

# Estimation and Accuracy - Questions

Key Stage 2: 2003 Paper B

1.

3

Here is a clock.



How many minutes is it **until** this clock shows 7:30?



minutes



3a

1 mark

Here is another clock.

14 : 53

What time will the clock show in 20 minutes?



3b

1 mark

2.

**20**

**k**, **m** and **n** each stand for a whole number.

They add together to make 1500

$$k + m + n = 1500$$

**m** is **three times** as big as **n**.

**k** is **twice** as big as **n**.

Calculate the numbers **k**, **m** and **n**.

Show your **method**.  
You may get a mark.

**k** =       **m** =       **n** =

20i  
20ii  
2 marks

1.

**1**

Write in the missing numbers.

  + 85 = 200

4 ×  = 120

120 - 51 =

1a  
1 mark

1b  
1 mark

1c  
1 mark

1.

**1**

Draw lines to join **all the pairs** of number cards which have a **difference of 30**

One has been done for you.



100	180
150	170
200	70
250	330
300	220

A line connects the number 100 on the left to the number 70 on the right.

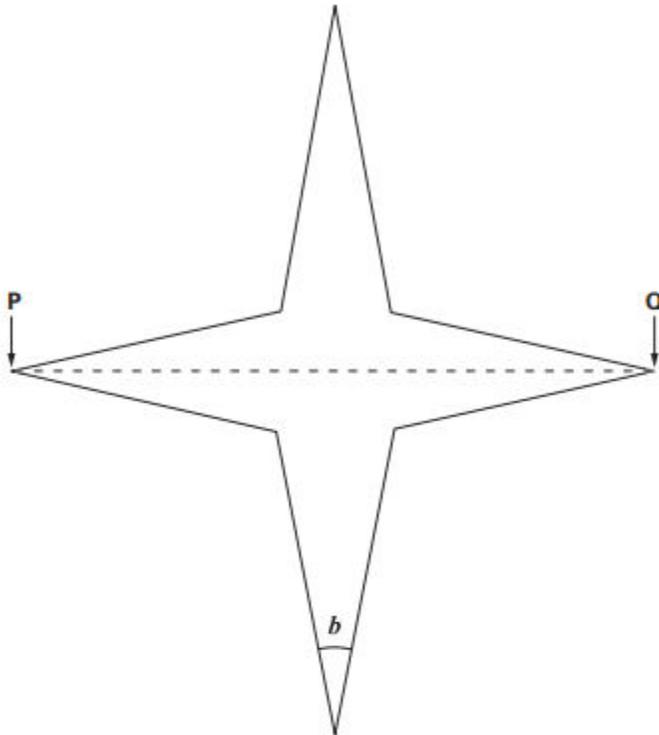
1i

1ii

2 marks

2.

**17** Look at this star.



Use a ruler to measure **accurately** the **width** of the star, from **P** to **Q**.

Give your answer in **millimetres**.

  mm

17a  
1 mark

Use a protractor (angle measurer) to measure **angle b**.

  °

17b  
1 mark

1.

**11**

Josh thinks of a number.

He adds 4

He multiplies his result by 3

Then he takes away 9

His final answer is 90



What number did Josh start with?

11  
1 mark

2.

13



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?



Sapna

Robbie



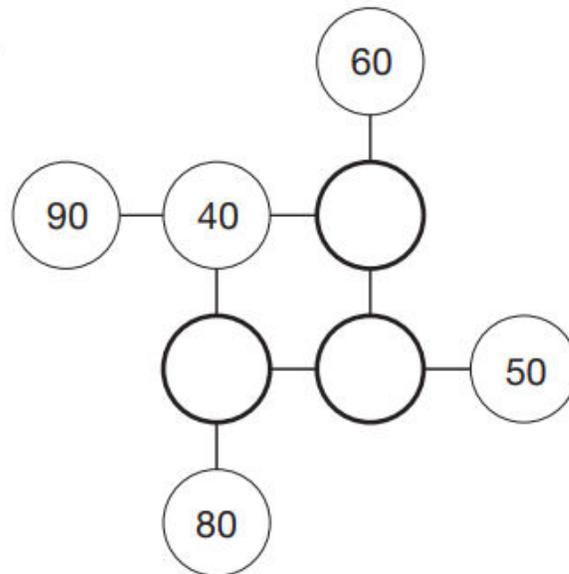
13

1 mark

1.

