frac{1}{2}$. $\qquad$


15 The length of Jamie's stride is half a metre. What is the length of 7 of Jamie's strides? $\qquad$ $3 \frac{1}{2}$ m

16 Yes or no? $2 \frac{2}{4}=2 \frac{1}{2}$
Yes $\triangle$ No $\square$


17 A and B are marked on this line. Write their values.
$A=\quad \frac{1}{4}$
$B=1 \frac{3}{4}$


18 Count on six-quarters from zero. Fill in the boxes to show the answer in two different ways.

$$
\begin{array}{|ll|ll|}
\hline 1 & \frac{2}{4} & 1 & \frac{1}{2} \\
\hline
\end{array}
$$

## Check-up test 1

1 Tick the kite that is $\frac{1}{4}$ orange.


2 Circle the fraction that shows three out of four equal parts.
$\begin{array}{lllll}\left(\frac{3}{4}\right. & \frac{2}{4} & \frac{4}{3} & \frac{1}{2} & \frac{1}{4}\end{array}$
3 If Ella's family eats $\frac{3}{4}$ of this tart, how much is not eaten? $\qquad$


4 What fraction of this set of cubes is white?

| 3 |
| :--- |
| 4 |



5 Yes or no? $\frac{1}{4}$ of these counters are orange.
Yes $\qquad$ No $\square$





6 A chocolate bar has 8 equal pieces.
How many pieces are $\frac{2}{4}$ of the bar? $\quad 4$
7 Yes or no? $\frac{1}{2}+\frac{1}{2}+\frac{1}{2}=1$ whole
Yes $\square$ No $\Omega$

8 Yes or no? Belle eats $\frac{2}{4}$ of a waffle and Dev eats $\frac{1}{2}$ of it. Is all of the waffle eaten?
Yes


9 Tick the correct answer. $\frac{1}{4}+\frac{2}{4}=$ ? one-quarter $\square$ two-quarters $\square$ three-quarters $\square$ one whole $\qquad$

10 What number is half of 8 ? $\quad 4$


11 A farmer has 10 sheep.
He puts half of them into a barn. How many is that? $\qquad$ 5 -

12 Fill in the missing numbers to show
 'one-half of twelve equals six'.

$$
\begin{array}{|l|}
\hline \frac{1}{2} \\
\text { of } \\
\hline
\end{array}
$$

$13 \Omega$ This jigsaw piece is turned clockwise through a $\frac{1}{4}$ turn.
Tick to show what it looks like now.


14 How many $\frac{1}{4}$ turns are in a full turn? $\quad 4$

15 Tom turns a key in a lock through a quarter turn. He then turns it a half turn more.
What fraction of a whole turn has he turned the key altogether? $\qquad$


16
What is one-quarter more than $1 \frac{3}{4}$ ? $\qquad$
17 When counting on in quarters, what number comes between $1 \frac{1}{4}$ and $1 \frac{3}{4}$ ? $1 \frac{2}{4} \quad$ Also accept $1 \frac{1}{2}$

18
The length of Isha's stride is half a metre.
What is the length of $१$ of Isha's strides? $\qquad$ $4 \frac{1}{2} \mathrm{~m}$




Total

18 marks

## Find $\frac{1}{4}$ of numbers and write fraction statements

## Key point

One-quarter of a number of objects is found by sorting them into four equal groups.


One-quarter of 12 chicks is 3 chicks.
$\frac{1}{4}$ of $12=3$

## Get started

1 Colour $\frac{1}{4}$ of this set of 8 cubes.


2 Now fill in the missing number. $\frac{1}{4}$ of 8 is 2

3 One-quarter of these 4 squares are orange.
$\frac{1}{4}$ of 4 is 1


4 How many is one-quarter of 12 lollipops? $\qquad$


5 What is $\frac{1}{4}$ of 12 ? $\qquad$
6
Find one-quarter of 20. $\qquad$


## Now try these

7 Here are 16 pieces of popcorn. How many is one-quarter of the whole set? $\qquad$ Bremserent B CB R \& B B \&
8 Write the missing number. $\frac{1}{4}$ of 16 is 4
9 Fill in the missing number.
 $\frac{1}{4}$ of 12 ants is 3 ants.

