

Mathematics test

Paper 2

Calculator allowed

First name _____

Last name _____

School _____

Remember

- The test is 1 hour long.
- You **may** use a calculator for any question in this test.
- You will need: pen, pencil, rubber, ruler, tracing paper and mirror (optional) and a calculator.
- This test starts with easier questions.
- Try to answer all the questions.
- Write all your answers and working on the test paper – do not use any rough paper. Marks may be awarded for working.
- Check your work carefully.
- Ask your teacher if you are not sure what to do.

Instructions

Answers



This means write down your answer or show your working and write down your answer.

Calculators



You **may** use a calculator to answer any question in this test.

1. The table shows the items sold in a school shop in one week.

	Mon	Tue	Wed	Thu	Fri
Pencil	25	18	13	21	16
Pen	17	20	19	9	12
Ruler	5	1	2	6	8
Protractor	5	1	4	3	2
Compasses	5	1	2	1	0

(a) How many **pens** were sold in the shop on **Wednesday**?



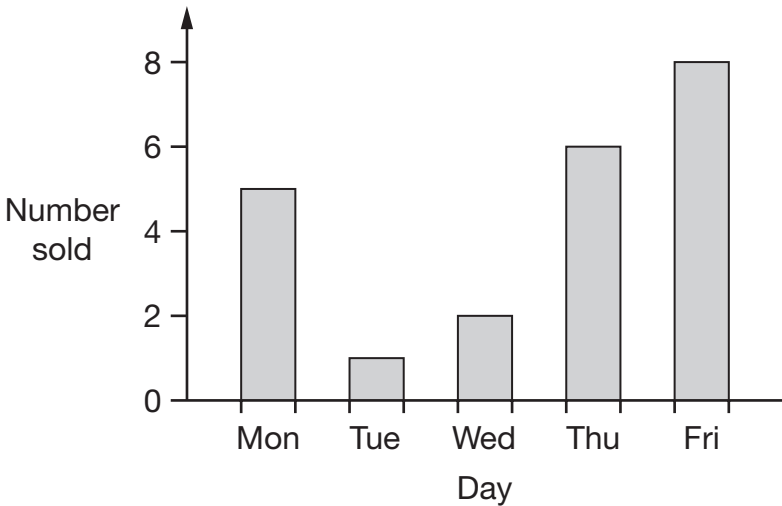
1 mark

(b) On what day did the shop sell **2 protractors**?



1 mark

(c) The bar chart shows information for **one** of the items.



Which item is this?



1 mark



2. Write the missing numbers in the boxes.



$$\times 9 = 234$$

1 mark



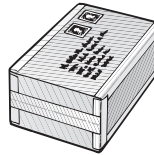
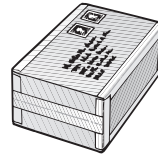
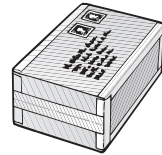
81

$\div$

$$= 27$$

1 mark

3. Lauren wants to post three parcels.



Each parcel costs **£1.30** to post.

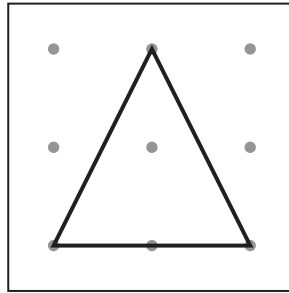
How much change should she get from **£10**?



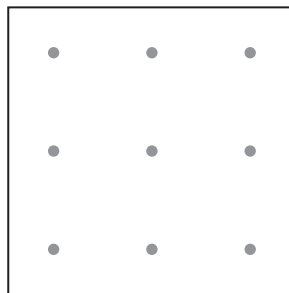
£

2 marks

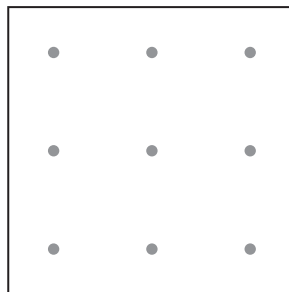
4. Here is a triangle made using the pins on a pin board.



Show how to make a **square**. Use the pins below.