5

Complete this diagram so that the three numbers in each line add up to **150**



5

1 mark

Key Stage 2: 2006 Paper B

1.

20

Write the answer to each of these calculations rounded to the nearest whole number.

One has been done for you.

	to the nearest whole number
 $75.7 \times 59$	4466
$7734 \div 60$	
$772.4 \times 9.7$	
$20.34 \times (7.9 - 5.4)$	

20i  
 \_\_\_\_\_  
 20ii  
 \_\_\_\_\_  
 2 marks

Key Stage 2: 2007 Paper A

1.

24

Part of this number line is shaded.



Circle **all** the numbers below that belong in the shaded part of the number line.



1.1

1.4

$1\frac{1}{3}$

$1\frac{1}{5}$

24  
 \_\_\_\_\_  
 1 mark

1.

12

The signs are missing from these number sentences.

Write in the missing signs, + - × or ÷

The first has been done for you.

  $6 \times 5 = 40 - 10$

$20 \bigcirc 8 = 4 \bigcirc 7$

12a

1 mark

$21 \bigcirc 3 = 15 \bigcirc 8$

12b

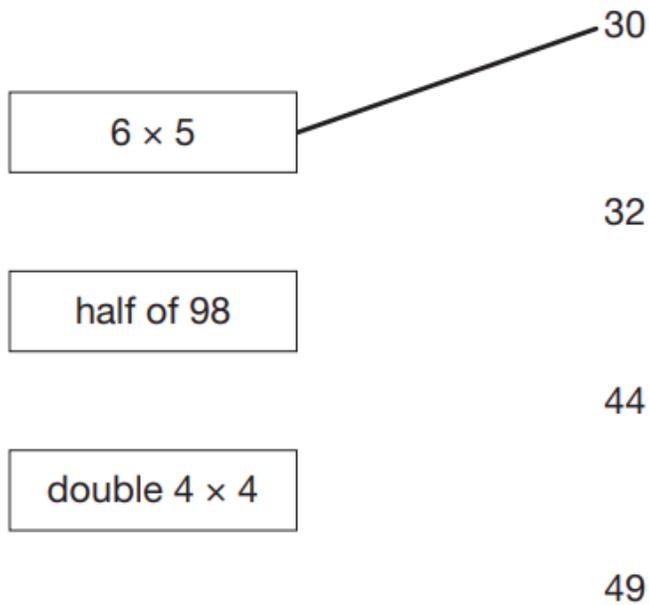
1 mark

1.

2

Join each box to the correct number.

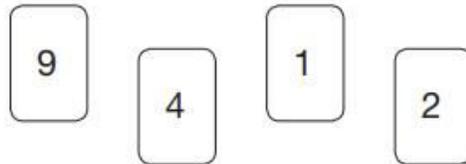
One has been done for you.



2.

14

Here are four digit cards.



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



1.

**1** Join each number to the set of numbers that it belongs to.

One has been done for you.

357  
199  
73  
1000  
224

1 to 100  
101 to 200  
201 to 300  
301 to 400  
401 to 500  
greater than 500

1i  
\_\_\_\_\_  
1ii  
\_\_\_\_\_  
2 marks

Key Stage 2: 2008 Paper B

2.

23

$m$  stands for a whole number greater than 10 and less than 20

$n$  stands for a whole number greater than 2 and less than 10

What is the **smallest** number that  $m \times n$  could be?



23a

1 mark

What is the **largest** number that  $m - n$  could be?



23b

1 mark

Key Stage 2: 2009 Paper A

1.

2

Here are four digit cards.

4	6	2	7
---	---	---	---

Use all four digit cards to make this sum correct.

 $+$  $= 100$

2

1 mark

Key Stage 2: 2009 Paper A

2.