满 榇


10 One whole pie has 8 slices.
How many slices is one-quarter of the pie? $\qquad$ 2


11 One-quarter of the 16 tiles are orange.
Fill in the missing numbers.
$\frac{1}{4}$ of 16 is 4


12 Mia has 40p.
What is $\frac{1}{4}$ of 40 p ? $\qquad$ 0 p


## Challenge

13 When 24 sweets are shared equally between 4 children, each gets 6 sweets. Write the numbers in the boxes below to make a true statement.

| $\frac{1}{4}$ |
| :--- |

14 A football club has 20 children. $\frac{1}{4}$ of them are boys. How many are boys? $\qquad$


15 A farmer has 40 sheep. She puts $\frac{1}{4}$ of them into a field. How many is that? $\qquad$ 10

16 There are 60 minutes in 1 hour.
How many minutes are there in $\frac{1}{4}$ of an hour? $\qquad$ 15 min


17 Complete the pattern. $\frac{1}{4}$ of $20=5 \quad \frac{1}{4}$ of $40=10 \quad \frac{1}{4}$ of $60=15 \quad \frac{1}{4}$ of $80=20 \quad \frac{1}{4}$ of $100=25$

18 How many pence is $\frac{1}{4}$ of $£ 1$ ? $\qquad$ 25 p

## Understand the word 'third' and use the notation $\frac{1}{3}$ '

## Key point

The word 'third' is used when something is split into three equal parts. Each part is one-third of the whole.


One-third is one out of three equal parts. It is written as a fraction like this: $\frac{1}{3}$

## Get started

1
Colour one-third of this circle.


2 Yes or no?
This is one-third of a pizza.

Yes
 No


3 Yes or no? One-third of this shape is orange.

$$
\text { Yes } \square
$$ No $\Omega$



4 How many equal pieces should this cupcake be cut into to give thirds? $\qquad$ 3 .


5 Fill in the missing word. A whole is split into three equal parts. Each part is called one- $\qquad$ .

6 Fill in the missing numbers.


## Now try these

7 A paper plate is cut into thirds. How many thirds are there? $\qquad$ 3


8 What fraction of the starfish are orange?

 \%

9 Tick the squares that are one-third shaded.


10 Two-thirds of a whole cake have been eaten.
Write a fraction to show how much of the cake has not been eaten. $\qquad$

11 Which is larger? Circle it. one-third


| 1 |  |  |  |
| :---: | :---: | :---: | :---: |
| $\frac{1}{2}$ |  | $\frac{1}{2}$ |  |
| $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ |  |

12 Yes or no?
Three-thirds together make a whole. Yes $\square$ No $\square$

## Challenge

13 The big hand of a clock points to 12 . It then turns clockwise through one-third of a full turn. What number does it point to now? $\qquad$


14 Draw a line in the box that is one-third of the length of this line.


15 How many counters are there in $\frac{1}{3}$ of this set? $\qquad$


16
A line is 3 cm long. What is $\frac{1}{3}$ of the length of the line? $\qquad$ cm

17 Yes or no? $\frac{1}{3}+\frac{1}{3}+\frac{1}{3}+\frac{1}{3}=1$ whole Yes $\square$ No $\square$
18 One whole is divided by 3 to give what fraction? $1 \div 3=\frac{1}{3}$

## Find $\frac{1}{2}, \frac{1}{4}$ and $\frac{1}{3}$ of shapes, sets and lengths

## Key point

A whole can be split into equal parts to make halves (two equal parts), quarters (four equal parts) or thirds (three equal parts).


The number on the bottom of a fraction shows how many equal parts the whole is split into.

The number on the top of the fraction shows how many of those parts are being described.

## Get started

1 Circle the fraction of this square that is orange.
$\frac{1}{4} \quad \frac{4}{4} \quad \frac{1}{2} \quad \frac{3}{4}$
2 Colour $\frac{1}{4}$ of the circle.