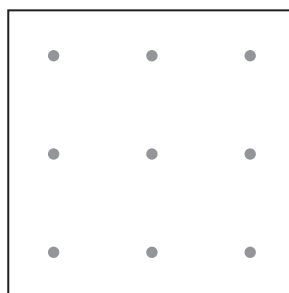


Now show how to make a **different sized square**. Use the pins below.



Now show how to make **another square** which is a **different size** to the ones you have drawn.

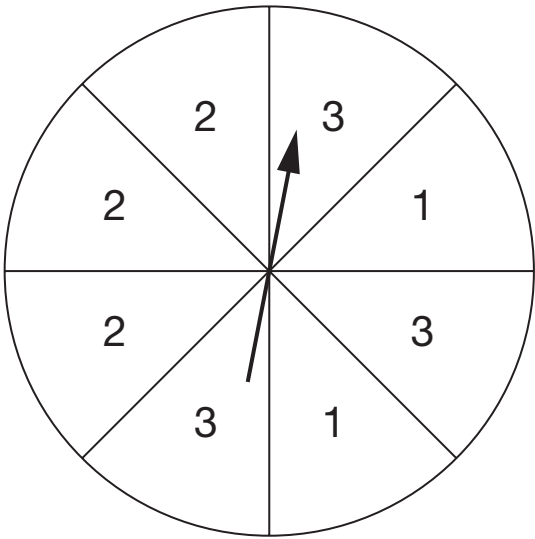
Use the pins below.



2 marks



5. Here is a fair spinner divided into 8 equal sections.



I am going to spin the pointer.
For each statement below, tick (✓) True or False.

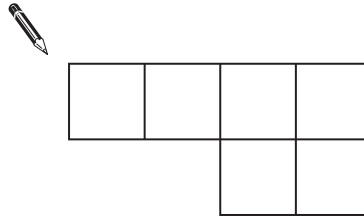


	True	False
I am equally likely to spin a 2 as to spin a 3	☐	☐
I am more likely to spin an even number than an odd number.	☐	☐
It is impossible that I will spin a number less than 2	☐	☐
It is certain that I will spin a number less than 4	☐	☐

2 marks

6. The shapes in this question are drawn on square grids.

(a) Shade $\frac{1}{2}$ of the shape below.



1 mark

(b) What **fraction** of the shape below is shaded?



1 mark



7. How many **sides** do these shapes have?

Draw lines to match each shape to the correct box.

The first one is done for you.

Shape	Number of sides
	2
Triangle	3
 Hexagon	4
Octagon	5
Quadrilateral	6
	7
	8

2 marks

8. In this grid, the numbers **1**, **2** and **3** are in **each row** and **each column**.

2	1	3
3	2	1
1	3	2

Now complete this grid so that the numbers **1**, **2** and **3** are in **each row** and **each column**.



	3	
	1	2

2 marks

9. Complete the table to show the different times in words and on a digital clock. The first row is done for you.

Time in words	Time on digital clock
Half past twelve	12 : 30
Quarter to eleven	
	10 : 05

1 mark

1 mark

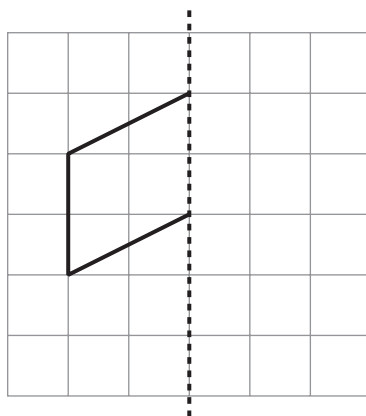


10. The diagrams in this question are drawn on square grids.

Reflect the shapes in the mirror lines.



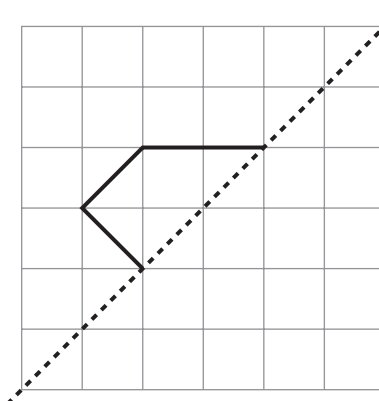
Mirror line



1 mark



Mirror line



1 mark

11. The table shows the cost of tickets for visiting a castle.

Tickets	
Family	£17.00
Adult	£6.50
Child	£4.50

Two adults and two children visit the castle.