14

Circle two decimals that have a difference of 0.5



0.2

0.25

0.4

0.45

0.6

0.75

14  
1 mark

Key Stage 2: 2009 Paper B

1.

1

Tick (✓) each multiplication that has an answer **greater** than 1000

One has been done for you.



$11 \times 10 \times 10$

$12 \times 11 \times 8$

$13 \times 9 \times 8$

$14 \times 11 \times 6$

$15 \times 12 \times 6$

11  
11  
2 marks

2.

16

Here are five calculations.

A  $720 \div 64$

B  $820 \div 75$

C  $920 \div 80$

D  $1020 \div 90$

E  $1120 \div 100$

Write the letter of the calculation that has the **greatest** answer.



\_\_\_\_\_

16a

1 mark

Write the letter of the calculation that has an answer **closest to 11**



\_\_\_\_\_

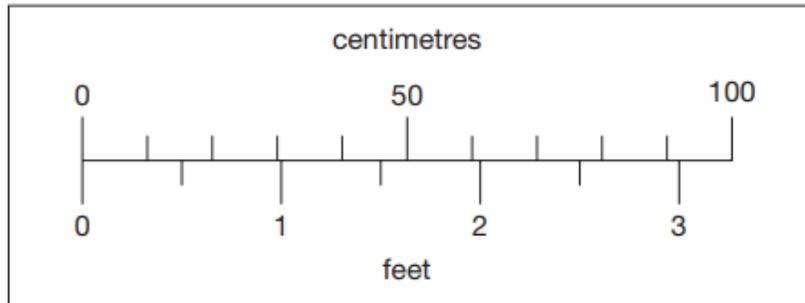
16b

1 mark

3.

20

This scale shows length measurements in **centimetres** and **feet**.



**Not  
actual  
size**

Look at the scale.

Estimate the number of centimetres that are equal to  $2\frac{1}{2}$  feet.



20a  
1 mark

Estimate the difference in centimetres between 50 cm and  $1\frac{1}{2}$  feet.



20b  
1 mark

1.

9

A book has five stories in it.

This is the contents page.

<b>Contents</b>	
	page
Rocket Ship	5
Night Journey	17
Secret Palace	25
Jack	41
Deep Water	59

Deep Water finishes on page 68

Which is the longest story?



\_\_\_\_\_

9

1 mark

Key Stage 2: 2010 Paper B

1.

22

Put a tick (✓) in each row to complete this table.

One has been done for you.



	less than 1000	equal to 1000	more than 1000
$5 \times 15 \times 25$			✓
$16 \times (80.3 - 17.8)$			
$3888 \div (4.32 - 0.57)$			
$(32 - 5.7) \times (32 + 5.7)$			

22i

22ii

2 marks

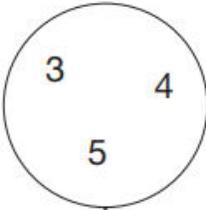
Key Stage 2: 2011 Paper A

1.

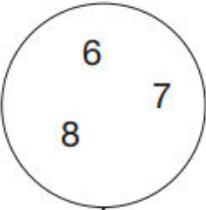
2

Write one number from each circle to make this calculation correct.

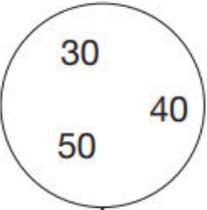




↓



↓



↓

$\square \times \square - \square = 0$

2

1 mark

2.

8

The four sums below can be completed using only the numbers 1 to 8

Use each number **once** to complete the sums.

One sum has been done for you.

1   2   3   4   ~~5~~   ~~6~~   7   8

$$1 + \boxed{5} + \boxed{6} = 12$$

  $2 + \boxed{\phantom{00}} + \boxed{\phantom{00}} = 12$

$$3 + \boxed{\phantom{00}} + \boxed{\phantom{00}} = 12$$

$$6 + \boxed{\phantom{00}} + \boxed{\phantom{00}} = 12$$

8i

8ii

2 marks

3.

11

Write the correct sign =, > or < in each circle.



$9 \times 3$



$8 \times 4$

$9 - 3$



$8 - 4$

$9 + 3$



$8 + 4$

$9 \div 3$



$8 \div 4$

11i

\_\_\_\_\_

11ii

\_\_\_\_\_

2 marks

4.

