

## Year 5

### Using and applying mathematics

- Solve one-step and two-step problems involving whole numbers and decimals and all four operations, choosing and using appropriate calculation strategies, including calculator use

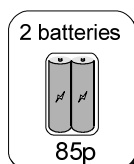
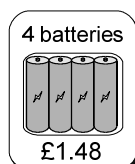
I had one pound.  
I bought two cartons of drink and got thirty pence change.  
How much did each carton of drink cost?

**KS2 2006 Mental test level 3**

A fruit pie costs fifty-five pence.  
What is the cost of three fruit pies?

**KS2 2004 Mental test level 3**

A shop sells batteries in packs of 4 and packs of 2.



Simon and Nick want two batteries each.  
They buy a pack of four and share the cost equally.  
How much does each pay?

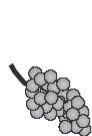
Mary buys 2 packs of two batteries.  
Hamid buys 1 pack of four.  
How much more does Mary pay than Hamid?

**KS2 2000 Paper A level 3**

Emily chooses two numbers. She adds the two numbers together and divides the result by 2.  
Her answer is 44.  
One of Emily's numbers is 12.  
What is Emily's other number?

**KS2 2008 Paper B level 4**

Amir and Lara buy some fruit.



grapes  
£2.50  
for 1 kg



pineapples  
£1.40  
each



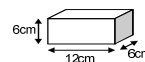
peaches  
£1.99  
for a box

Amir buys 2 pineapples and a box of peaches.  
How much does he pay?

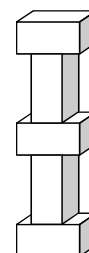
Lara buys half a kilogram of grapes and one pineapple.  
How much change does she get from £5?

**KS2 2009 Paper A level 4**

Martin has some bricks. They are 12 cm long, 6 cm high and 6 cm deep.



He builds this tower with five bricks. How tall is the tower?



**KS2 2003 Paper A level 4**

The table shows the cost of coach tickets to different cities.

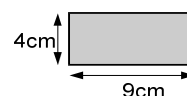
		Hull	York	Leeds
Adult	single	£12.50	£15.60	£10.25
	return	£23.75	£28.50	£19.30
Child	single	£8.50	£10.80	£8.25
	return	£14.90	£17.90	£14.75

What is the total cost for a return journey to York for one adult and two children?

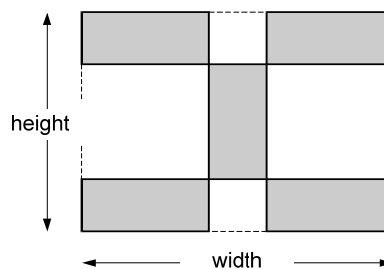
How much more does it cost for two adults to make a single journey to Hull than to Leeds?

**KS2 2002 Paper B level 4**

Kim has some rectangular tiles. Each one is 4 centimetres by 9 centimetres.



She makes a design with them.



Calculate the width and height of her design.

**KS2 2000 Paper A level 4**

- Represent a puzzle or problem by identifying and recording the information or calculations needed to solve it; find possible solutions and confirm them in the context of the problem

Here are some digit cards.



Write all the three-digit numbers, greater than 500, that can be made using these cards.

**KS2 2005 Paper A level 4**

Jamie, Kate and Hassan run a 50m race.



Kate's time is 13 seconds.  
Jamie finishes 5 seconds before Kate.  
Hassan finishes 3 seconds after Jamie.  
What is Hassan's time in seconds?

**KS2 2007 Paper B level 4**

$\square$  and  $\circ$  each stand for a different number.

$$\square = 34$$

$$\square + \square = \circ + \circ + \square$$

What is the value of  $\circ$ ?

**Y4 Optional test 2003 Paper B level 4**

Tina has read the first 85 pages in a book that is 150 pages long. Which number sentence could Tina use to find the number of pages she must read to finish the book?

- A  $150 + 85 = \square$
- B  $\square - 85 = 150$
- C  $150 \div 85 = \square$
- D  $150 - 85 = \square$

Sapna and Robbie have some biscuits. Altogether they have 14 biscuits.

Sapna has 2 more biscuits than Robbie. How many biscuits do Sapna and Robbie each have?

Show your method.

**KS2 2005 Paper B level 4**

Kate and Jamie each have some money.  
Altogether they have £1.50

Kate gives Jamie 10p so that they both have the same amount.

How much money did each have at the start?

Show your method.

**KS2 2007 Paper B level 4**

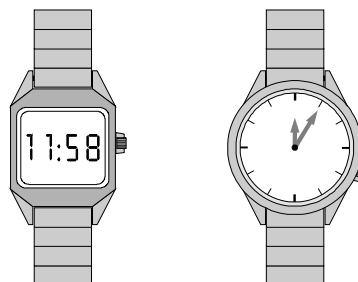
Tilly's parcel cost 55p to post. She stuck on 8 stamps. Each stamp was either 10p or 5p.



How many of each stamp did Tilly stick on her parcel?

Show how you worked out your answer.

One of these watches is 3 minutes fast.  
The other watch is 4 minutes slow.



What is the correct time?

**KS2 2003 Paper B level 4**

• Plan and pursue an enquiry; present evidence by collecting, organising and interpreting information; suggest extensions to the enquiry

60 children visit the zoo.  
They each vote for their favourite big cat.  
Complete the table.

favourite big cat	number of children
cheetah	7
lion	22
tiger	13
panther	
leopard	10
<b>total</b>	<b>60</b>

Now look at each sentence below. Put a tick (✓) if it is true. Put a cross (✗) if it is not true.

- ☐ Nine more children voted for the lion than for the leopard.
- ☐ The lion was more popular than the tiger.
- ☐  $\frac{1}{4}$  of the children voted for the tiger.

**Y3 Optional test 2003 paper A level 3**

Suggest two more statements you could make about the information in the table.

This chart shows the musical instruments some children play.

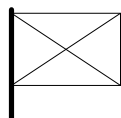
	Lena	John	Rashid	Nicola	Yin
drums	✓	✓		✓	
keyboard			✓		
trumpet	✓				✓
recorder			✓	✓	✓
piano	✓	✓	✓		

Who plays both recorder and drums?  
How many children play more than two musical instruments?

**KS2 2001 Paper B level 3**

Write another question you can ask about the information in the table.

A flag has four triangular sections.

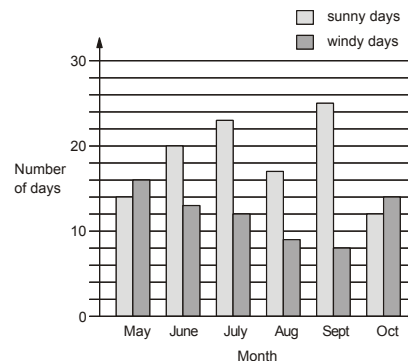


One triangle is red, one triangle is yellow, one triangle is blue and one triangle is green.

How many different flags can be made like this?

Suggest an extension to this enquiry (e.g. What if two of the sections are the same colour?).

The chart shows the number of sunny days and the number of windy days in six months.



Which months had more windy days than sunny days?

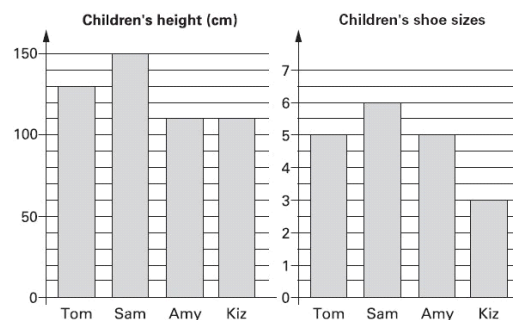
How many months had more than 15 sunny days?

How many more sunny days than windy days were there in June?

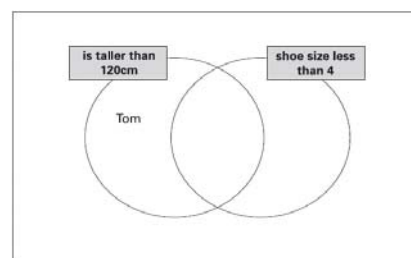
**KS2 2007 Paper A level 4**

Suggest another question that you could ask about the information in the graph.

These graphs show data about Tom, Sam, Amy and Kiz.



Use this data to write each child's name in the correct region on the Venn diagram. One has been done for you.



**Y5 Optional test 2003 Paper B level 4**

- Explore patterns, properties and relationships and propose a general statement involving numbers or shapes; identify examples for which the statement is true or false

What is the next odd number after nine hundred and ninety-nine?

**KS2 2007 Mental test level 3**

The numbers in this sequence increase by 75 each time. Write in the two missing numbers.

725    800    875    950       

**KS2 2008 Paper A level 3**

Here are five digit cards.

0    1    4    5    8

Use all five digit cards to make this correct.

$\times$  2 =

**KS2 2004 Paper B level 3**

Here are four labels.

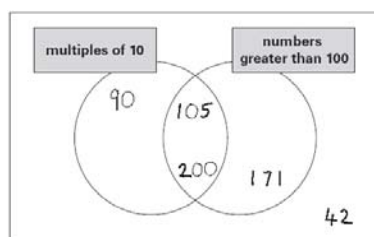
even	multiples of 9	not even	not multiples of 9
------	----------------	----------	--------------------

Write each label in the correct position on the sorting diagram below.

	72	56
	54	84
	63	49
	45	75

**KS2 2008 Paper B level 4**

One number is in the wrong place on the sorting diagram. Put a cross (x) on it.



**Y3 Optional test 2003 Paper B level 4**

Nadia is working with whole numbers. She says, 'If you add a two-digit number to a two-digit number you cannot get a four-digit number'.

Is she correct?  
Circle Yes or No.  
Explain why.