They buy a **family** ticket.

How much **more** would it have cost to buy **two adult** tickets and **two child** tickets?



£

2 marks

12. Pupils take a test that has three different papers.

Each pupil adds their marks from all three papers to find their total mark.

The table shows how to change the total mark to a grade.

Total mark	Grade
104 or more	A
From 79 to 103	B
From 53 to 78	C
From 34 to 52	D
33 or less	E

- (a) Here are Simon's marks.

Paper 1	Paper 2	Paper 3
26 marks	33 marks	18 marks

What grade did Simon get on the test?



grade _____

1 mark

- (b) Here are Jenna's marks from paper 1 and paper 2

Paper 1	Paper 2	Paper 3
48 marks	35 marks	?

Jenna's grade on the test was **grade A**.

Complete the sentence below.



Jenna must have scored **at least** _____ marks on paper 3

1 mark

13. (a) Write the missing numbers in the sentences below.



2735 rounded to the **nearest hundred** is _____

1 mark



2735 rounded to the **nearest thousand** is _____

1 mark

- (b) Give an example of what the missing number could be in the sentence below.



_____ rounded to the **nearest ten** is **800**

1 mark



14. Here is some information about a baby.

He was born on 2nd March 2005.

He smiled for the first time on 30th March 2005.

His first tooth appeared on 2nd December 2005.

- (a) **How many weeks** old was the baby when he smiled for the first time?



_____ weeks

1 mark

- (b) **How many months** old was the baby when his first tooth appeared?



_____ months

1 mark

15. (a) I count on in **equal steps**.

My fourth number is 42, my fifth number is 47

?			42	47
---	--	--	----	----

What is my first number?



1 mark

(b) I count on in **equal steps**.

My first number is -3, my fifth number is 5

-3		?		5
----	--	---	--	---

What is my third number?



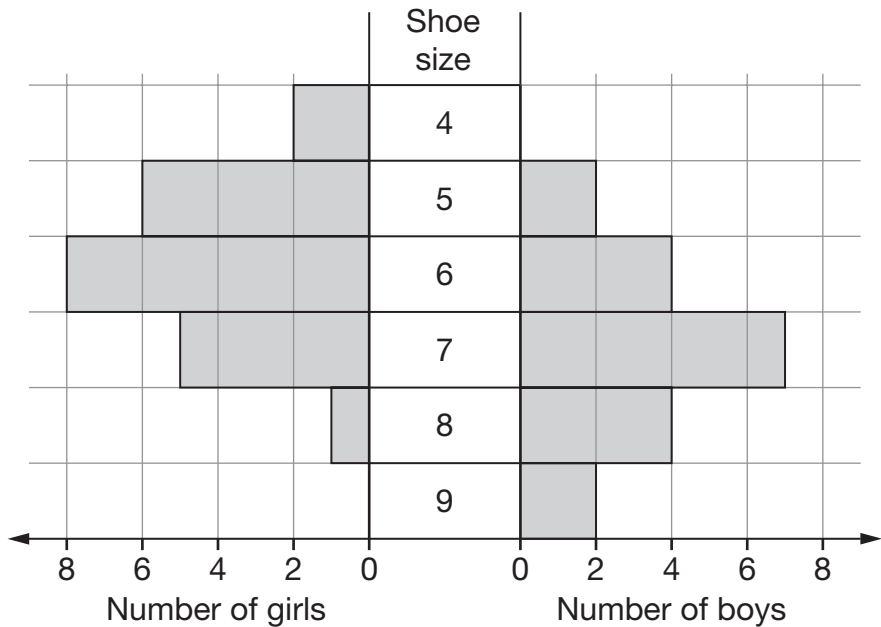
2 marks



16. Kim asked some pupils:

To the nearest whole number, what is your shoe size?

The chart shows her results.



(a) How many pupils had **size 6** shoes?

 _____

1 mark

(b) Kim asked **more girls** than boys.
How many more?

 _____

1 mark

(c) Who had the bigger **range** of shoe sizes?

 ☐ Girls ☐ Boys ☐ Both the same

Explain your answer.



1 mark

17. Find the values of x and y

$$694 + 396 + x = 1742$$



$x = \underline{\hspace{2cm}}$

1 mark

$$y \div 13 = 34$$



$y = \underline{\hspace{2cm}}$

1 mark

18. Dan says:

‘All **factors of 70** are even numbers.’

