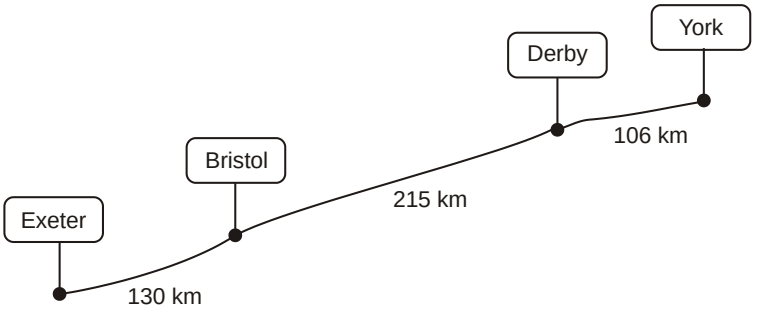
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Maths Reasoning KS2 SATS Standard Worksheet

1.



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



How many kilometres is it altogether from **Exeter** to **York**?

km

1 mark

What is the distance from **Derby** to **York** rounded to the nearest 10km?

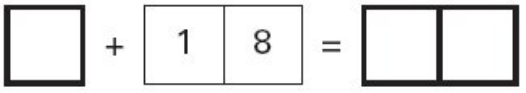
km

1 mark

2. Each missing digit in these calculations is **2**, **5** or **7**

Write in the missing digits.

You may use each digit more than once.





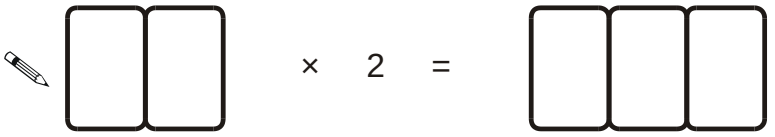
2 marks

3. Here are five digit cards.



Use **all** five digit cards to make this correct.

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1 mark

4. Here is part of a number square.

The shaded numbers are part of a sequence.

113	114	115	116
123	124	125	126
133	134	135	136
143	144	145	146

Explain the rule for the sequence.

.....

.....

1 mark

5. John says,

'Every multiple of 5 ends in 5'



Is he correct?

Circle Yes or No.

Yes / No

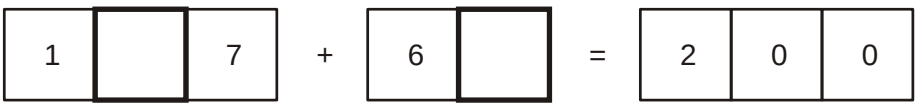
Explain how you know.

.....

.....

1 mark

6. Write in the missing digits.



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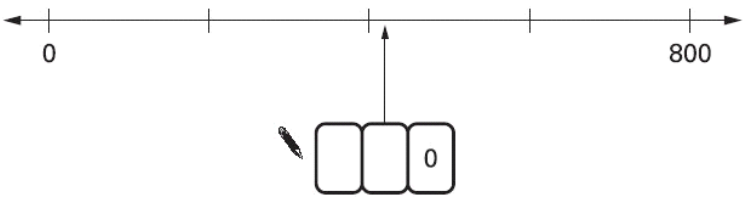
1 mark

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7. Here are four digit cards.

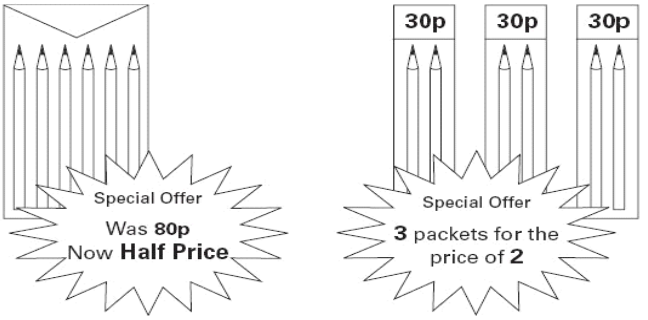


Use **two** of the four cards to make the number on the number line.