**KS2 2000 Paper B level 4**

Here is a sorting diagram for numbers. Write a number less than 100 in each space.

	even	not even
a square number		
not a square number		

**KS2 2004 Paper A level 4**

Here are four digit cards.

7    5    2    1

Choose two cards each time to make the following two-digit numbers. The first one is done for you.

an even number    52  
a multiple of 9      
a square number     
a factor of 96   

**KS2 2003 Paper A level 4**

Here are five digit cards.

1    3    4    6    9

Use each card once to complete these statements.

8 >  5

0 <  2

>  7

**KS2 2008 Paper B level 4**

Use the digits 2, 3 and 4 once to make the multiplication which has the greatest product.

$\times$

**KS2 2004 Paper B level 4**

Amir says:

'All numbers that end in a 4 are multiples of 4.'

Is he correct?

Circle Yes or No. Explain how you know.

**KS2 2009 Paper A level 4**

• Explain reasoning using diagrams, graphs and text; refine ways of recording using images and symbols

Here is a sorting diagram with four sections, A, B, C and D.

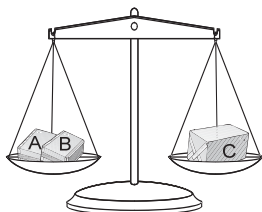
	multiple of 10	not a multiple of 10
multiple of 20	A	B
not a multiple of 20	C	D

Write a number that could go in section C.

Section B can never have any numbers in it. Explain why.

**KS2 2006 Paper B level 4**

Amir has three parcels. Parcels A and B together weigh the same as parcel C.



The three parcels weigh 800 grams altogether. Parcel A weighs 250 g. How much does parcel B weigh?

**KS2 2009 Paper A level 4**

Asim and Mike both buy 12 cans of lemonade.

Asim buys 3 packs of 4 cans at £1.20 for each pack.



Mike buys 2 packs of 6 cans at £1.70 for each pack.



Mike says to Asim, 'You paid 50p more than me.' Is Mike correct? Circle Yes or No. Explain how you know.

**Y5 Optional test 2003 Paper A level 4**

$\square$  represents the number of eggs that Jan eats each week. Which of these represents the total number of eggs that Jan eats in 6 weeks?

A  $6 + \square$

B  $6 \times \square$

C  $\square \div 6$

D  $6 \div \square$

Write what the numbers in the boxes could be.

$$10 \times \square = \square - 10$$

**KS2 2009 Paper B level 4**

Here is a number sentence.

$$\square + 27 > 85$$

Circle all the numbers below that make the number sentence correct.

30    40    50    60    70

**KS2 2006 Paper B level 4**

Sapna makes up a game using seven cards. Here are the cards.



Josh picks a card without looking.

If Josh picks an odd number then Sapna scores a point.

If Josh picks an even number then Josh scores a point.

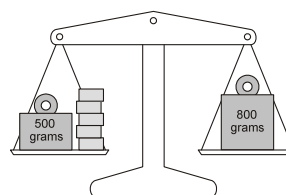
Is this a fair game?

Circle Yes or No. Explain how you know.

**KS2 2005 Paper A level 4**

Lin has five blocks which are all the same.

She balances them on the scale with two weights.



Calculate the weight of one block.

Show your working.

**KS2 2006 Paper B level 4**

## Counting and understanding number

- Count from any given number in whole-number and decimal steps, extending beyond zero when counting backwards; relate the numbers to their position on a number line

The temperature was three degrees Celsius.  
It goes down by eight degrees.  
Write the new temperature.

KS2 2009 Mental test level 4

The temperature in York is 4°C.  
Rome is 7 degrees colder than York.  
What is the temperature in Rome?

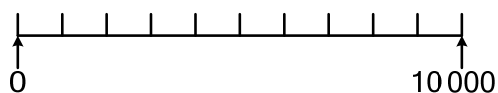
KS2 2000 Paper A level 4

The numbers in this sequence increase by the same amount each time.  
Write in the missing numbers.



KS2 2006 Paper B level 4

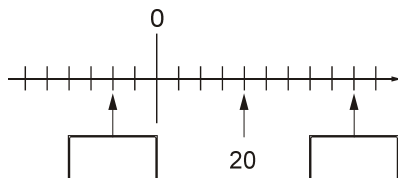
Draw an arrow (↑) to show the position for 7 500.



Y4 Optional test 2003 level 3

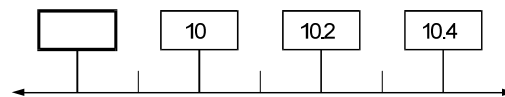
Here is part of a number line.

Write the missing numbers in the boxes.



KS2 2009 Paper B level 4

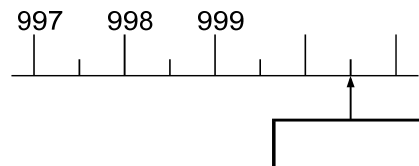
Write in the missing number on this number line.



KS2 2001 Paper B level 4

Here is part of a number line.

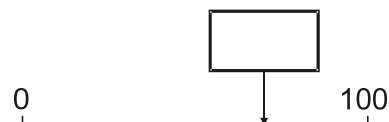
Write the number shown by the arrow.



KS2 2000 Paper B level 4

Here is a number line.

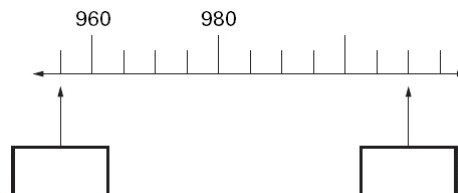
Estimate the number marked by the arrow.



KS2 2006 Paper B level 4

Here is part of a number line.

Write the two missing numbers in the boxes.



KS2 2005 Paper B level 4

- Explain what each digit represents in whole numbers and decimals with up to two places, and partition, round and order these numbers

What number equals

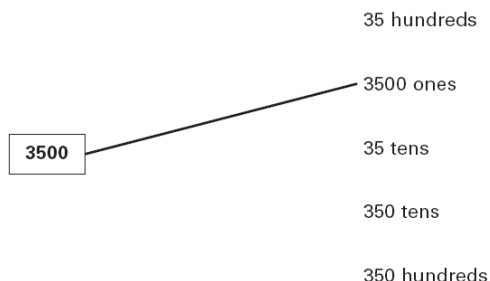
7 ones + 9 tens + 3 hundreds + 20 thousands?

- A 2 397
- B 20 397
- C 23 970
- D 793 020
- E 203 970

In the number 14 073, what does the 4 represent?

- A thousands
- B hundreds
- C tens
- D ones

Draw two more lines to match 3500 to numbers with the same value.



**Y4 Optional test 2003 Paper B level 4**

Here are four digit cards.



Write in three of the digits to make the total nearest to 1000.

$$650 + \square\square\square =$$

**Y5 Optional test 2003 Paper B level 4**

A car costs more than £8600 but less than £9100. Tick (✓) the prices that the car could cost.

- £8569 ☐
- £9090 ☐
- £9130 ☐
- £8999 ☐

**Y5 Optional test 2003 Paper B level 4**

What is four thousand seven hundred and seventy-three rounded to the nearest hundred?

**Y4 Optional test 2003 Mental test level 4**

Write the total as a decimal.

$$4 + \frac{6}{10} + \frac{2}{100} =$$

Write a number in the box to make this correct.

$$6.45 = 6 + 0.4 + \square$$

Here are four digit cards.



Use each digit card once to make the decimal number nearest to 20.



**KS2 2008 Paper A level 4**

Four oranges cost ninety-five pence.

How much does each orange cost to the nearest penny?

**KS2 2009 Mental test level 5**

Round each decimal to the nearest whole number.

$$6.01 \rightarrow \square$$

$$9.51 \rightarrow \square$$

$$7.75 \rightarrow \square$$

**Y5 Optional test 2003 Paper B level 4**

What number is halfway between zero point three and zero point four?

**KS2 2009 Mental test level 5**

Circle all the numbers that are greater than 0.6.

0.5 0.8 0.23 0.09 0.67

**KS2 2007 Paper A level 4**

Write a number that is bigger than nought point three but smaller than nought point four.

**KS2 2003 Mental test level 4**

Write these numbers in order of size, starting with the smallest.

3.01 13.0 0.31 1.30 3.1



smallest

**KS2 2007 Paper B level 4**

- Express a smaller whole number as a fraction of a larger one (e.g. recognise that 5 out of 8 is  $\frac{5}{8}$ ); find equivalent fractions (e.g.  $\frac{7}{10} = \frac{14}{20}$ , or  $\frac{19}{10} = 1\frac{9}{10}$ ); relate fractions to their decimal representations

Which of these means  $\frac{9}{10}$  ?

A 90 B9 C 0.9 D 0.09?

Which number represents the shaded part of the diagram?



A. 3.7 B. 0.5 C. 0.3 D. 0.03

Write 0.7 as a fraction.

**KS2 2009 Mental test level 4**

What is three quarters as a decimal?

**KS2 2001 Mental test level 4**

Circle the two fractions that are equivalent to 0.6.

$\frac{6}{10}$   $\frac{1}{60}$   $\frac{60}{100}$   $\frac{1}{6}$

**Y5 Optional test 2003 Paper B level 4**

Match each box to the number which has the same value. One has been done for you.

$\frac{3}{4}$	$\frac{1}{2}$	$\frac{4}{5}$	0.5	0.8	0.3	0.75	0.4

**Y4 Optional test 2003 Paper B level 4**

Match each decimal number to its equivalent fraction. One has been done for you.

0.25	0.4	0.75	0.2	$\frac{3}{4}$	$\frac{2}{10}$	$\frac{1}{4}$	$\frac{2}{5}$

**KS2 2006 Paper A level 4**

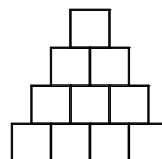
Here is a chocolate bar.



William eats 3 pieces and Amber eats 2 pieces. What fraction of the chocolate bar remains?