Is he correct?

☐

Yes

☐

No

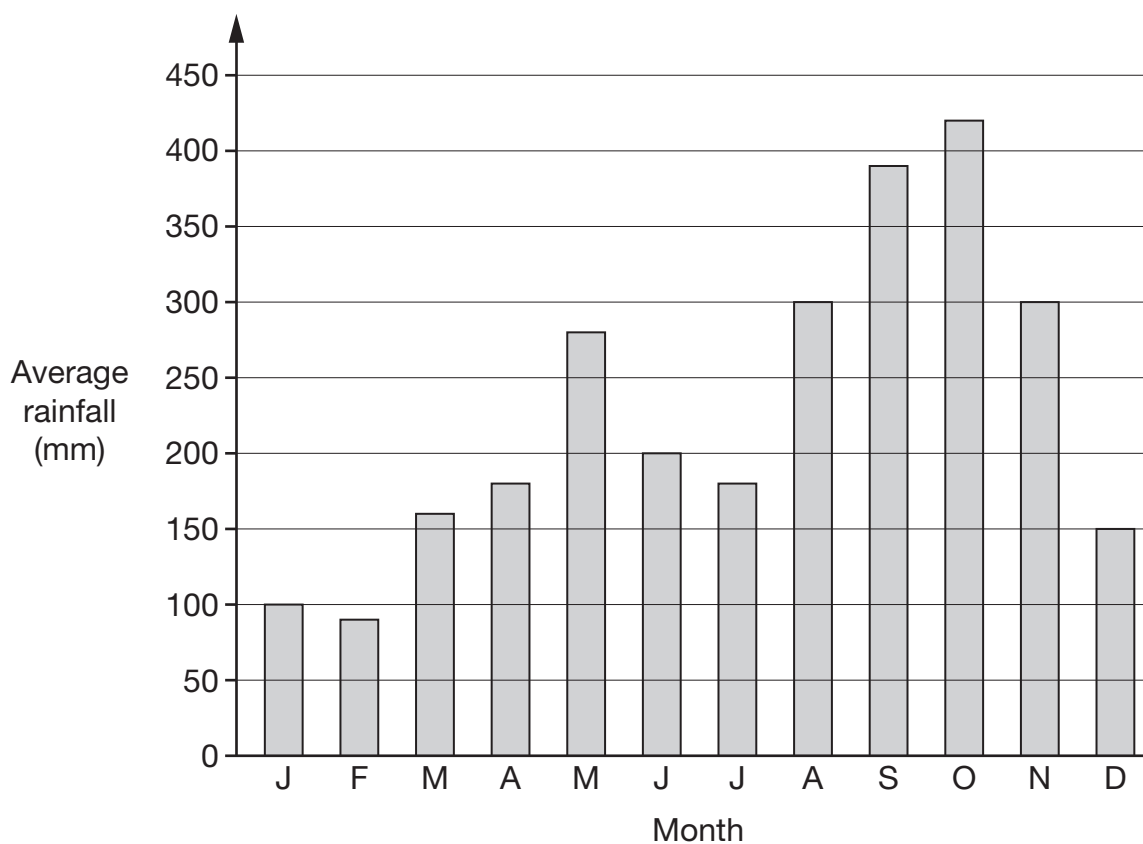
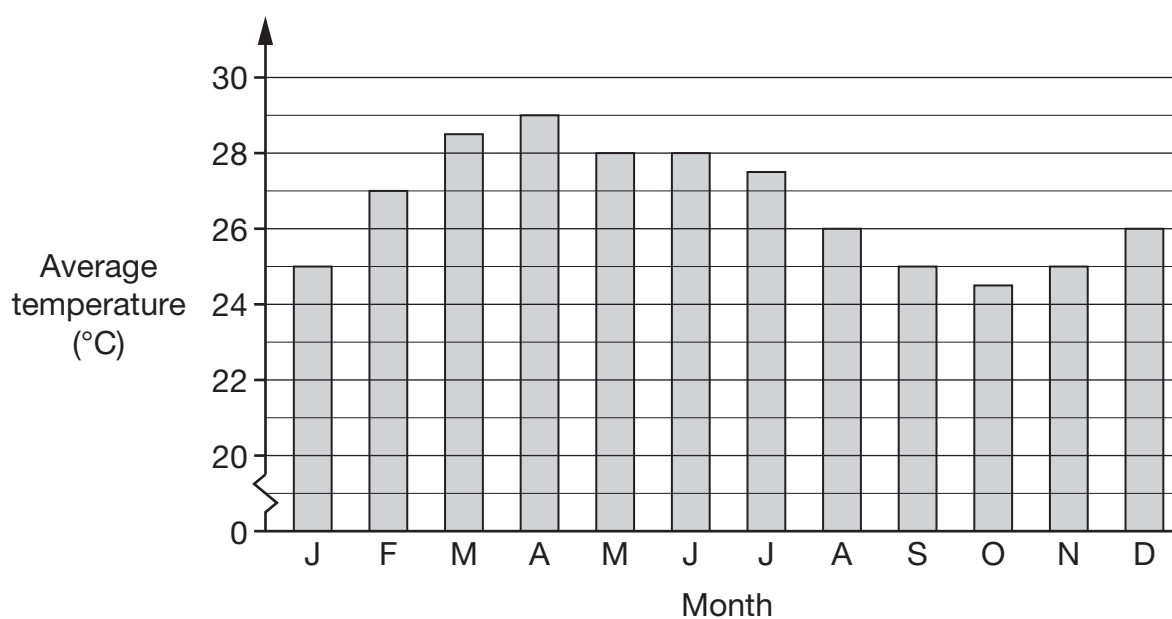
Explain your answer.



