

Mathematics

Year 3

Reasoning Test

Equipment allowed: pen, pencil, ruler,
protractor or angle measurer, eraser.
No other equipment allowed.

Name

Date

Total marks

3

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Please do not write on this page.

Instructions

You **may not** use a calculator to answer any questions in this test.

Questions and answers

You have **40 minutes** to complete this test.

Follow the instructions for each question.

Work as quickly and as carefully as you can.

If you need to do working out, you can use the space around the question.

Some questions have a method box like this:

Diagram illustrating a method box. The box is a grid of 20 columns and 10 rows. To the left of the grid is a rounded rectangle containing the text "Show your method". To the right of the grid, in the bottom right corner, is a smaller rectangle representing a method box, spanning 10 columns and 2 rows.

For these questions you may get a mark for showing your method.

If you cannot do one of the questions, **go on to the next one**.

You can come back to it later, if you have time.

If you finish early, **go back and check your work**.

Marks

The number under each box at the side of the page tells you the maximum number of marks for each question.

1

Draw a line to match each number to its word.

One has been done for you.

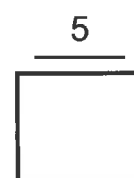
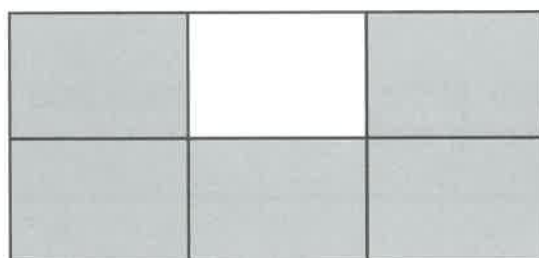
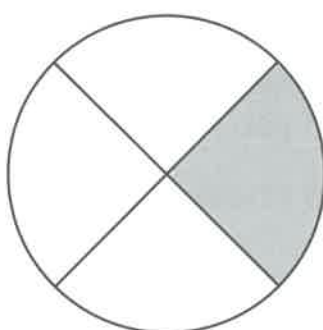
258	Five hundred and thirty-eight
538	Five hundred and fifty-two
385	Two hundred and fifty-eight
552	Three hundred and eighty-five



1 mark

2

What fraction of each shape is shaded?



1 mark

3

Write these numbers in order, starting with the **smallest**.

One has been done for you.

468

684

648

846

468

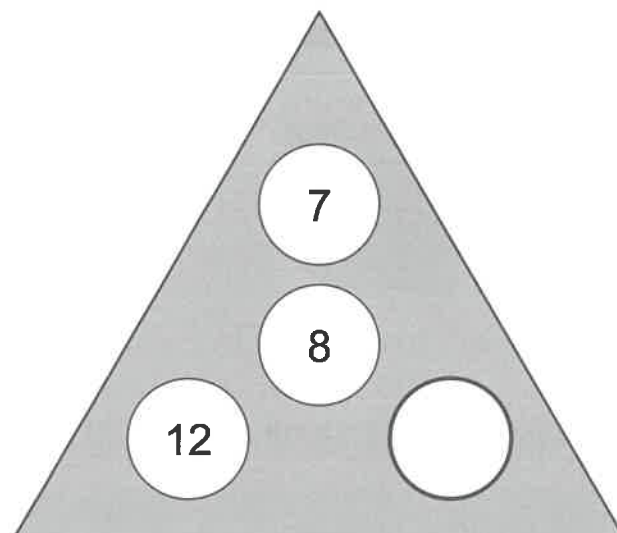
smallest

1 mark

4

The numbers in the triangle add up to **30**

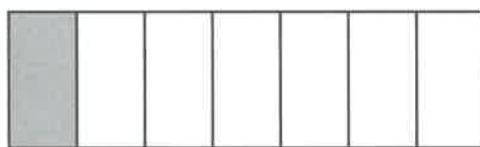
Write the missing number in the empty circle.