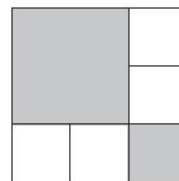
**Y5 Optional test 2003 Paper A level 4**

Shade  $\frac{1}{5}$  of this shape.



**KS2 2008 Paper B level 4**

The diagram is made of squares. What fraction of the diagram is shaded?



**KS2 2005 Paper A level 4**

Stefan has a bag that contains 3 blue marbles and 5 red marbles only.

What fraction of the marbles in the bag are blue?

Stefan adds one blue marble and one red marble to the bag.

What fraction of the marbles in the bag are blue now?

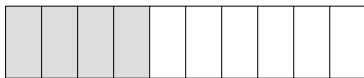
**KS2 2009 Paper B level 4**

Put a tick (✓) in each row to complete this table. One has been done for you.

**KS2 2001 Paper A level 4**

**Understand percentage as the number of parts in every 100 and express tenths and hundredths as percentages**

What percentage of the bar is shaded?



**Y5 Optional test 2003 Mental test level 4**

What is seven-tenths as a percentage?

**KS2 2005 Mental test level 4**

What is twenty out of forty as a percentage?

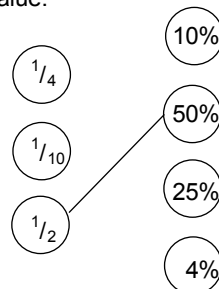
**KS2 2004 Mental test level 4**

Hassan scores 40 out of 80 in a test.  
Kate scores 40% in the same test.

Who has the higher score?  
Circle Hassan or Kate.  
Explain how you know.

**KS2 2007 Paper B level 4**

Draw a line to join each fraction to a percentage of the same value.



**Y4 Optional test 2003 Paper B level 3**

Put a ring around the percentage that is equal to three-fifths.

20%    30%    40%    50%    60%

**KS2 2007 Mental test level 4**

**Use sequences to scale numbers up or down; solve problems involving proportions of quantities (e.g. decrease quantities in a recipe designed to feed six people)**

One orange costs nineteen pence.  
How much will three oranges cost?

**Y4 Optional test 2003 Mental test level 3**

A fruit pie costs fifty-five pence.  
What is the cost of three fruit pies?

**KS2 2004 Mental test level 4**

Four biscuits cost twenty pence altogether.  
How much do twelve biscuits cost?

**KS2 2005 Mental test level 4**

Two rulers cost eighty pence.  
How much do three rulers cost?

**KS2 2002 Mental test level 4**

Cakes are four for fifty pence.  
How many cakes will I get for two pounds?

**KS2 2008 Mental test level 4**

Peanuts cost 60p for 100 grams.  
What is the cost of 350 grams of peanuts?

Raisins cost 80p for 100 grams.  
Jack pays £2 for a bag of raisins.  
How many grams of raisins does he get?

**KS2 2000 Paper A level 4**

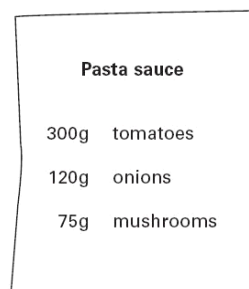
4 pineapples cost £3.40.  
Calculate the cost of 1 pineapple.

**Y4 Optional test 2003 Paper A level 4**

Cakes are four for fifty pence.  
How many cakes will I get for two pounds?

**KS2 2008 Mental test level 4**

Here is a recipe for pasta sauce.



Josh makes the pasta sauce using 900g of tomatoes. What weight of onions should he use?

**Y5 Optional test 2003 Paper B level 5**

## Knowing and using number facts

- Use knowledge of place value and addition and subtraction of two-digit numbers to derive sums and differences, doubles and halves of decimals (e.g.  $6.5 \pm 2.7$ , halve 5.6, double 0.34)

What is double ninety?

**KS2 2009 Mental test level 3**

Double one hundred and fifty and then double the answer.

**KS2 2008 Mental test level 3**

Halve twenty-seven.

**KS2 2009 Mental test level 3**

What is half of seven pounds?

**KS2 2007 Mental test level 3**

Hayley makes a sequence of numbers.  
Her rule is 'find half the last number then add 10'.  
Write in the next two numbers in her sequence.

36   28   24     

**KS2 2003 Paper B level 3**

Write the missing numbers in this sequence.

64   32   16      4  

**Y5 Optional test 2003 Paper B level 3**

Add three point three to seven point seven.

**KS2 2009 Mental test level 4**

Add three point five to four point eight.

**KS2 2000 Mental test level 4**

Subtract one point nine from two point seven.

**KS2 2003 Mental test level 4**

Write the same number in each box to make this correct.

$$\square + \square + \square = 10.5$$

**Y5 Optional test 2003 Paper A level 4**

Circle two decimals that have a difference of 0.5

0.2   0.25   0.4   0.45   0.6   0.75

**KS2 2009 Paper A level 4**

What is double fifteen point five?

**KS2 2001 Mental test level 4**

What is double one point seven?

**KS2 2006 Mental test level 4**

In this sequence each number is double the previous number. Write in the missing numbers.

     3   6   12   24   48  

**KS2 2003 Paper B level 4**

The first two numbers in this sequence are 2.1 and 2.2.

The sequence then follows the rule: 'to get the next number, add the two previous numbers'.

Write in the next two numbers in the sequence.

2.1   2.2   4.3   6.5     

**KS2 2003 Paper A level 4**

Lara spends three pounds fifty-five.  
She pays with a ten pound note.  
How much change does she get?

**KS2 2009 Mental test level 4**

- Recall quickly multiplication facts up to  $10 \times 10$ , use to multiply pairs of multiples of 10 and 100; derive quickly corresponding division facts

Divide ninety by three.

[KS2 2003 Mental test level 3](#)

What is thirty multiplied by seven?

[KS2 2004 Mental test level 3](#)

How many hundreds are there in one thousand?

[KS2 2008 Mental test level 3](#)

Multiply eight by four, then add fifty.

[KS2 2007 Mental test level 3](#)

Write in the missing numbers.

$$5 \times 70 = \square$$

$$4 \times \square = 200$$

[KS2 2002 Paper A level 3](#)

Write in the missing number.

$$600 \times 4 = \square$$

[Y3 Optional test 2003 Paper A level 3](#)

Write in the missing numbers in this multiplication grid.

$\times$	5	<input type="text"/>	<input type="text"/>
4	20	36	32
<input type="text"/>	35	63	56
<input type="text"/>	30	54	48

[KS2 2004 Paper A level 4](#)

Multiply six by nine.

[KS2 2009 Mental test level 4](#)

How many sixes are there in thirty-six?

[KS2 2006 Mental test level 4](#)

What is eight times eight?

[KS2 2008 Mental test level 4](#)

How many nines are there in fifty-four?

[KS2 2003 Mental test level 4](#)

How many sevens are there in two hundred and ten?

[KS2 2000 Mental test level 4](#)

Five times a number is two hundred.

What is the number?

[KS2 2004 Mental test level 4](#)

How many forties are there in eight hundred?

[KS2 2003 Mental test level 4](#)

Multiply seventy-five by twenty.

[KS2 2008 Mental test level 4](#)

A number multiplied by four equals two hundred and eighty. What is the number?

[KS2 2009 Mental test level 4](#)

Write in the missing number.

$$8 \times \square = 400$$

[KS2 2001 Paper A level 4](#)

- Identify pairs of factors of two-digit whole numbers and find common multiples (e.g. for 6 and 9)

Here are four number cards.



Which two number cards are factors of 42?

**Y5 Optional test 2003 Paper A level 4**

Put a ring around the numbers which are factors of thirty.

4 5 6 20 60 90

**KS2 2000 Mental test level 4**

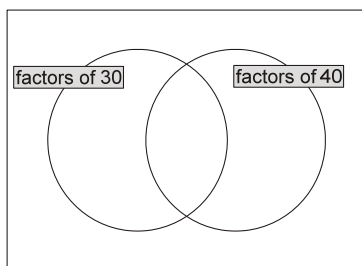
Put a ring around the number which is not a factor of three hundred.

60 75 90 100 150

**KS2 2002 Mental test level 4**

Write these numbers in the correct places on the diagram.

5 6 7 8



**KS2 2006 Paper A level 4**

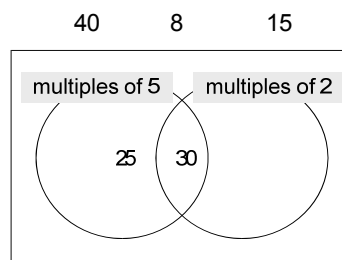
What is the smallest whole number that is divisible by five and by three?

**KS2 2004 Mental test level 4**

Write down a number that is both a multiple of four and a multiple of six.

**KS2 2002 Mental test level 4**

Write each of these numbers in its correct place on the sorting diagram.



**KS2 2000 Paper A level 3**

Here is a number chart. Circle the smallest number on the chart that is a multiple of both 2 and 7.

71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Here is the same number chart. Circle the largest number that is not a multiple of 2 or 3 or 5.

71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

**KS2 2008 Paper A level 4**

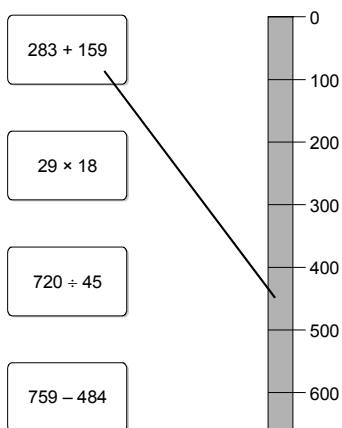
• Use knowledge of rounding, place value, number facts and inverse operations to estimate and check calculations

Mark has 84 stamps.  
Ella has 57 stamps.