1 mark



19. The charts show information about a rainforest.



Use the charts to answer these questions.

- (a) In the month that has the **lowest** average **rainfall**,
what is the average **temperature**?



_____ °C

1 mark

- (b) In the month that has the **highest** average **temperature**,
what is the average **rainfall**?



_____ mm

1 mark

- (c) Sanjay has decided to visit the rainforest.

He does **not** like high temperatures and does **not** like high rainfall.

In which month do you think Sanjay should visit?

Put a ring round the correct month below.



January

March

April

October

December

1 mark



20. Complete the table to show what the units measure.

The first row is done for you.



	Length	Area	Volume	Mass
Centimetres	✓			
Litres				
Miles				
Grams				
Square metres				
Ounces				

2 marks

21. Here are the prices of doughnuts at two different shops.

Shop A	Shop B
3 doughnuts for £2	5 doughnuts for £3.50

I want to buy **15** doughnuts.

In which shop are the doughnuts **cheaper**?

You **must** show your working.



Tick (✓) your answer.

☐

Shop A

☐

Shop B

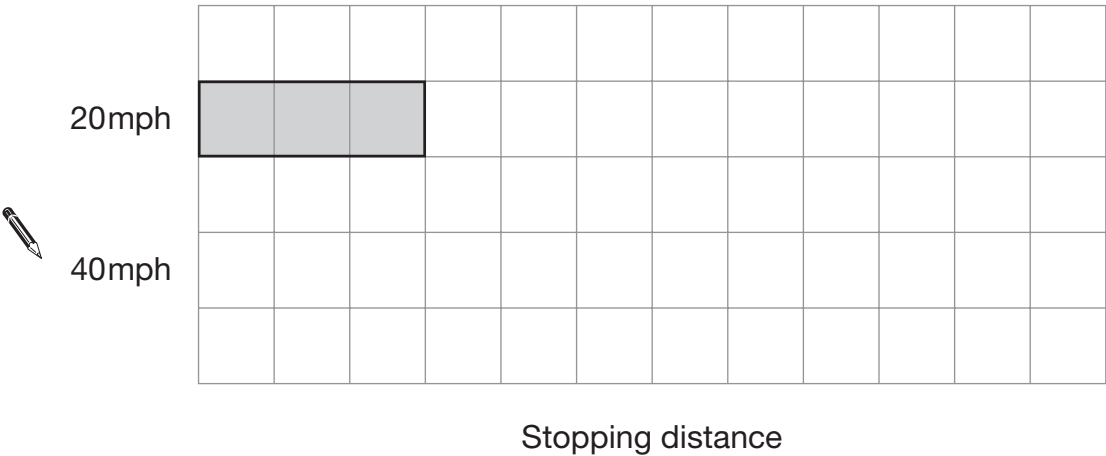
2 marks



22. The table shows the stopping distances for a car at different speeds.

Speed	Stopping distance
20mph	12 metres
40mph	36 metres
60mph	72 metres

- (a) Look at the square grid below.
- It shows the bar for the stopping distance at 20mph.
- Use the same scale to draw the bar for the stopping distance at **40mph**.