3 Fill in the box to show one-third.


5 A is marked on this line.
What is its value? $\quad A=$ $\qquad$


6
Draw a ring around half of these cakes.


## Now try these

7 What fraction of these pencils are orange? $\qquad$ $\frac{3}{4}$


8 What fraction of these shoes are stripy? $\qquad$ $\frac{1}{4}$


9 What number is the arrow pointing to? $\qquad$


10 Mark a cross at the point $\frac{2}{4}$ of the way from house $A$ to house B.


11 How many thirds make up two wholes? $\qquad$

| 1 |  |  |
| :---: | :---: | :---: |
| $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ |

A line is the same length as 12 cubes. How many cubes are the same length as one-quarter of this line? $\qquad$ 3


## Challenge

13 Josh has 40 p.
What is $\frac{3}{4}$ of 40 p ? $\qquad$ 30 p


14 Colour $\frac{2}{4}$ of the squares in this grid.


15
How many buttons are there in $\frac{3}{4}$ of this set? $\qquad$
$\because:$
$\because:$


What fraction of this whole packet is 2 biscuits? $\qquad$


17 A line is 15 cm long. What is $\frac{1}{3}$ of the length of the line? $\qquad$ 5 cm

18 The number $1 \frac{2}{4}$ is marked on a number line. What number is $\frac{1}{2}$ more than this number?

## Find $\frac{1}{4}, \frac{2}{4}$ and $\frac{3}{4}$ of numbers

## Key point

A whole set can be sorted into four equal groups to show quarters.


One-quarter of 12 counters is 3 counters.
$\frac{1}{4}$ of 12 is 3
Two-quarters of 12 counters is 6 counters.
$\frac{2}{4}$ of 12 is 6
Three-quarters of 12 counters is 9 counters.
$\frac{3}{4}$ of 12 is 9

## Get started

1 Colour $\frac{3}{4}$ of this set of 4 cubes.


4
How many is three-quarters of 12 apricots?
$\qquad$


2 Now write the answer.
$\frac{3}{4}$ of 4 is 3

3 Two-quarters of these 16 squares are orange. $\frac{2}{4}$ of 16 is 8

5 What is $\frac{2}{4}$
of $8 p$ ?
$\qquad$


6 Yes or no? $\frac{2}{4}$ is equal to $\frac{1}{2}$. Yes $\triangle$ No $\square$

## Now try these

7 Find two-quarters of 20. 10


8
Here are 24 pieces of popcorn. How many is one-quarter of the whole set? 6
$\qquad$ of the whole set? 6


8 Bl 5 Bran Me OEA BCB

9 Fill in the missing number. $\frac{3}{4}$ of 12 bees is 9 bees.


10 What is $\frac{2}{4}$ of 40 p? $\qquad$ 20 p


11 What is $\frac{2}{4}$ of 16 ? $\qquad$
12 There are 60 minutes in 1 hour. How many minutes are there in $\frac{3}{4}$ of an hour? $\qquad$ 45 min


## Challenge

13 Yes or no? One-quarter of a number can be found by dividing it by 4 . Yes $\triangle$ No $\square$

14 Complete the pattern.
$\frac{1}{4}$ of $24=6 \quad \frac{2}{4}$ of $24=12 \quad \frac{3}{4}$ of $24=18 \quad \frac{4}{4}$ of $24=24$
15 In this rectangle 12 out of the 16 squares are orange. Write what fraction of the rectangle is orange.

$\frac{3}{4}$ of 16 is 12
16 When 32 sweets are shared equally between
4 children, each gets 8 sweets. What is $\frac{2}{4}$ of 32 sweets? $\qquad$ 16

17 A farmer has 32 chickens. He puts $\frac{3}{4}$ of them into the hen house. How many chickens is that? $\qquad$

18 A hockey club has 100 children. $\frac{3}{4}$ of them are boys. How many are boys? 75

## Connect fractions to multiplication and division facts

## Key point

To find one-half of a set, share into two equal groups.


$$
2 \times 4=8
$$

$$
8 \div 2=4
$$

$$
\frac{1}{2} \text { of } 8=4
$$

To find one-third of a set, share into three equal groups.
$\square \square$ $\square \square$ $\square \square$
$3 \times 2=6$
$6 \div 3=2$
$\frac{1}{3}$ of $6=2$

To find one-quarter of a set, share into four equal groups.