Which of these is the BEST way to estimate how many stamps there are altogether?

- A  $90 + 60 = 150$
- B  $80 + 60 = 140$
- C  $80 + 50 = 130$

Draw a line from each card to the correct part of the number line. One has been done for you. You may use a calculator.



KS2 2002 Paper B level 3

$25 \times 18$  is more than  $24 \times 18$ .  
How much more?

- A 1
- B 18
- C 24
- D 25

Write a calculation that you could do to check that the answer to  $53 \times 4$  is 212.

John wanted to use his calculator to add 463 and 319. He entered  $263 + 319$  by mistake.  
What could he do to correct his mistake?

- A Add 200.
- B Add 2.
- C Subtract 2.
- D Subtract 200.

## Calculating

- Extend mental methods for whole-number calculations, e.g. to multiply a two-digit by one-digit number (e.g.  $12 \times 9$ ), to multiply by 25 (e.g.  $16 \times 25$ ), to subtract one near-multiple of 1000 from another (e.g.  $6070 - 4097$ )

Add together six and sixty-six.

**KS2 2007 Mental test level 3**

Subtract twenty-one from forty.

**KS2 2008 Mental test level 3**

Add together twenty, twenty-three and twenty-six.

**KS2 2009 Mental test level 3**

Add together nine, nineteen and twenty-nine.

**KS2 2007 Mental test level 3**

Subtract three hundred and ninety-nine from eight hundred.

**KS2 2009 Mental test level 3**

What is one thousand minus one hundred and ten?

**KS2 2004 Mental test level 3**

Take away ninety-five from one hundred and ten.

**KS2 2007 Mental test level 3**

What number is two less than nine hundred and one?

**Y4 Optional test 2003 Mental test level 3**

Add together ninety, one hundred and ten and one hundred and twenty.

**KS2 2008 Mental test level 3**

What number is exactly half way between fifty and eighty?

**KS2 2008 Mental test level 3**

Add one pound twenty to two pounds seventy-eight.

**KS2 2008 Mental test level 3**

What is three times one hundred and fifty?

**KS2 2006 Mental test level 3**

What is twenty-one multiplied by nine?

**KS2 2000 Mental test level 4**

Multiply ninety-one by two.

**KS2 2007 Mental test level 4**

How many twos are there in four hundred and forty?

**KS2 2007 Mental test level 4**

Multiply thirty-five by six.

**KS2 2009 Mental test level 4**

One orange costs nineteen pence.  
How much will three oranges cost?

**Y4 Optional test 2003 Mental test level 3**

A fruit pie costs fifty-five pence.  
What is the cost of three fruit pies?

**KS2 2004 Mental test level 4**

Oranges cost fifteen pence each.  
I buy four oranges.  
How much change do I get from a two pound coin?

**KS2 2007 Mental test level 4**

I think of a number, subtract ten and double the result. The answer is forty-four.  
What is my number?

**KS2 2006 Mental test level 4**

What number is one hundred and ninety-nine more than four hundred and twenty-eight.

**Y5 Optional test 2003 Mental test level 4**

What is the difference between one thousand nine hundred and ninety-four and four thousand and three?

**Y5 Optional test 2003 Mental test level 4**

• Use efficient written methods to add and subtract whole numbers and decimals with up to two places

Calculate  $2006 - 289$ .

KS2 2006 Paper A level 4

Calculate  $1025 - 336$ .

KS2 2001 Paper A level 4

Calculate  $1202 + 45 + 367$ .

KS2 2005 Paper A level 4

Calculate  $6247 - 2752$ .

Y5 Optional test 2003 Paper A level 4

Write in the missing digits.

$$4 \square 4 + 38 \square = 851$$

KS2 2004 Paper A level 4

Calculate  $8.52 - 7.78$ .

Y3 Optional test 2003 Paper A level 4

Calculate  $13.6 - 2.8$

KS2 2004 Paper A level 4

Tick (✓) the two numbers which have a total of 10.

0.01

0.11

1.01

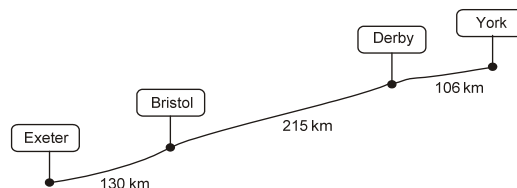
9.09

9.9

9.99

KS2 2005 Paper A level 4

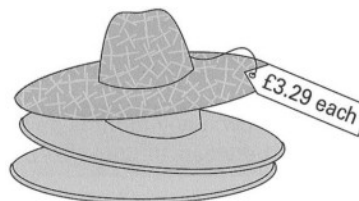
The diagram shows distances on a train journey from Exeter to York.



How many kilometres is it altogether from Exeter to York?

KS2 2006 Paper A level 3

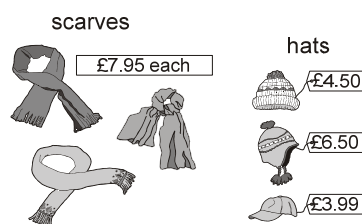
A shop sells sun hats.



Ryan buys some sunglasses for £4.69 and a sun hat. How much change does he get from £10?

KS2 2004 Paper A level 4

A shop sells scarves and hats.



Ben buys one of the scarves and the £4.50 hat. How much change does he get from £20? Show your working.

Emily buys two scarves and a hat. What is the most she could pay?

KS2 2008 Paper A level 4

• Use understanding of place value to multiply and divide whole numbers and decimals by 10, 100 or 1000

Divide three hundred and ninety by ten.

[KS2 2001 Mental test level 4](#)

How many hundreds are there in one thousand?

[KS2 2008 Mental test level 3](#)

How many hundreds are there altogether in two thousand four hundred?

[Y5 Optional test 2003 Mental test level 4](#)

Divide nine thousand three hundred by one hundred.

[KS2 2000 Mental test level 4](#)

Write in the missing number.

$$3400 \div \square = 100$$

[Y4 Optional test 2003 Paper B level 4](#)

Divide thirty-one point five by ten.

[Y5 Optional test 2003 Mental test level 5](#)

What is seven point five divided by one hundred?

[KS2 2004 Mental test level 5](#)

Divide nought point nine by one hundred.

[KS2 2006 Mental test level 5](#)

What is nought point two six divided by ten?

[KS2 2001 Mental test level 5](#)

Ten times a number is eighty-six.  
What is the number?

[KS2 2002 Mental test level 5](#)

• Refine and use efficient written methods to multiply and divide  $\text{HTU} \times \text{U}$ ,  $\text{TU} \times \text{TU}$ ,  $\text{U.t} \times \text{U}$ , and  $\text{HTU} \div \text{U}$

Calculate  $453 \times 8$ .

[Y4 Optional test 2003 Paper A level 4](#)

Calculate  $47 \times 32$ .

[Y5 Optional test 2003 Paper A level 4](#)

Calculate  $17 \times 5 \times 4$ .

[KS2 2007 Paper A level 4](#)

Calculate  $417 \times 20$

[KS2 2002 Paper A level 4](#)

Calculate  $45.3 \times 6$

[KS2 2008 Paper A level 4](#)

Write in the missing digits to make this correct.

$$\begin{array}{r} \square \quad 4 \quad \square \\ \times \quad \quad \quad 6 \\ \hline 2 \quad 0 \quad 5 \quad 2 \end{array}$$

[KS2 2001 Paper A level 4](#)

Calculate  $942 \div 6$

[Y5 Optional test 2003 Paper A level 4](#)

Calculate  $364 \div 7$

[KS2 2008 Paper A level 4](#)

Calculate  $847 \div 7$ .

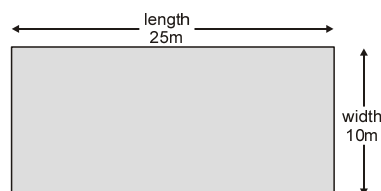
[KS2 2001 Paper A level 4](#)

Write the same number in each box to make this correct.

$$\square + \square + \square = 10.5$$

[Y5 Optional test 2003 Paper A level 4](#)

A rectangular swimming pool is 25 metres long and 10 metres wide.



David swims 5 lengths.

Rosie swims 12 widths.

How much further does David swim than Rosie?

[KS2 2006 Paper A level 4](#)

- Find fractions using division (e.g.  $\frac{1}{100}$  of 5 kg), and percentages of numbers and quantities (e.g. 10%, 5% and 15% of £80)

What is one-fifth of twenty-five?

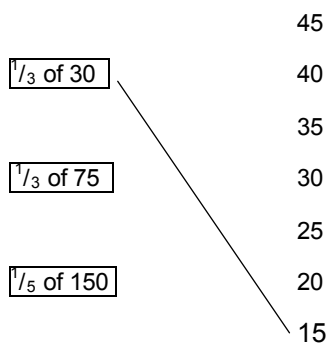
[Y4 Optional test 2003 Mental test level 3](#)

What is three-quarters of two hundred?

[KS2 2000 Mental test level 4](#)

Match each box to the correct number.

One has been done for you.



[KS2 2001 Paper B level 4](#)

Calculate  $\frac{3}{4}$  of £15.

[KS2 2006 Paper B level 4](#)

Calculate  $\frac{3}{4}$  of 840.

[KS2 2000 Paper A level 4](#)

What is three-quarters of forty-four?

[KS2 2008 Mental test level 5](#)

Calculate  $\frac{1}{5}$  of 325.

[Y5 Optional test 2003 Paper B level 5](#)

What is ten per cent of ninety metres?

What is fifty per cent of ten?

[KS2 2000 Mental test level 4](#)

What is fifty per cent of twenty pounds?

[KS2 2003 Mental test level 4](#)

Calculate 60% of 765.

[KS2 2000 Paper B level 4](#)

Calculate 5% of £3600.