1 mark

- (b) The bar for the stopping distance at 60mph will not fit on the grid.
- How many squares long should the bar be?

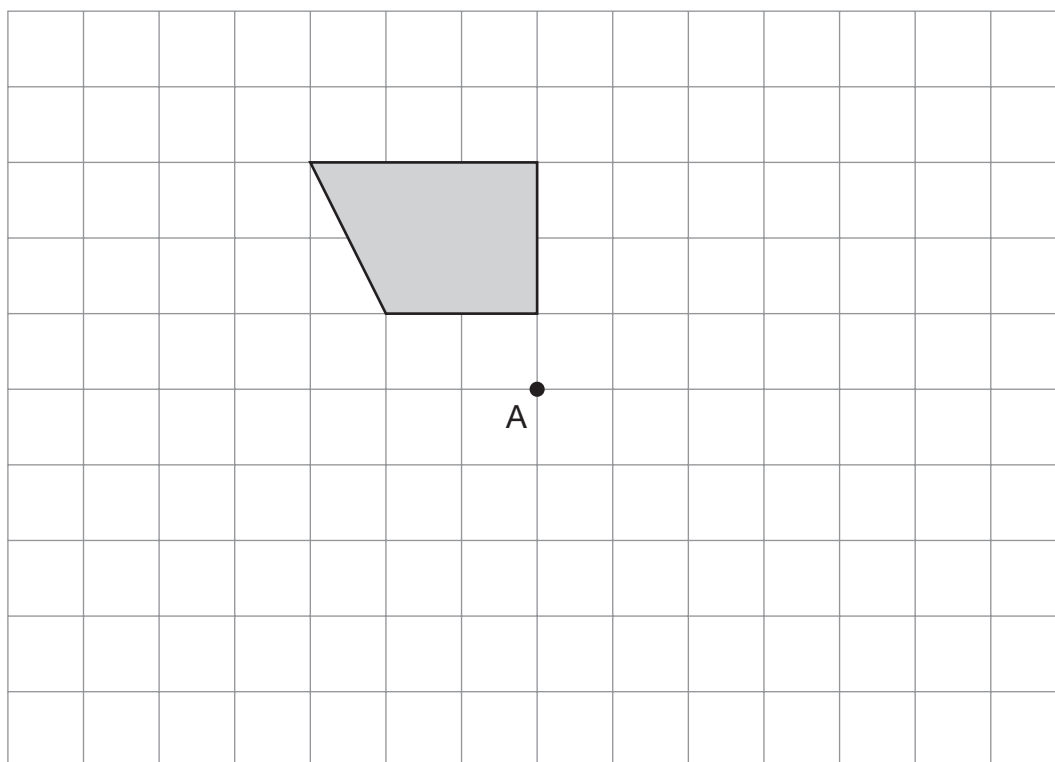


1 mark

23. Here is a shaded shape drawn on a square grid.

Rotate the shape **180°** about point A.

Draw the shape in its new position on the grid.



2 marks



24. Use $a = 7$ and $b = 28$ to work out the value of these expressions.

The first one is done for you.