20

Here are five number cards.

0.47

10

100

1000

4.07

Use **four** of the cards to complete these calculations.

  $47 \div \square = \square$

$\square \times \square = 40.7$

20

1 mark

1.

2

Here are six number cards.



Use **all** the number cards to complete the two sums below.


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

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

         2  
1 mark

2.

4

For each of these pairs, tick (✓) the calculation that has the **greater** answer.

One has been done for you.

$200 \times 4$

$250 \times 3$

  $34 \times 21$

$31 \times 24$

$444 + 777$

$222 + 888$

$828 - 332$

$939 - 445$

$888 \div 4$

$777 \div 3$

41

41

2 marks

3.

18

Dev says,

*'When you halve any number that ends in 8  
the answer always ends in 4'.*



Is he correct?  
Circle **Yes** or **No**.

 Yes / No

Explain how you know.

A large, empty, cloud-shaped area with a scalloped border, intended for the student to write their explanation. A small pencil icon is positioned at the top left corner of the cloud.

4.

25

Here are some number cards.



Joe picks two **even** numbers.

Dev picks two **odd** numbers.

Joe gives one of his cards to Dev.

Dev gives one of his cards to Joe.

Joe says,

***'Now my cards are both square numbers.'***

Dev says,

***'Now my cards are both multiples of 5.'***

What numbers did they each start with?



Joe started with

and

Dev started with

and

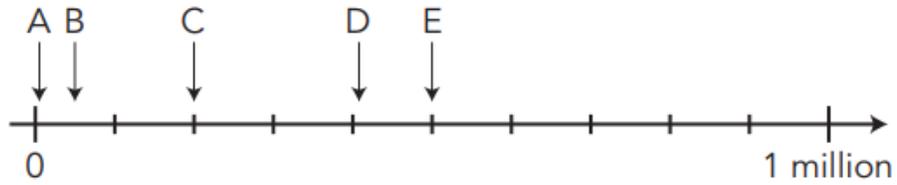
25

25

2 marks

1.

4



Write the letter of the arrow that points to the number 50000

 \_\_\_\_\_ (1 mark)

1.

3

Circle the number which is **closer to 1000**



996

1006

Explain how you know.



A large, hand-drawn cloud-shaped outline with a scalloped border, intended for the student to write their explanation.

3  
1 mark

1.

5

Here are five calculations.

For each, put a tick (✓) in the box if the answer is **greater than 450**  
Put a cross (✗) if it is not.

One has been done for you.

	greater than 450
$46 \times 10$	<input checked="" type="checkbox"/>
 $149 + 137 + 158$	<input type="checkbox"/>
$911 - 447$	<input type="checkbox"/>
$863 \div 2$	<input type="checkbox"/>
$16 \times 28\frac{1}{2}$	<input type="checkbox"/>

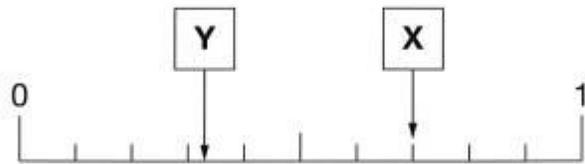
5i

5ii

2 marks

2.

**11** Here is a number line.



What is the value of X?

  $X =$

11a  
1 mark

Estimate the value of Y.

  $Y =$

11b  
1 mark

1.

**12**

Complete these calculations.



$$15 \times 100 = \boxed{\phantom{000}}$$

$$\boxed{\phantom{000}} \times 10 = 1500$$

$$\boxed{\phantom{000}} \div 100 = 150$$

$$150 \div 10 = \boxed{\phantom{000}}$$

12i  
\_\_\_\_\_  
12ii  
\_\_\_\_\_  
2 marks

Key Stage 2: 2013 Paper A

2.

15

Four children are in a race.

Chen is 2 metres ahead of Alfie.

Nina is 5 metres behind Megan.

Alfie is 3 metres behind Megan.

Write the names of the runners in order, starting with the child who is furthest ahead.