[KS2 2004 Paper A level 5](#)

- Use a calculator to solve problems, including those involving decimals or fractions (e.g. to find  $\frac{3}{4}$  of 150 g); interpret the display correctly in the context of measurement

Write in the missing numbers.

$$37 \times \square = 111$$

$$\square \div 4 = 21$$

**KS2 2003 Paper B level 3**

Write in the missing number.

$$60 + 99 + \square = 340$$

**KS2 2000 Paper B level 3**

Write in the missing number.

$$22 \times \square = 660$$

**KS2 2002 Paper B level 3**

Write in the missing number.

$$8 \times \square = 400$$

**KS2 2001 Paper B level 3**



A box of four balls costs £2.96.  
How much does each ball cost?

Dean and Alex buy 3 boxes of balls between them.  
Dean pays £4.50.  
How much must Alex pay?

**KS2 2002 Paper B level 3**

In a supermarket storeroom there are

- 7 boxes of tomato soup
- 5 boxes of pea soup
- 4 boxes of chicken soup

There are 24 tins in every box.  
How many tins of soup are there altogether?

**KS2 2004 Paper B level 4**

Forest School sells badges for charity.

For each badge sold, £1.20 is given to a charity.  
How much does the charity get when 12 badges are sold?

If the charity got £24, how many badges were sold?

**KS2 2006 Paper B level 4**

Use the digits 2, 3 and 4 once to make the multiplication that has the greatest product.

$$\square\square = \square$$

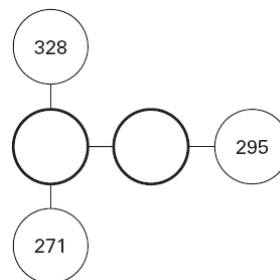
**KS2 2004 Paper B level 4**

Write what the three missing digits could be in this calculation.

$$\square\square \times \square = 378$$

**KS2 2003 Paper B level 4**

The three numbers on each line add up to 763.  
Write in the missing numbers.



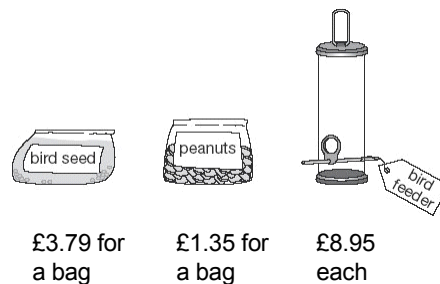
**Y5 Optional test 2003 Paper B level 4**

185 people go to the school concert.  
They pay £1.35 each.  
How much ticket money is collected?

Programmes cost 15p each.  
Selling programmes raises £12.30.  
How many programmes are sold?

**KS2 2002 Paper B level 4**

A shop sells food for birds.



Lara has £10 to spend on peanuts.  
How many bags of peanuts can she get for £10?

Amir has £20. He wants to buy a bird-feeder and 4 bags of bird seed.

How much more money does he need?

**KS2 2009 Paper B level 4**

Chris saves 50p coins. He has saved 45 of them.  
How much money has Chris saved?

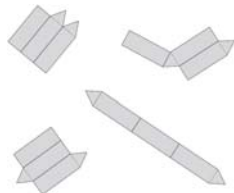
Michelle has saved £8.40 in 20p coins.  
How many 20p coins does Michelle have?

**KS2 2000 Paper B level 4**

## Understanding shape

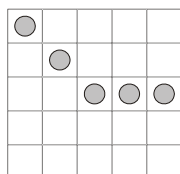
- Identify, visualise and describe properties of rectangles, triangles, regular polygons and 3-D solids; use knowledge of properties to draw 2-D shapes and identify and draw nets of 3-D shapes

Two of these diagrams are nets for a triangular prism. Put a tick (✓) in them.



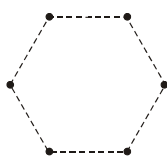
**Y4 Optional test 2003 Paper A level 3**

Draw two more circles on this grid to make a design that has a line of symmetry.

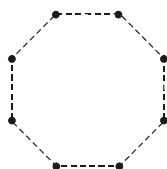


**KS2 2008 Paper B level 4**

Here is a regular hexagon. Join three of the dots to make an equilateral triangle. Use a ruler.

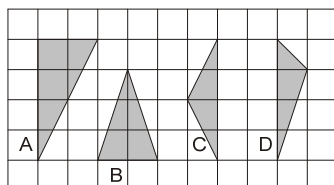


Here is a regular octagon. Join three of the dots to make an isosceles triangle. Use a ruler.



**KS2 2004 Paper B level 4**

Here are four triangles on a square grid.



Write the letters of the two isosceles triangles.

**KS2 2007 Paper B level 4**

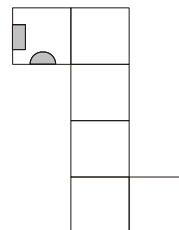
Imagine a triangular prism.  
How many faces does it have?

**KS2 2006 Mental test level 4**

A cube has shaded shapes on three of its faces.

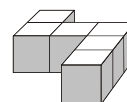


Here is a net of the cube. Draw in the two missing shaded shapes.



**KS2 2007 Paper A level 4**

Emily has 6 cubes.  
She sticks them together to make this model.



She paints the sides of the model grey all the way round. She leaves the top and the bottom of the model white.

How many of the cubes in the model have exactly two faces painted grey?

**KS2 2008 Paper A level 4**

Here is an open top cube.



Here is the net from which it is made.  
Put a tick (✓) on the square which is its base.

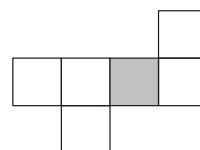


**Y5 Optional test 2003 Paper A level 4**

This cube is shaded all the way round so that the top half is grey and the bottom half is white.



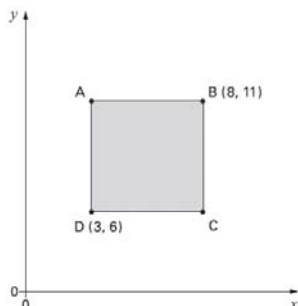
Here is the net of the cube. Complete the shading.



**KS2 2006 Paper B level 4**

- Read and plot co-ordinates in the first quadrant; recognise parallel and perpendicular lines in grids and shapes; use a set-square and ruler to draw shapes with perpendicular or parallel sides

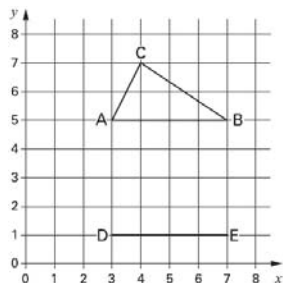
Here is a shaded square.



Write the coordinates for point A.

**Y5 Optional test 2003 Paper B level 4**

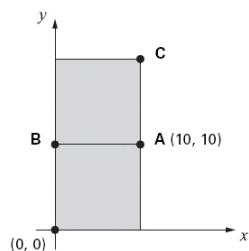
Kyle has drawn triangle ABC on this grid.



Holly has started to draw an identical triangle DEF. What will be the coordinates of point F?

**Y5 optional test 2003 Paper B level 4**

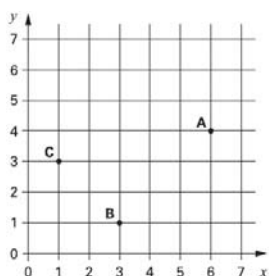
The diagram shows two identical squares.



A is the point (10,10).

What are the coordinates of B and C?

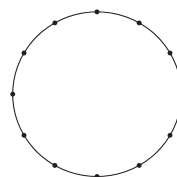
**KS2 2005 Paper B level 4**



A, B and C are three corners of a rectangle. What are the coordinates of the fourth corner?

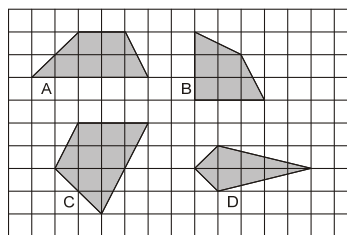
**Y4 optional test 2003 Paper B level 4**

The twelve points on this circle are equally spaced. Join four points to make a square. Use a ruler.



**KS2 2009 Paper B level 4**

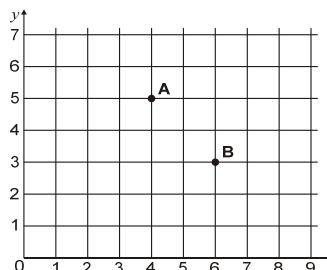
Here are some shapes on a grid.



Write the letter of each shape that has one pair of parallel sides.

**KS2 2007 Paper A level 4**

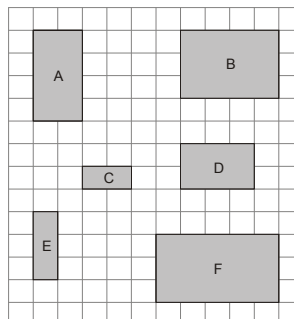
A, B, C and D are the vertices of a rectangle. A and B are shown on the grid.



D is the point (3, 4). Write the coordinates of point C.

**KS2 2006 Paper B level 4**

Here are six rectangles on a grid.

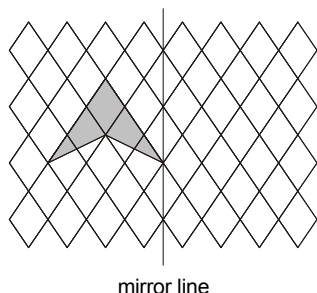


Which two rectangles fit together, without overlapping, to make a square?

**KS2 2008 Paper A level 4**

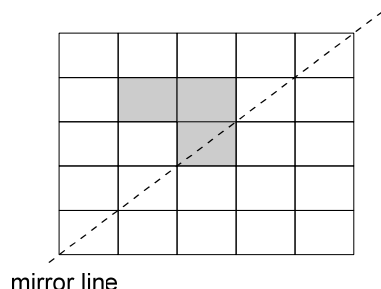
- Complete patterns with up to two lines of symmetry; draw the position of a shape after a reflection or translation

Draw the reflection of the shaded shape in the mirror line. Use a ruler.