1 mark

8. A shop has these special offers.



Joe wants to buy 6 pencils.

Which is the cheaper offer?
Tick (✓) one box.

Half price ☐ 3 for 2 ☐

Explain how you know.

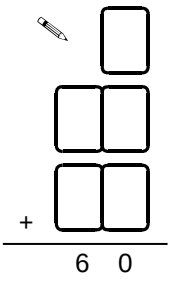
.....

1 mark

9. Here are five digit cards.



Use all five digit cards once to make this sum correct.



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1 mark

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10. Zinzi has a rod **15** cubes long.



She breaks it into two pieces.

One piece is **1** cube longer than the other.

How many cubes are in **each** piece?

	cubes	and		**cubes**

1 mark

11. **60 children** visit the zoo.

They each vote for their favourite big cat.

favourite big cat	number of children
cheetah 	7
lion 	22
tiger 	13
panther 	
leopard 	10
total	**60**

Complete the table.

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. ☐

2 marks

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12. Katie has these digit cards.

She makes different **2-digit** numbers with them.



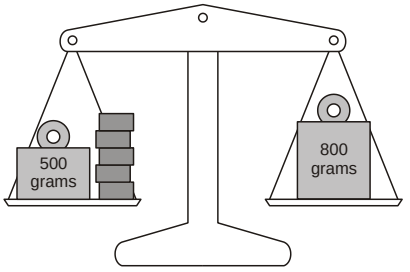
Write all the **2-digit** numbers Katie can make with them.

2 marks

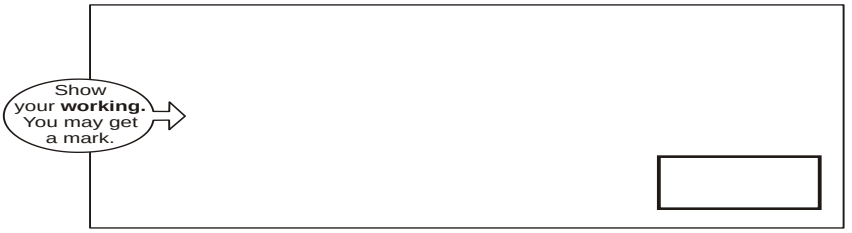
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13. Lin has five blocks which are all the same.

She balances them on the scale with two weights.



Calculate the weight of **one** block.



2 marks

14. 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.**

1 mark

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Section **B** can never have any numbers in it.

Explain why.

1 mark

15. Here are some digit cards.



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

One has been done for you.

626

.....

.....

2 marks

16. 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.

Yes / No

Explain how you know.

.....

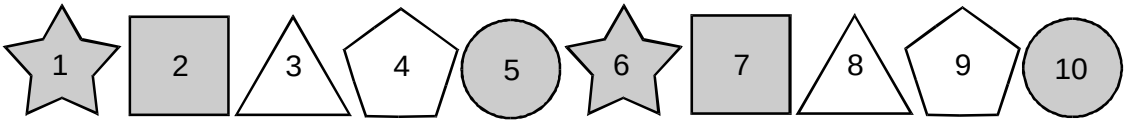
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1 mark

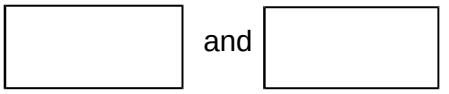
17. Here is a repeating pattern of shapes.

Each shape is numbered.



The pattern continues in the same way.

Write the numbers of the next two **stars** in the pattern.



1 mark

Complete this sentence.

Shape number 35 will be a circle because ...

.....

.....