1 mark

5

Jack shades $\frac{1}{7}$ of a shape.



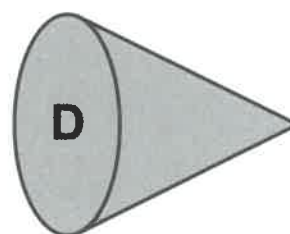
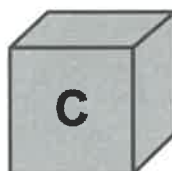
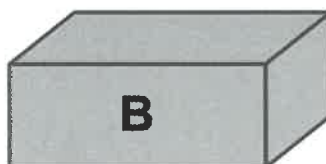
Then he shades another $\frac{4}{7}$ of the shape.

What fraction of the shape is shaded in total?

1 mark

6

Look at these 3-D shapes.



Two of the shapes have the **same number of faces**.

Write the letters of these shapes.

and

1 mark

7

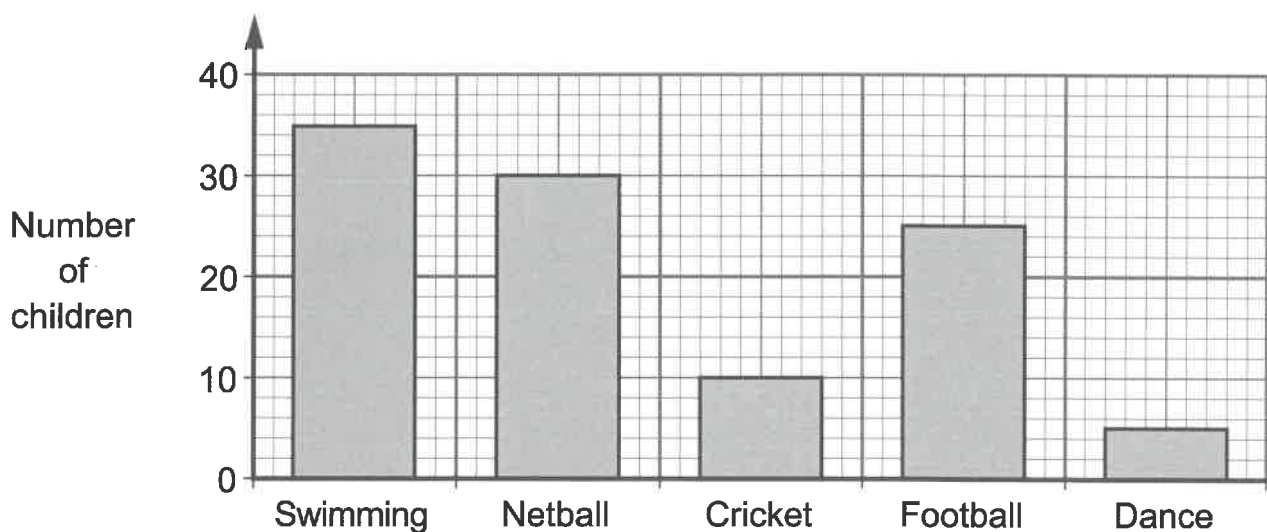
Emma asked some children to choose their favourite sport. She put the information in the table below.

Sport	Number of children
Swimming	35
Netball	30
Cricket	16
Football	25
Dance	5

How many **more** children chose swimming than dance?

1 mark

Then Emma drew a bar graph.



She made a mistake drawing one of the bars. Make the graph correct.

1 mark

8

Write the missing numbers to make these number sentences correct.

$$345 = 300 + \boxed{} + 5$$

$$902 = \boxed{} + 2$$

$$\boxed{} = 600 + 10 + 8$$

☐

2 marks

9

Circle **all** the numbers that have a **5** as the tens digit.