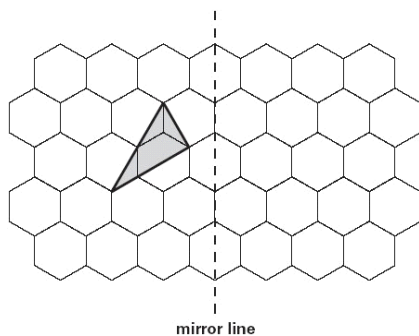
**KS2 2007 Paper B level 3**

Shade in two more squares to make this design symmetrical about the mirror line. You may use a mirror or tracing paper.



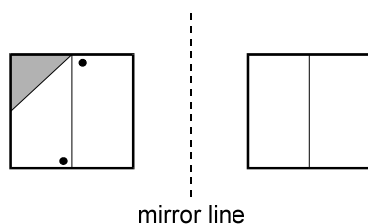
**KS2 2001 Paper B level 3**

This grid is made of hexagons. Draw the reflection of the shaded shape on the grid.



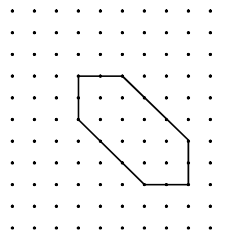
**KS2 2005 Paper B level 3**

Here is a square with a design on it. The square is reflected in the mirror line. Draw the missing triangle and dots on the reflected square. You may use a mirror or tracing paper.



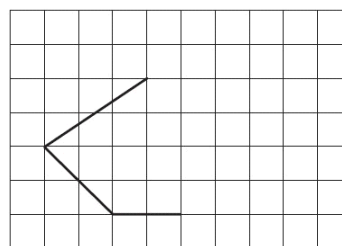
**KS2 2002 Paper A level 3**

Draw the 2 lines of symmetry on this shape. You may use a mirror.



**KS1 2001 level 3**

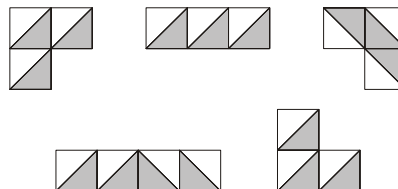
Here is part of a shape on a square grid. Draw two more lines to make a shape which has a line of symmetry. Use a ruler.



**KS2 2005 Paper A level 4**

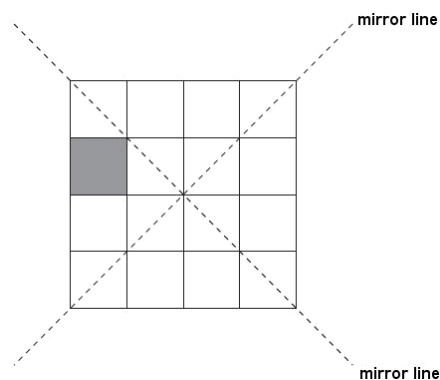
Here are five patterns.

For each pattern put a tick (✓) if it has a line of symmetry. Put a cross (✗) if it does not.



**KS2 2007 Paper A level 4**

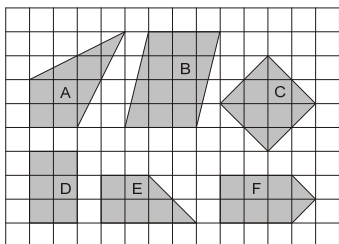
Here is a shaded square on a grid. Shade in 3 more squares so that the design is symmetrical in both mirror lines.



**Y5 Optional test 2003 Paper A level 4**

- Estimate, draw and measure acute and obtuse angles using an angle measurer or protractor to a suitable degree of accuracy; calculate angles in a straight line

Look at these shapes.

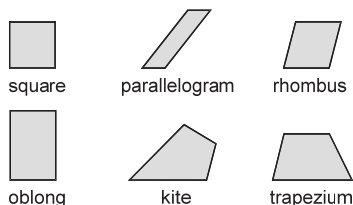


Complete the sentences below.  
One has been done for you.

- A is a kite  
☐ is not a quadrilateral  
☐ has only 2 right angles  
☐ has 2 acute angles

KS2 2007 Paper B level 4

Here are six quadrilaterals with their mathematical names.

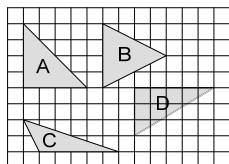


Lara chooses one of the quadrilaterals. She says:  
 'It has two acute angles.  
 All four sides are the same length'.  
 Which quadrilateral did Lara choose?

Stefan chooses one of the quadrilaterals. He says:  
 'It has more than one obtuse angle.  
 It has no parallel sides'.  
 Which quadrilateral did Stefan choose?

KS2 2009 Paper A level 4

Here are four triangles drawn on a square grid.

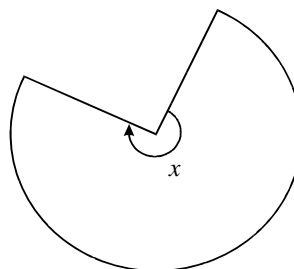


Write the letter for each triangle in the correct region of the sorting diagram. One has been done for you.

	has a right angle	has an obtuse angle	has an acute angle
is isosceles	A		
is not isosceles			

KS2 2002 Paper B level 4

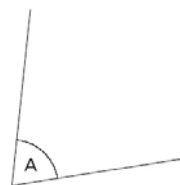
This shape is three-quarters of a circle.



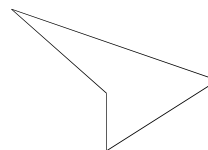
How many degrees is angle  $x$ ?

KS2 2001 Paper A level 4

Measure angle A accurately.  
 Use a protractor (angle measurer).



Y5 Optional test 2003 Paper A level 4



Measure accurately the smallest angle in the shape.  
 Use a protractor (angle measurer).

KS2 2001 Paper A level 4

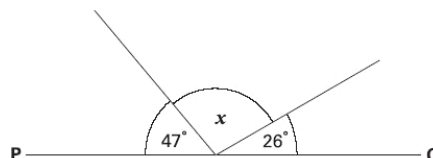
The diagram shows a square.



How many degrees is angle  $x$ ?

PQ is a straight line.

Not drawn accurately



Calculate the size of angle  $x$ .  
 Do not use a protractor (angle measurer).

Y5 Optional test 2003 Paper B level 5

## Measuring

- Read, choose, use and record standard metric units to estimate and measure length, weight and capacity to a suitable degree of accuracy; convert larger to smaller units using decimals to one place (e.g. change 2.6 kg to 2600 g)

Katie's glass holds a quarter of a litre when it is full. She nearly fills it to the top with juice.

Tick (✓) the approximate amount of juice she puts in the glass.

- |                 |                          |
|-----------------|--------------------------|
| 4 millilitres   | <input type="checkbox"/> |
| 20 millilitres  | <input type="checkbox"/> |
| 120 millilitres | <input type="checkbox"/> |
| 220 millilitres | <input type="checkbox"/> |
| 420 millilitres | <input type="checkbox"/> |

### Y3 Optional test 2003 Paper B level 4

Which value completes each sentence?  
Tick (✓) the correct box.

The length of a banana is about ...

- ☐ 2 cm  
☐ 20 cm  
☐ 200 cm  
☐ 2000 cm

Put a ring round the approximate mass of an eating apple.

1g   5g   10g   150g   1000g

Circle one amount each time to make these sentences correct.

The distance from London to Manchester is about:

320 cm   320 m   320 km

A tea cup is likely to hold about:

15 ml   150 ml   1500 ml

A hen's egg is likely to weigh about:

6 g   60 g   600 g

### Y5 Optional test 2003 Paper B level 4

What is two hundred and seventy-six centimetres to the nearest metre?

### KS2 2001 Mental test level 4

How many millimetres are there in three centimetres?

### KS2 2008 Mental test level 4

How many millimetres are there in fifteen centimetres?

### KS2 2006 Mental test level 4

Write these lengths in order, starting with the shortest.

$\frac{1}{2}$  m   3.5 cm   25 mm   20 cm  
     
 shortest

### KS2 2003 Paper B level 4

A tin of baked beans weighs four hundred grams. How many grams less than one kilogram is this?

### Y5 Optional test 2003 Mental test level 4

Max jumped 2.25 metres on his second try at the long jump.

This was 75 centimetres longer than on his first try. How far in metres did he jump on his first try?

### Y4 Optional test 2003 Paper B level 4

A bottle holds 1 litre of lemonade.

Rachel fills 5 glasses with lemonade.

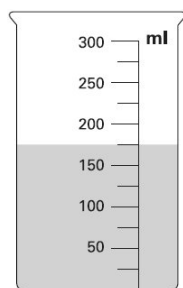
She puts 150 millilitres in each glass.

How much lemonade is left in the bottle?

### KS2 2003 Paper A level 4

• Interpret a reading that lies between two unnumbered divisions on a scale

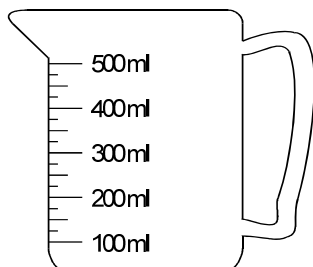
David puts this amount of water in a container.



Then he pours 50 millilitres of the water out.  
How much water is left in the container?

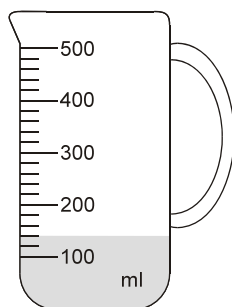
**Y4 Optional test 2003 Paper B level 4**

Mina has two cartons of juice.  
Each carton contains 220 ml.  
She empties them both into this jug.  
Draw an arrow (→) to show the level of the mixture in the jug.