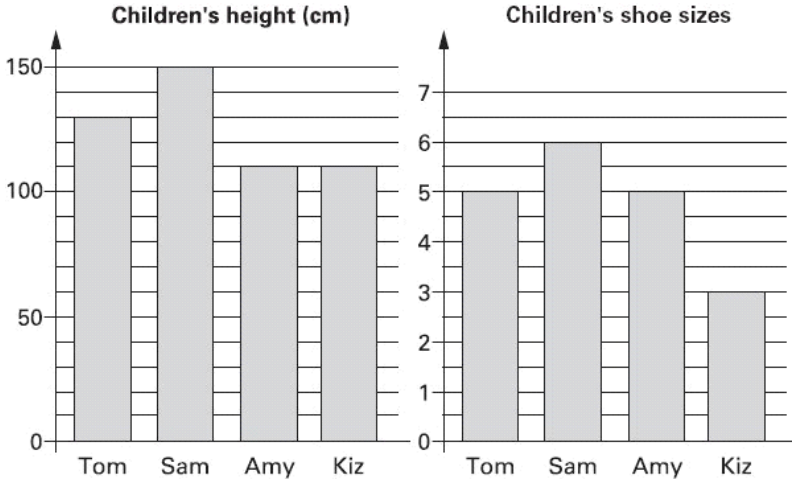
1 mark

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



1 mark

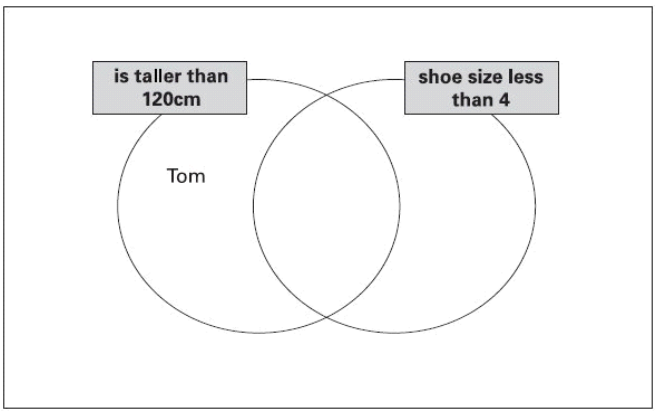
19. These graphs show data about Tom, Sam, Amy and Kiz.



Use this data to write each child's name in the correct region on the Venn diagram.

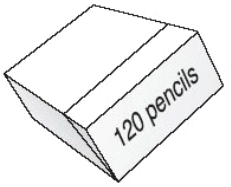
One has been done for you.

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2 marks

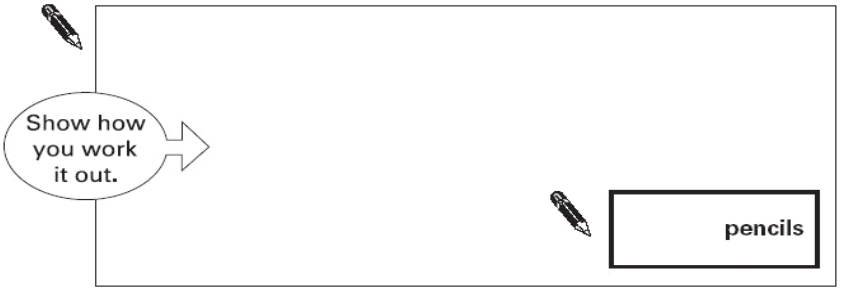
20. Miss Wood's class had 120 pencils at the start of the year.



12 children use 5 pencils each.

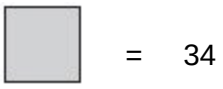
11 children use 4 pencils each.

How many pencils are left at the end of the year?



2 marks

21.  and  each stand for a different number.





What is the value of ?

1 mark

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

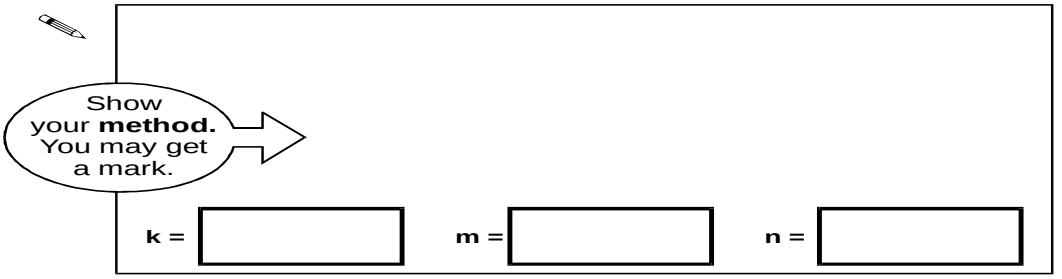
They add together to make 1500

$$k + m + n = 1500$$

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

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

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



2 marks

23. Here is a number chart.

Every third number in the chart has a circle on it.