75

356

521

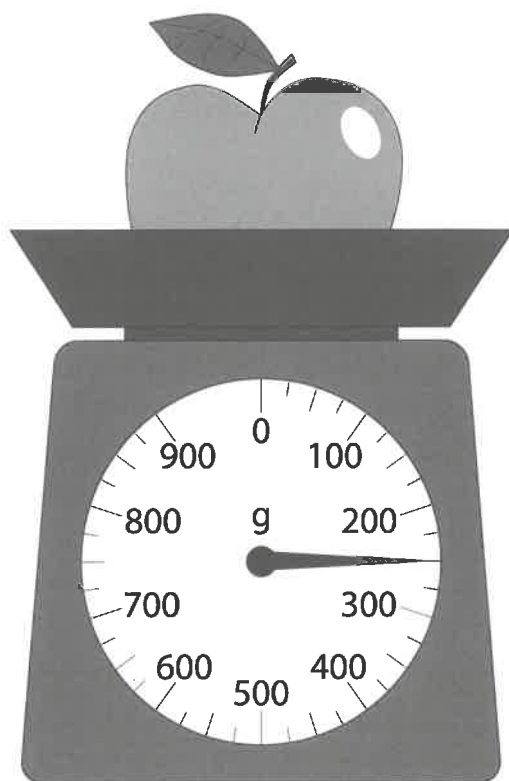
53

150

☐

1 mark

10



What is the mass of the apple?

 g

1 mark

11

Mr Smith had **£486**

He spent **£100** in one shop and **£10** in another.

How much money does he have left?

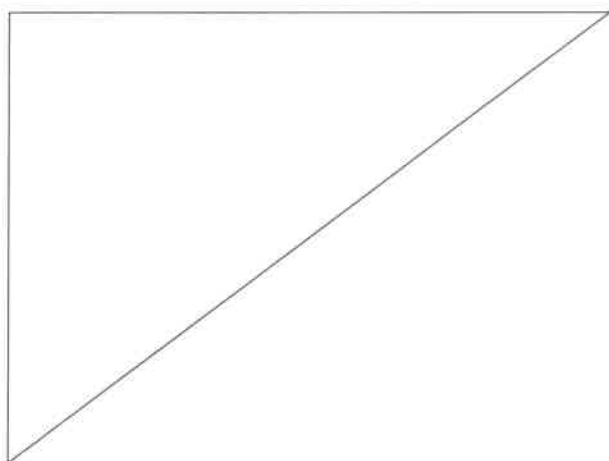
 £

1 mark

14

Measure the length of the longest side of the triangle.

Use a ruler.



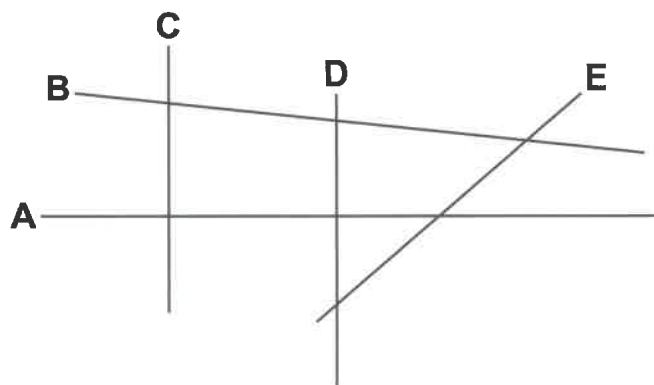
1 mark

15

Draw an arrow (\uparrow) on the number line to show $\frac{3}{4}$ 

1 mark

16



Write the letters of the two lines that are **parallel** to each other.

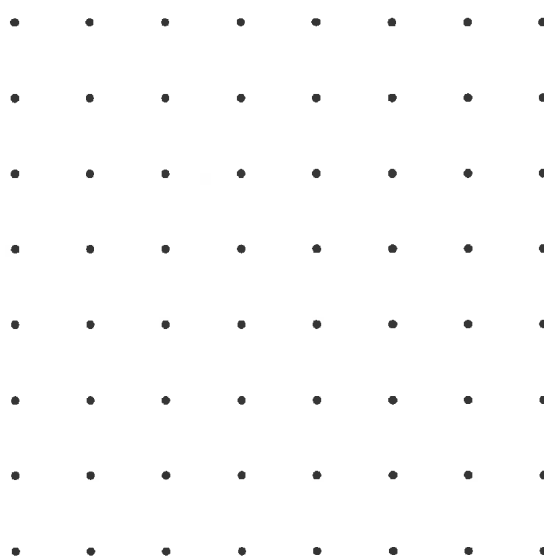
and

1 mark

17

Join dots to draw a **pentagon**.