**KS2 2002 Paper B level 4**

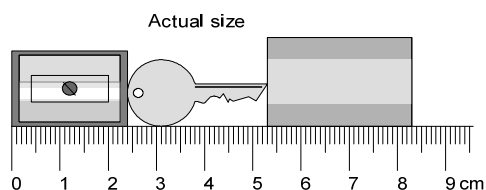
Mr Khan makes a blackcurrant drink for a party. He pours blackcurrant squash into a jug.



How much water must he add to make 500 millilitres of drink?

**KS2 2004 Paper A level 4**

Here are a pencil sharpener, a key and an eraser.

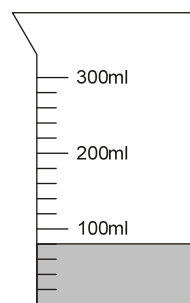


What is the length of all three things together?  
Give your answer in millimetres.

What is the length of the key?  
Give your answer in millimetres.

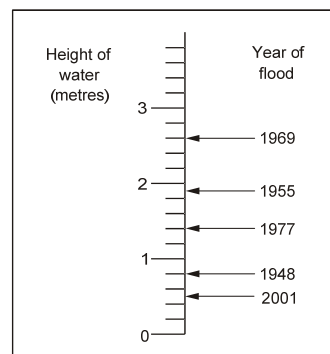
**KS2 2002 Paper A level 4**

Hassan has a jug with some water in it.  
He adds another 140 millilitres of water.  
Draw a line to show the new level of water.



**KS2 2007 Paper B level 4**

This scale shows the dates of floods and the height of the water in the floods.

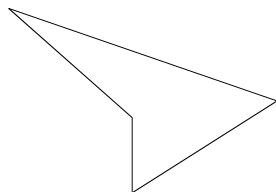


How high was the water in the 1955 flood?

How much higher was the water in the 1969 flood than in the 1948 flood?

**KS2 2008 Paper B level 4**

- Draw and measure lines to the nearest millimetre; measure and calculate the perimeter of regular and irregular polygons; use the formula for the area of a rectangle to calculate the rectangle's area



Measure accurately the longest side of this shape. Give your answer in millimetres.

**KS2 2001 Paper A level 4**

An equilateral triangle has a perimeter of twenty-four centimetres. How long is one of its sides?

**KS2 2002 Mental test level 4**

Each side of a pentagon is twelve centimetres. What is the perimeter of the pentagon?

**KS2 2001 Mental test level 4**

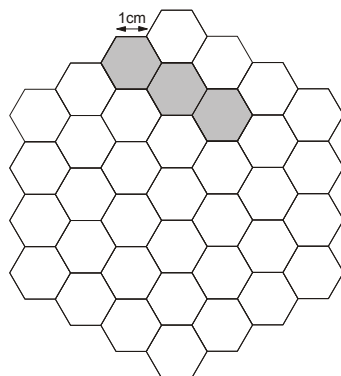
A regular hexagon has sides six centimetres long. What is the perimeter of the hexagon?

**Y4 Optional test Mental test level 4**

The perimeter of a regular octagon is forty centimetres. What is the length of each side?

**Y5 Optional test 2003 Mental test level 4**

Here is a grid of regular hexagons.

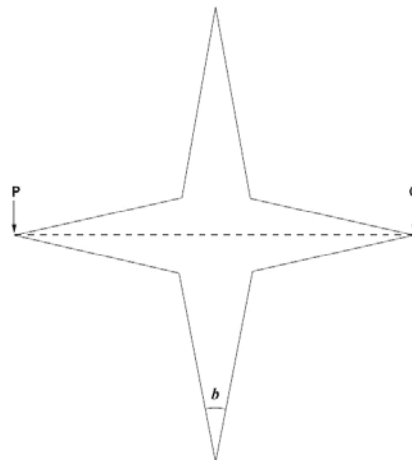


The shaded shape has an area of 3 hexagons and a perimeter of 14 cm.

Draw another shape on the grid which has an area of 4 hexagons and a perimeter of 14 cm.

**KS2 2007 Paper A level 4**

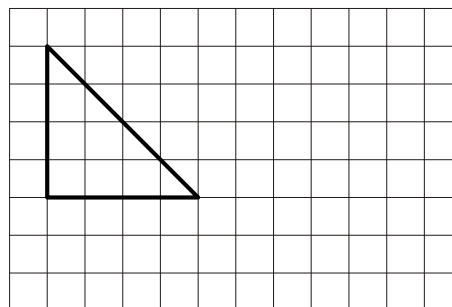
Look at this star.



Use a ruler to measure accurately the width of the star, from P to Q. Give your answer in millimetres.

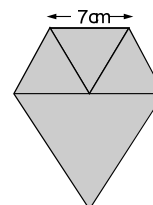
**KS2 2005 Paper A level 5**

Here is a triangle drawn on a square grid. Draw a rectangle on the grid with the same area as the triangle. Use a ruler.



**KS2 2006 Paper B level 4**

Lauren has three small equilateral triangles and one large equilateral triangle. The small triangles have sides of 7 centimetres. Lauren makes this shape.



Calculate the perimeter of the shape.

**KS2 2001 Paper B level 4**

The perimeter of a square is one metre. How many centimetres long is each side?

**KS2 2007 Mental test level 4**

• Read timetables and time using 24-hour clock notation; use a calendar to calculate time intervals

What time is it half an hour after ten-fifteen?

**KS2 2009 Mental test level 3**

How many days are there altogether in June and July?

**Y5 Optional test 2003 Mental test level 3**

Here is part of a calendar.

December						
Mon	Tues	Wed	Thur	Fri	Sat	Sun
		1	2	3	4	
6	7	8	9	10		
13	14	15				
20	21	22				
27	28					

Tyrone's birthday is on December 18th. On what day of the week is Tyrone's birthday?

**Y5 Optional test 2003 Paper A level 3**

Put a ring around the time which is the same as seventeen-fifteen.

5:15 am    5:45 am  
5:15 pm    7:15 pm    7:45 pm

**Y5 Optional test 2003 Mental test level 4**

Put a ring round the time which is the same as fourteen-thirty.

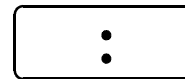
2:30 am    4:30 pm    4:30 am  
1:43 pm    2:30 pm

**KS2 2000 Mental test level 4**

What time is it ten hours after eight pm?

**KS2 2008 Mental test level 4**

How would quarter past three in the afternoon be shown on a twenty-four hour digital clock?



These are the start and finish times on a video cassette recorder.

START 16:45

FINISH 19:25

For how long was the video recording?

Here is a clock.

14 : 53

What time will the clock show in 20 minutes?

**KS2 2003 Paper B level 3**

An aeroplane takes off on Tuesday at 22:47. It lands on Wednesday at 07:05.

How long in hours and minutes is the flight?

**Y4 Optional test 2003 Paper B level 3**

Put a ring round the time which is the same as fourteen-thirty.

2:30am    4:30pm    4:30am  
1:43pm    2:30pm

**KS2 2000 Mental test level 4**

Here is part of the timetable for Class 6 on a Monday.

am					pm	
10:35	10:55		11:45		12:20	1:15
break	History		Science		lunch	PE

Look at the timetable. How long is it from the end of break to the start of lunch?

Nisha leaves the Science lesson after 25 minutes.

Then she goes to the dentist.

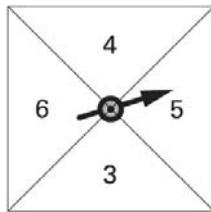
What time does she leave the Science lesson?

**KS2 2008 Paper A level 4**

## Handling data

### Describe the occurrence of familiar events using the language of chance or likelihood

Geeta has this spinner.



What is her chance of spinning the numbers in the boxes below? Match each box to the correct word.

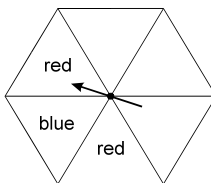
One has been done for you.

an odd number	certain
2	impossible
a number less than 10	likely

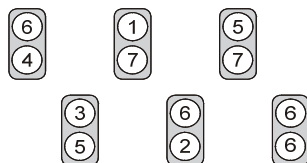
even chance

#### Y5 Optional test 2003 Paper B level 3

Write colours on this spinner so that you are more likely to spin blue than you are to spin red.



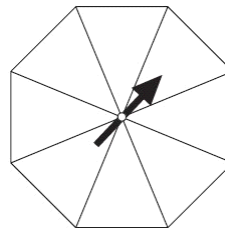
Each of these cards has two numbers on it.



Stefan chooses one card without looking. He adds the two numbers together. What is the most likely total of the numbers on his card?

#### KS2 2009 Paper A level 4

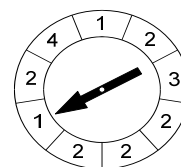
Here is a spinner which is a regular octagon.



Write 1, 2 or 3 in each section of the spinner so that 1 and 2 are equally likely to come up and 3 is the least likely to come up.

#### KS2 2005 Paper B level 4

The spinner is divided into nine equal sections.

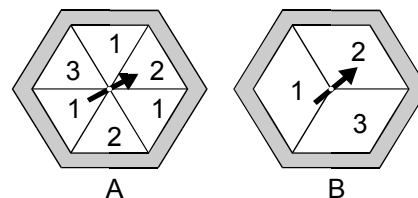


Which two different numbers on the spinner are equally likely to come up?

Meera says, '2 has a greater than even chance of coming up'. Explain why she is correct.

#### KS2 2000 Paper A level 4

Here are two spinners, A and B. Each one is a regular hexagon.



For each statement, put a tick (✓) if it is true. Put a cross (✗) if it is not true.

Scoring '1' is more likely on A than on B.  
Scoring '2' is more likely on A than on B.  
Scoring '3' is as equally likely on A as on B.