1	2	(3)	4	5
(6)	7	8	(9)	10
11	(12)	13	14	(15)
16	17	(18)	19	20
(21)	22			

The chart continues in the same way.

Here is another row in the chart.

Draw the missing circles.

71	72	73	74	75

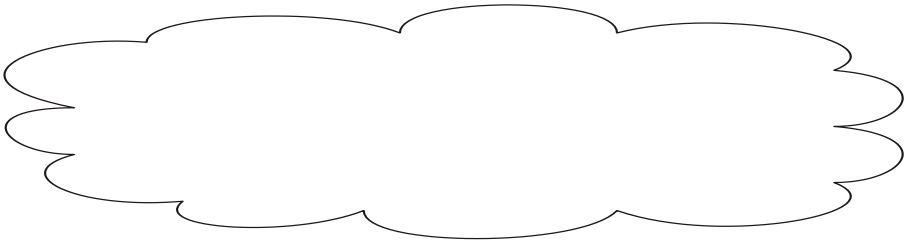
1 mark

Will the number **1003** have a circle on it?
Circle **Yes** or **No**.

Yes / No

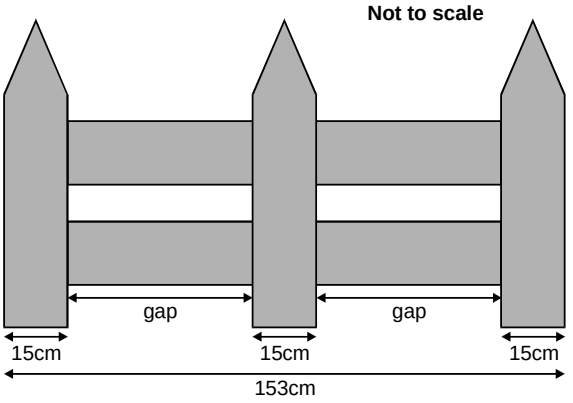
Explain how you know.

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1 mark

24. This fence has three posts, equally spaced.



Each post is **15 centimetres** wide.

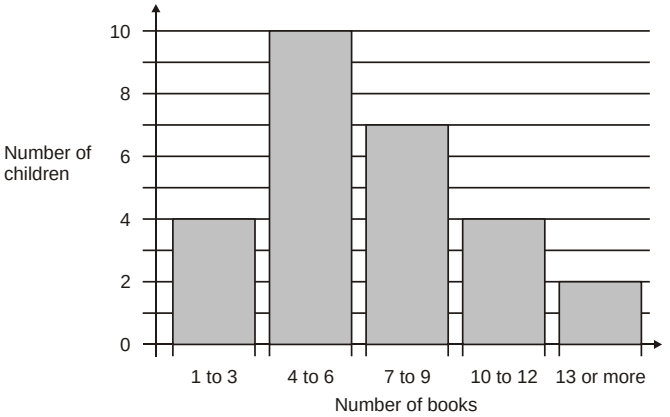
The length of the fence is **153 centimetres**.

Calculate the length of **one gap** between two posts.



2 marks

25. This chart shows the number of books some children read last month.



How many children altogether read **more than 9 books**?

1 mark

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7 children read 4 books. **1** child read 5 books.

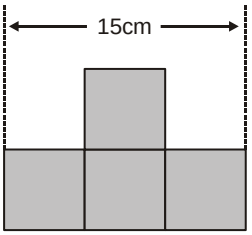
Lin says,

'That means 2 children read 6 books'.

Explain how she can work this out from the chart.