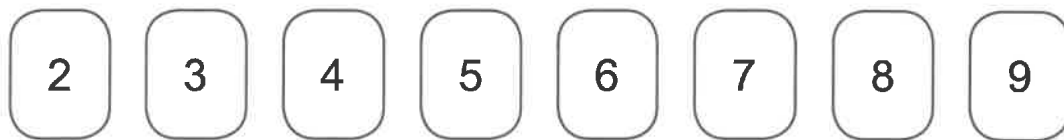
Use a ruler.



1 mark

18

Here are some digit cards.

Use six **different** cards to make these calculations correct.

$$\square \times \square = 30$$

$$\square \times \square = 28$$

$$\square \times \square = 24$$



2 marks

19

Neela starts her breakfast at this time.



What time does the clock show?

1 mark

She has lunch at 12.50

She takes 20 minutes to eat her lunch.

What time does she finish lunch?

1 mark

20

Here are five digit cards.

Use **four** of the cards to make this addition correct.

$$\boxed{}\boxed{} + \boxed{}\boxed{} = 110$$



1 mark

21

These are the lengths of five minibeasts.

Minibeast	Length
centipede	30mm
fly	4mm
caterpillar	4 cm
ladybird	$\frac{1}{2}$ cm
bug	1.5 cm

Which minibeast is the **shortest**?



1 mark

Which minibeast is the **longest**?



1 mark

22

Neela's garden is three times as long as Emma's.

Emma's garden is **9 metres** long.

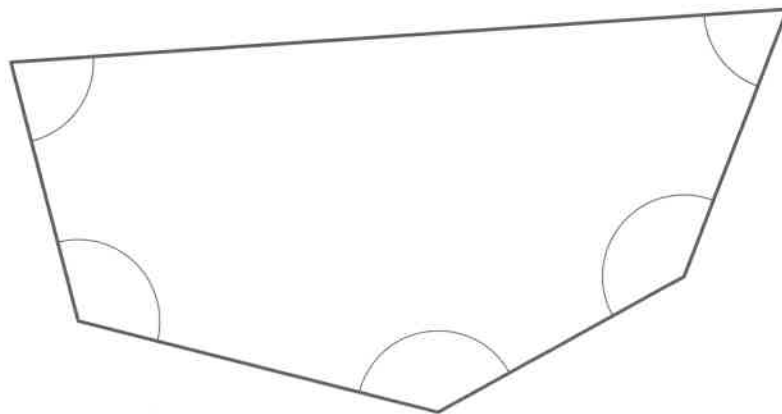
How long is Neela's garden?



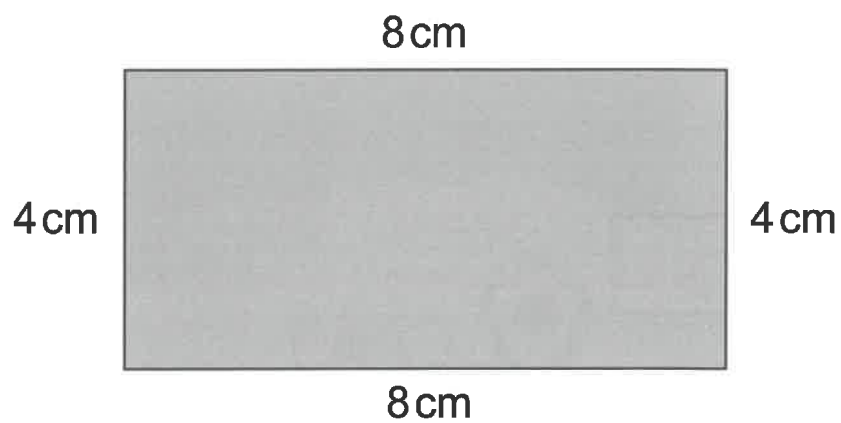
1 mark

23

Tick (✓) **all** the angles that are **less** than a right angle.