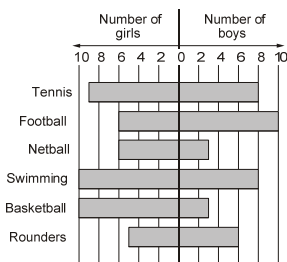
Zara spins both spinners. The score on A is added to the score on B. She says, 'The sum of the scores on both spinners is certain to be less than 7'.

Is she correct? Circle Yes or No.  
Explain how you know.

#### KS2 2001 Paper A level 4

- Answer a set of related questions by collecting, selecting and organising relevant data; draw conclusions, using ICT to present features, and identify further questions to ask

Some children each chose their favourite sport. This chart shows the results.



Which sport was chosen by the most children?  
How many more girls than boys chose basketball?  
Write all the sports that were chosen by more boys than girls.

**KS2 2007 Paper B level 4**

Suggest more questions you could ask about the information in the chart.

This table shows when flights take off at an airport.

Flight number	Destination	Take-off time
AX40	Paris	13:35
BH253	Berlin	14:05
CG008	Rome	15:25
DP369	Paris	15:40
EZ44	Lisbon	16:15
FJ994	Dublin	17:25

How many flights take off between 3 pm and 5 pm?  
How much later does the second flight to Paris take off than the first?  
The flight to Dublin takes 50 minutes. What time does it arrive in Dublin?

**KS2 2009 Paper B level 4**

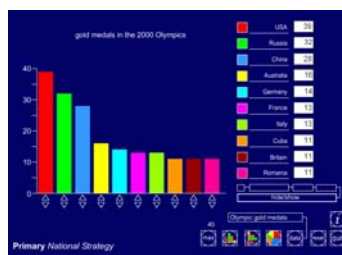
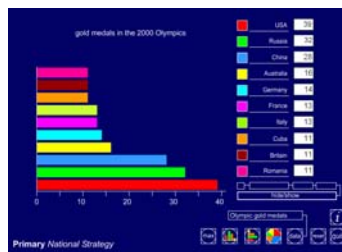
Suggest more questions you could ask about the information in the table.

### Examples of the use of ICT

Which countries were most successful in winning gold medals in the 2000 Olympics? What happened in 2004?

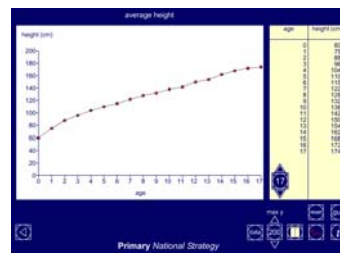
Which country won the gold medal for the triple jump in 2000? What happened in 2004?

Gold medals in 2000 Olympics: ITP Data handling



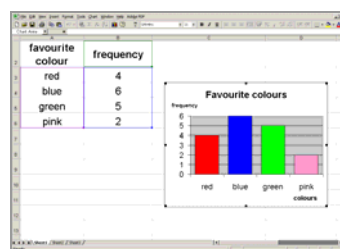
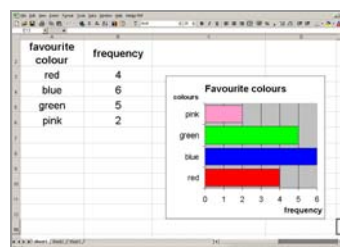
What is the average height of children of different ages? Are their differences for boys and girls?

Average height of children: ITP Data handling

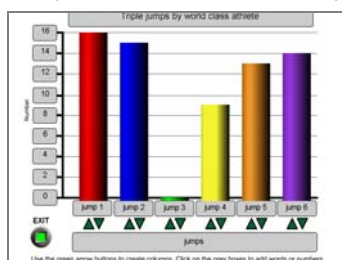


Which of these colours do Class 5 prefer: red, blue, green, pink? Is the result the same for Class 6?

Horizontal and vertical bar charts produced in Excel showing the result of a small survey on favourite colours (mode was blue).



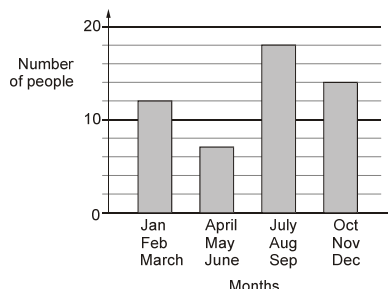
Triple jumps by world class athlete: Handy graph



- Construct frequency tables, pictograms and bar and line graphs to represent the frequencies of events and changes over time

Class 6 did a survey of birthday dates.

This chart shows the number of people with birthdays in each three months of the year.

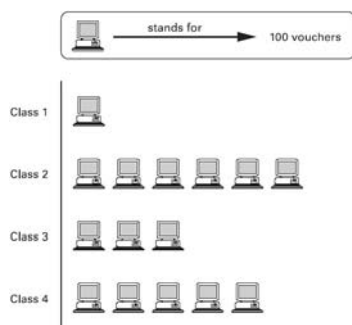


From the chart, how many people have a birthday before July?

Nobody has a birthday in October. Six people have a birthday in November. How many people have a birthday in December?

**KS2 2008 Paper A level 4**

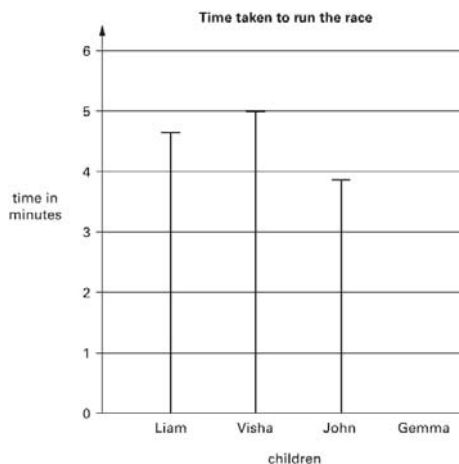
The children at Brook School collect computer vouchers.



Altogether, they need 10 000 vouchers to get a computer. How many more vouchers do they need?

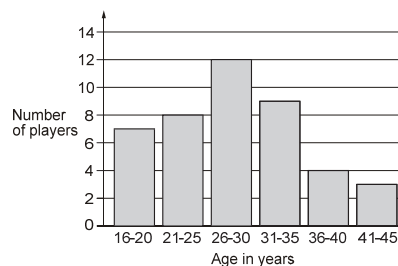
**Y4 Optional test 2003 Paper B level 4**

Four children run in a race. Gemma takes 5 minutes 20 seconds. Complete the graph for Gemma.



**Y4 Optional test 2003 Paper B level 4**

This graph shows the age of players at a football club.

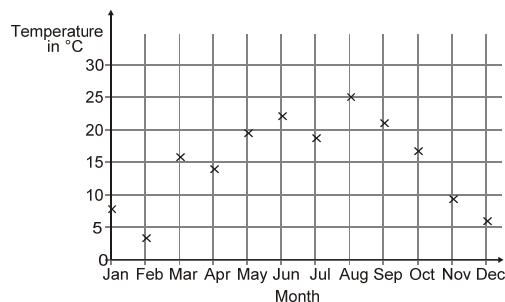


How many players are aged 30 or younger?

A player aged 36 and a player aged 39 join the club. Add this information to the graph above.

**KS2 2009 Paper A level 4**

Abbie takes the temperature outside at midday on the first day of each month. The graph shows her results from January to December.

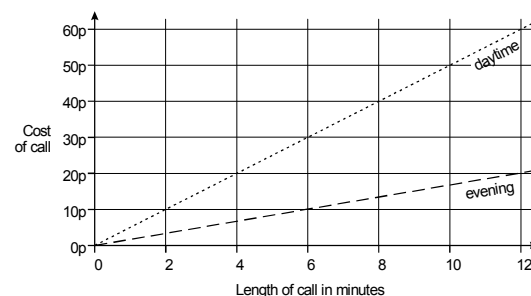


How many months on the graph show a temperature between 10°C and 20°C?

Find the difference in temperature shown on the graph between July and August.

**KS2 2004 Paper A level 4**

This graph shows the cost of phone calls in the daytime and in the evening.



How much does it cost to make a 9 minute call in the daytime?

How much more does it cost to make a 6 minute call in the daytime than in the evening?

**KS2 2002 Paper A level 4**

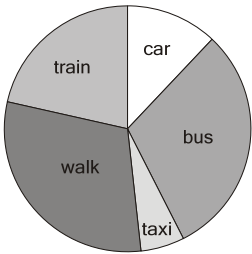
Find and interpret the mode of a set of data

Colours of cars we counted

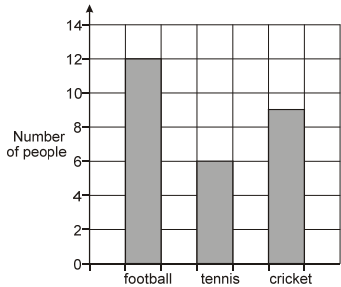
colour	number of cars
red	19
yellow	6
green	4
blue	5
white	8
silver	9

What colour of car did we see most often?  
What colour was the second highest number of cars?  
Which two colours of cars were seen the least?

Some pupils were asked about their main form of travel to school that day.  
The pie chart shows the results.  
Which form of travel is the mode?



Anna asked people ‘What is your favourite sport?’  
She drew a bar chart to show the results.  
Which sport is the mode?



Write a number in each of these boxes so that the mode of the five numbers is 8.

The table shows the temperatures in 10 cities on a day in June.

City	Temperature in °C
Athens	31
Barcelona	29
Berlin	19
Brussels	21
Dublin	22
Geneva	19
Madrid	25
Moscow	15
Paris	19
Rome	31

Which temperature was the mode?

The tables below show the number of days in each month in the year 2010.

January	31	July	31
February	28	August	31
March	31	September	30
April	30	October	31
May	31	November	30
June	30	December	31

What is the mode of the number of days in the month?