\_\_\_\_\_

furthest ahead

15  
1 mark

Key Stage 2: 2013 Paper B

1.

2

At a tournament there are 7 players in each team.

There are 112 players altogether.

How many teams is this?



\_\_\_\_\_

2  
1 mark

2.

4

Here are five calculations.

**A**  $12 \times 12 - 10$

**B**  $13 \times 13 - 20$

**C**  $14 \times 14 - 40$

**D**  $15 \times 15 - 80$

**E**  $16 \times 16 - 160$

Write the letter of the calculation that has the **greatest** answer.



\_\_\_\_\_

4a

1 mark

Write the letter of the calculation that has the answer **closest to 100**



\_\_\_\_\_

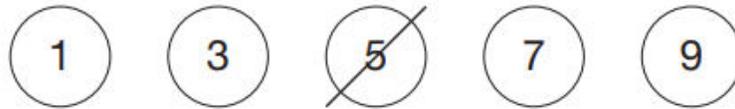
4b

1 mark

3.

14

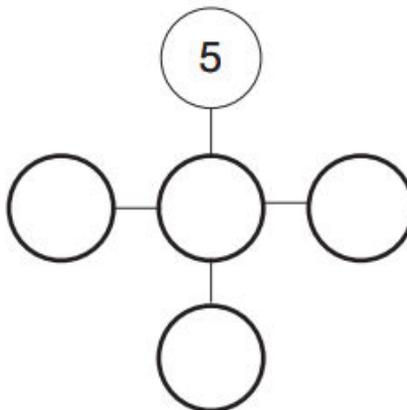
Here are five number discs.



Look at the cross pattern below.

Use each disc **once** so that the total across is the same as the total down.

One has been done for you.

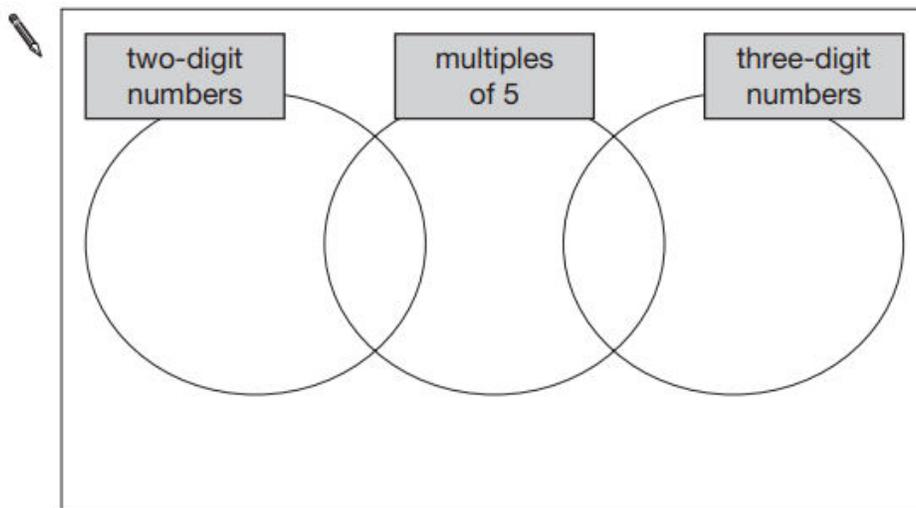


1.

**9** Here is a diagram for sorting numbers.

Write **each** number in its correct place on the diagram.

2      20      201      2000



9i  
\_\_\_\_\_  
9ii  
\_\_\_\_\_  
2 marks

1.

**17** Write numbers in the boxes to make this calculation correct.

  $50 - \square = \square + 10$

17  
\_\_\_\_\_  
1 mark

1.

23

Alfie says,



***'When you multiply two numbers together, the answer is always greater than either of the numbers you started with.'***

Is Alfie correct?  
Circle **Yes** or **No**.

 Yes / No

Explain how you know.

A large, empty, cloud-shaped outline intended for the student to write their explanation.

Key Stage 2: 2016 Paper 2 Reasoning - Sample

1.

12

What number is halfway between 1.4 and 2.1?