$4 \times 2=8$
$8 \div 4=2$
$\frac{1}{4}$ of $8=2$


## Get started

1
Two groups of 6 are 12 , so what is
$\frac{1}{2}$ of 12 ? $\qquad$


2 Three lots of 4 are 12 , so what is $\frac{1}{3}$ of $12 ? \quad 4$


3 Four times 5 is 20, so what is $\frac{1}{4}$ of $20 ? \quad 5$


4 Three lots of 10 p make 30 p. What is $\frac{1}{3}$ of 30 p ? 10 p

5 This grid has 24 squares arranged in 3 rows of 8 .
What is $\frac{1}{3}$ of 24 ? $\qquad$

This grid has 28 squares arranged in 4 rows of 7 . What is $\frac{1}{4}$ of 28 ?
$\qquad$


7

## Now try these

7 Divide 18 by 2 to find the answer to $\frac{1}{2}$ of 18 . $\qquad$
$8 \quad 3 \times 5 p=15 p$ Use this fact to find $\frac{1}{3}$ of $15 p$. $\qquad$ p

9 There are eighteen beanbags in three piles of six.
What is $\frac{1}{3}$ of 18 beanbags? $\qquad$


10 Li knows that 24 divided by 2 is 12 .
$\qquad$ cm
$114 \times 10=40$, so what is $\frac{1}{4}$ of 40 ? $\qquad$ 10

12 Find one-quarter of the length of this line. $\qquad$ 4 cm


## Challenge

13 One-quarter of a class of 16 children wear glasses. How many wear glasses? $\qquad$ $\sim$

14 Alice spends one-third of $£ 36$ to buy a bag costing $£ 12$.
Fill in the missing numbers.
$3 \times £ \frac{12}{\frac{1}{3}}$ of $£ 36$ is $£ 12 \quad £ 36 \div 3=£ 12$
15 Find $\frac{1}{4}$ of 400 g . 100 g


16 Tick the statements that are true.
If $4 \times 8=32$, then $\frac{1}{4}$ of 8 g is 32 g . $\square$
If $3 \times 11=33$, then $\frac{1}{3}$ of 33 cm is 11 cm . $\square$
If $38 \div 2=19$, then $\frac{1}{2}$ of 38 is 19 . $\square$

17 Write three different true statements. Also accept $\frac{1}{6}$ of 12 is 2 , $\frac{1}{12}$ of 12 is 1 | $\frac{1}{2}$ |
| :---: | of 12 is $6 \quad \frac{1}{3}$ of 12 is 4.4

18 Find $\frac{1}{3}$ of $£ 9$ plus $\frac{1}{3}$ of $£ 6$. $£$ $\qquad$ 5

## Find fractions in a variety of representations

## Key point

Wholes can take many forms. If you split any whole into equal parts, you get fractions like halves and quarters.
Here different wholes are all split into three equal parts. Each part is $\frac{1}{3}$ or one-third which is 'one out of three equal parts'.
a whole shape

a whole set

a whole amount

a whole line

a whole length

| 1 |  |  |
| :---: | :---: | :---: |
| $\frac{1}{3}$ | $\frac{1}{3}$ | $\frac{1}{3}$ |

a whole turn

a whole number

$$
12=4+4+4
$$

a whole hour


## Get started

1 Tick the shape that is $\frac{3}{4}$ orange.

$\square$


2 Draw a ring around $\frac{1}{4}$ of the caterpillars.


3 What fraction of the cubes are orange? $\frac{1}{3}$ or $\frac{4}{12}$


4 Mark $\frac{3}{4}$ on this line with a cross.


5 What fraction of this jar is filled? $\qquad$ $\frac{2}{3}$


6 A line is 8 cubes long.
How many cubes are the same length as one-quarter of this line? 2


## Now try these

8 What is $\frac{1}{2}$ of 16 ? _ 8
9 What fraction of these pencils are white? $\frac{1}{4}$
10 Fill in the missing numbers in this sequence:

$4,4 \frac{1}{4}, 4 \frac{1}{2}, 4 \frac{3}{4}$, $\qquad$ $, 5 \frac{1}{4}, 5 \frac{1}{2}$, $\qquad$ $, 6,6 \frac{1}{4}$