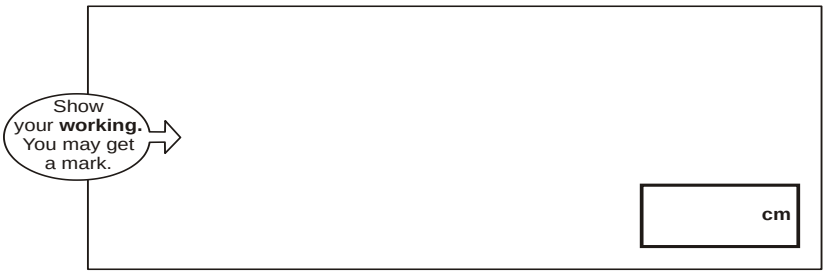
1 mark

26. This shape is made from 4 shaded squares.



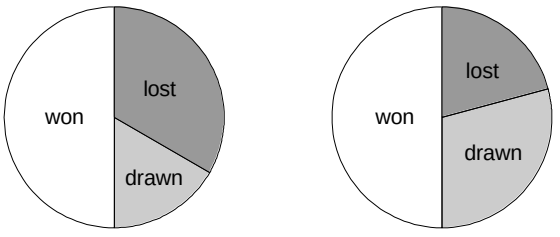
Not actual size

Calculate the perimeter of the shape.



2 marks

27. The pie charts show the results of a school's netball and football matches.



The netball team played **30** games.

The football team played **24** games.

Estimate the percentage of games that the **netball team lost**.

%

1 mark

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David says,

'The two teams won the same number of games'.

Is he correct?

Circle Yes or No. Yes / No

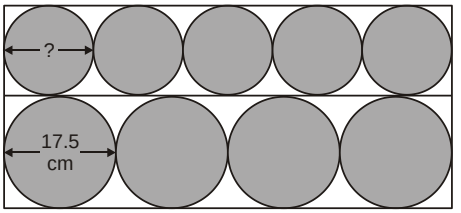
Explain how you know.

.....

.....

1 mark

28. Four large circles and five small circles fit exactly inside this rectangle.



Not actual size

The **diameter** of a large circle is **17.5** centimetres.

Calculate the **diameter** of a small circle.

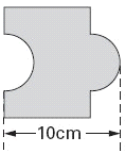
Show your **method.** You may get a mark.

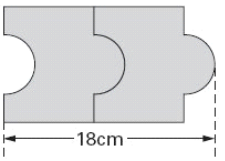
cm

2 marks

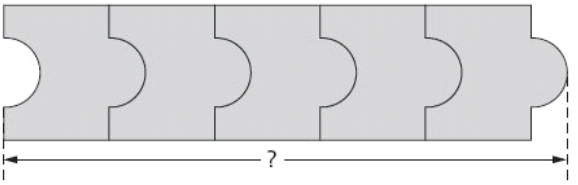
29. Josh has some tiles.

Each tile is 10cm long.



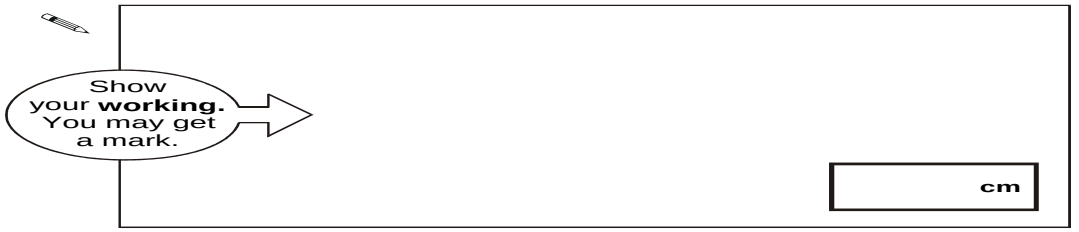


Two tiles fitted together are 18cm long.



Calculate the length of **five** tiles fitted together.

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2 marks

30. Here are five number cards.



A and B stand for two **different** whole numbers.

The sum of all the numbers on all five cards is 30

What could be the values of A and B?

A = ☐ **B =** ☐

1 mark