1 mark

Key Stage 2: 2016 Paper 3 Reasoning - Sample

1.

6

Here are six cards.

$\times 10$

$\times 100$

$\times 1000$

$\div 10$

$\div 100$

$\div 1000$

Use a card to complete each calculation.

$$5.3 \quad \boxed{\phantom{000}} = 0.53$$

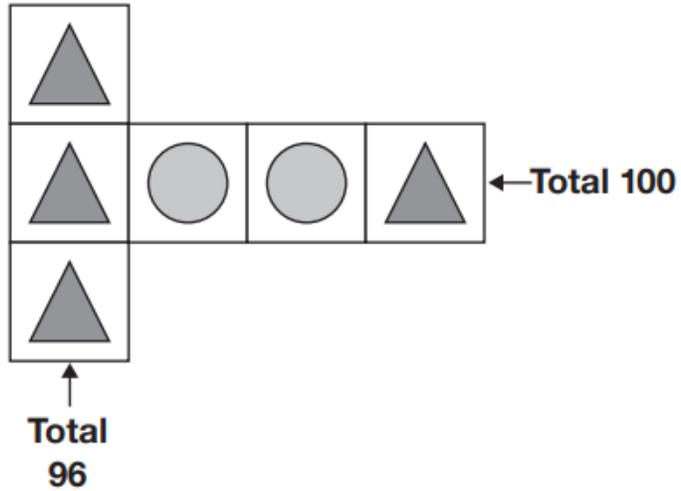
$$5.3 \quad \boxed{\phantom{000}} = 5300$$

$$5.3 \quad \boxed{\phantom{000}} = 0.053$$

2 marks

1.

**4** Each shape stands for a number.



Work out the **value** of each shape.

 = \_\_\_\_\_

\_\_\_\_\_   
 1 mark

 = \_\_\_\_\_

\_\_\_\_\_   
 1 mark

2.

**13**

Lara chooses a number less than 20

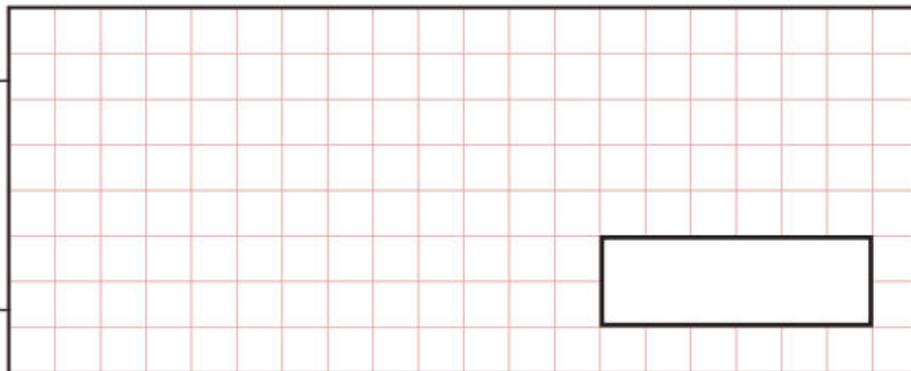
She divides it by 2 and then adds 6

She then divides this result by 3

Her answer is 4.5

What was the number she started with?

Show  
your  
method



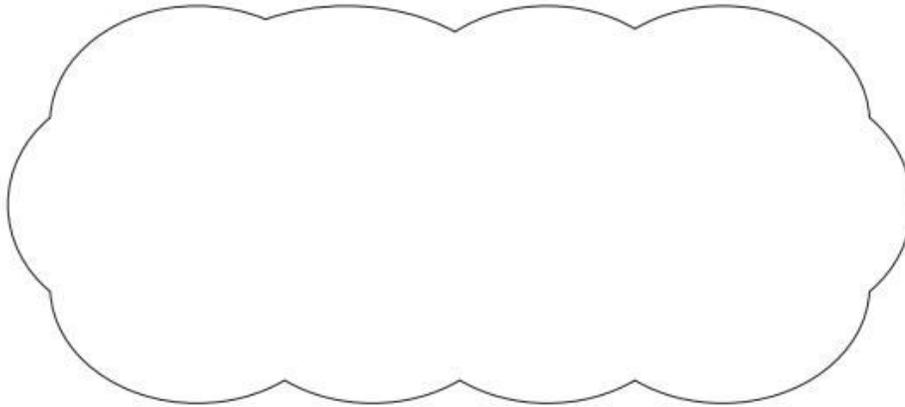
      
2 marks

3.