11 What number is the arrow pointing to? $8 \frac{3}{4}$


12 Mark a cross at the point $\frac{1}{3}$ of the way from house $A$ to house $B$.


## Challenge

13 Colour two-thirds of this shape.


14 What is $\frac{3}{4}$ of $£ 8 ? £ \quad 6$


16 Sandeep wins some money. He gives $\frac{1}{3}$ of the money to his son and $\frac{1}{3}$ of the money to his daughter. He keeps the rest. What fraction of the money does Sandeep keep? $\qquad$ $\frac{1}{3}$
$17 \frac{2}{4} \mathrm{~kg}$ is marked on a number line.
What number is $1 \frac{1}{2} \mathrm{~kg}$ more than this number? $\qquad$ kg chocolate. How many biscuits are in the whole packet altogether? $\qquad$ 12

## Check-up test 2

1 What is $\frac{1}{4}$ of 8 ? $\qquad$ -

2 Here are 12 hats.
How many is one-quarter of the set? $\qquad$



3 A dance class has 24 children. $\frac{1}{4}$ of them are boys. How many are boys? $\qquad$


1 mark

5 Lucy and Finn have a whole cake. Lucy eats one-third of the cake. Finn eats one-third of the cake. Write a fraction to show how much of the cake is not eaten. $\qquad$ $\frac{1}{3}$

6 How many counters are there in $\frac{1}{3}$ of this set? $\qquad$ 3


7 Colour $\frac{3}{4}$ of the circle.

$\qquad$

this cake be cut into to give thirds? 3
-
-

$$
1 \text { mark }
$$

8
What fraction of these buttons are white? $\quad \frac{1}{4}$
9 Colour $\frac{3}{4}$ of the 20 squares in this grid.


10 What is $\frac{2}{4}$ of $8 p$ ? $\qquad$ p


11 What is $\frac{1}{4}$ of 16 ? $\quad 4$


28 sweets are shared equally between 4 children. Each gets 7 sweets. What is $\frac{2}{4}$ of 28 sweets? $\qquad$

13 This grid has 21 squares arranged in 3 rows of 7 .
What is $\frac{1}{3}$ of 21 ? $\qquad$


14 Find one-third of the length of this line. $\qquad$ cm

| $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | $\mid$ | 1 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Cm |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

15 Find $\frac{1}{3}$ of $£ 12$ plus $\frac{1}{3}$ of $£ 3$. $£$ $\qquad$

16
Draw a ring around $\frac{1}{4}$ of the coins.


1 mark
17 Mark a cross at the point $\frac{2}{3}$ of the way from house A to house B.


What number is $\frac{1}{2}$ more than this number? $\qquad$ $6 \frac{1}{4}$

## Final test

## Section 1

1 How many equal parts is a
whole split into to show quarters? $\quad 4$

2 Colour $\frac{1}{3}$ of this shape.


3 Write a word to show what fraction of this flag is orange. one- $\qquad$ third

$\qquad$ 309
SOO


1 mark


## Section 2

11 Write three-quarters as a fraction. $\qquad$

12 Fill in the missing number. $\frac{1}{2}$ of 10 is 5


13 Divide 14 by 2 to find the answer to $\frac{1}{2}$ of 14 kg . $\qquad$ kg

14 Fill in the missing number. 来 来


15 Yes or no? Two-quarters is the same as one-half. Yes $\square$ No $\square$


16 How many $\frac{1}{4}$ turns are in a half turn? $\qquad$ 2

Arun eats $\frac{1}{2}$ of a waffle and Milly eats $\frac{2}{4}$ of it. Is the whole waffle eaten?
Yes $\square$ No $\square$


18 Complete the pattern. | $\frac{1}{4}$ of 24 is $6 \quad \frac{2}{4}$ of 24 is 12 | $\frac{3}{4}$ of 24 is | 18 |
| :--- | :--- | :--- | :--- |

19 Count on ten-quarters from zero. Fill in the boxes to show the answer in two different ways.
$2 \frac{2}{4}$
$2 \frac{1}{2}$

1 mark
$207 \frac{2}{4} \mathrm{~kg}$ is marked on a number line. What number is $1 \frac{1}{2} \mathrm{~kg}$ less than this number? $\qquad$ kg