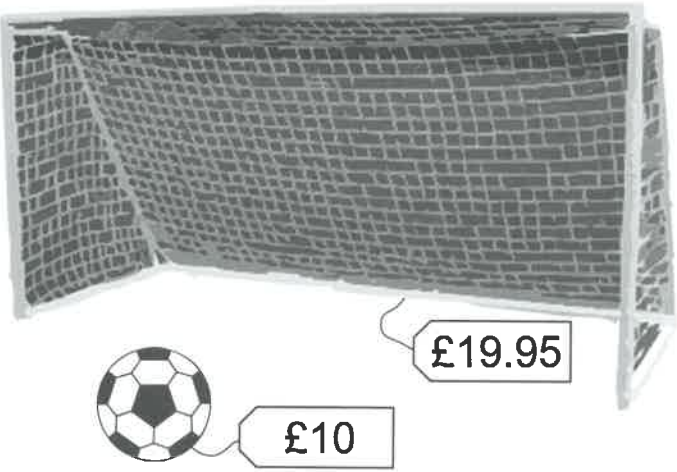
1 mark



What is the **perimeter** of the shape?



1 mark



Jack has £25

He wants to buy a football and a goal.

How much **more** money does he need?

**Show
your
method**

£



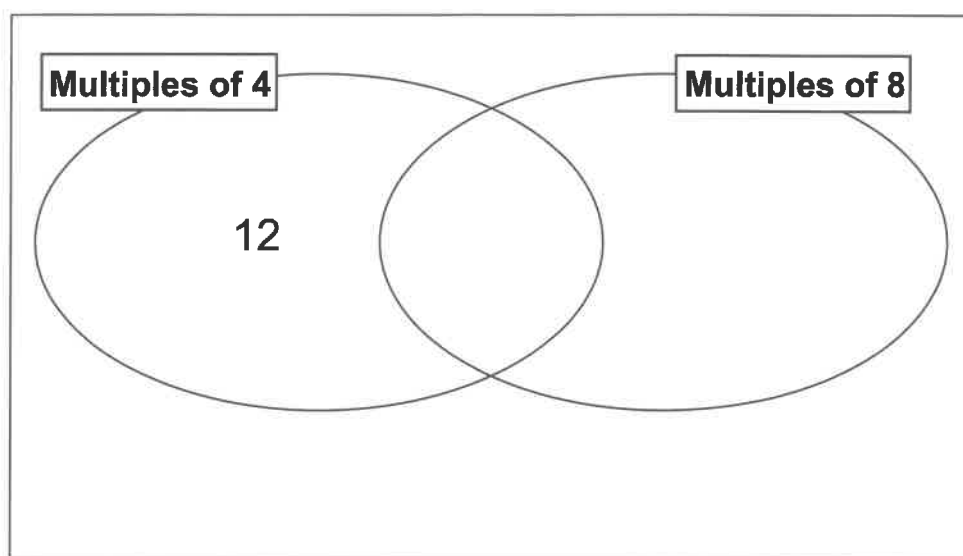
2 marks

26

Write these numbers in the correct places on the sorting diagram.

One has been done for you.

12 14 16 20 24



2 marks

27

Draw a line to match each calculation to the correct answer.

One has been done for you.

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

5

$$\frac{1}{4} \text{ of } 20$$

8

$$\frac{2}{3} \text{ of } 15$$

9

$$\frac{4}{5} \text{ of } 10$$

10



1 mark

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