21

$$5,542 \div 17 = 326$$

Explain how you can use this fact to find the answer to  $18 \times 326$



1 mark

1.

18

A **square** number and a **prime** number have a total of 22

What are the two numbers?

$$\begin{array}{ccc} \boxed{\phantom{00}} & + & \boxed{\phantom{00}} = 22 \\ \text{square} & & \text{prime} \\ \text{number} & & \text{number} \end{array}$$

1 mark

Key Stage 2: 2017 Paper 3 Reasoning

2.

19

Dev thinks of a **whole** number.

He multiplies it by 4

He rounds his answer to the nearest 10

The result is 50

Write **all** the possible numbers that Dev could have started with.

---

2 marks

Key Stage 2: 2018 Paper 2 Reasoning

1.

16

Adam wants to use a mental method to calculate  $182 - 97$

He starts from 182

Here are some methods that Adam could use.

Tick the methods that are **correct**.

add 3 then subtract 90

subtract 100 then add 3

subtract 7 then subtract 90

subtract 3 then subtract 100

2 marks

Key Stage 2: 2018 Paper 3 Reasoning

1.

19

$$33,630 = 354 \times 95$$

Use this multiplication to complete the calculations below.

$$354 \times 9.5 = \boxed{\phantom{00000}}$$

$$3,540 \times 95 = \boxed{\phantom{00000}}$$

$$3,363 \div 95 = \boxed{\phantom{00000}}$$

2 marks

Key Stage 2: 2019 Paper 2 Reasoning

1.

2

What number is 1,000 less than 9,072?

1 mark

Key Stage 2: 2019 Paper 2 Reasoning

2.

9

Jack chose a number.

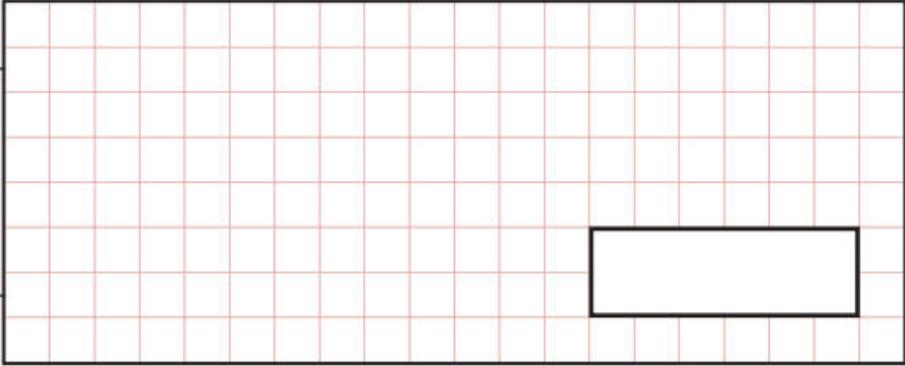
He multiplied the number by 7

Then he added 85

His answer was 953

What number did Jack choose?

Show your method



2 marks

Key Stage 2: 2019 Paper 3 Reasoning

1.

5

Write the missing digits to make this **addition** correct.

$$\begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline 2 \\ \hline \end{array} \begin{array}{|c|} \hline \square \\ \hline \end{array} + \begin{array}{|c|} \hline \square \\ \hline \end{array} \begin{array}{|c|} \hline 2 \\ \hline \end{array} = 200$$

1 mark

2.

8

Ken is playing a game. He has 4,289 points.

Then he scores another 355 points.

Ken's target is 6,000 points.

How many **more** points does Ken need to reach his target?

Show  
your  
method

The grid is 20 squares wide and 10 squares high. A small empty rectangular box is located in the bottom right corner of the grid, spanning 4 squares wide and 2 squares high.

2 marks