$$a + b = \underline{35}$$



$$ab = \underline{\hspace{2cm}}$$

1 mark



$$\frac{b}{a} = \underline{\hspace{2cm}}$$

1 mark

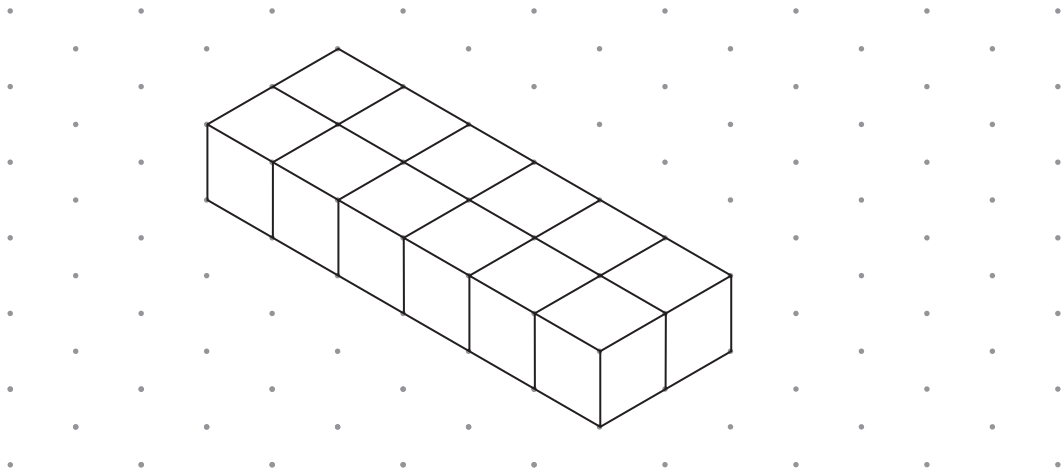


$$(a + b)^2 = \underline{\hspace{2cm}}$$

1 mark

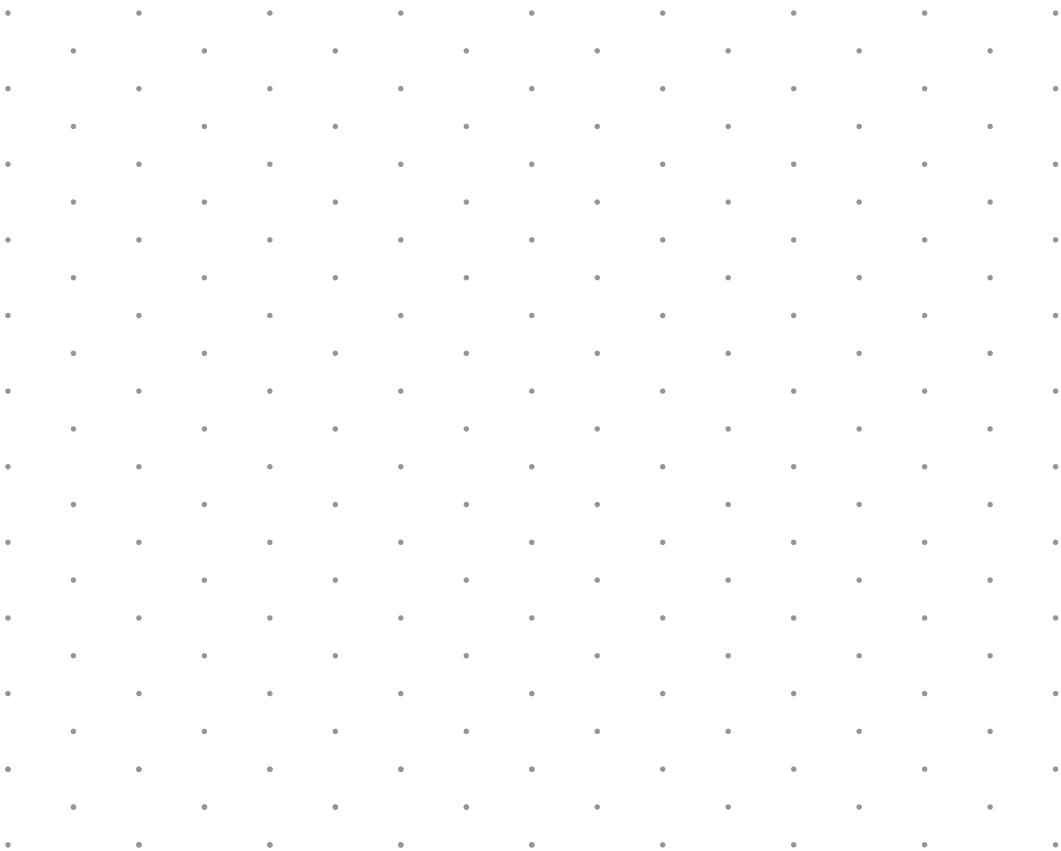
25. Look at the cuboid drawn on the grid.

It is made from **12 cubes**.



Isometric grid

On the grid below, draw a **different** cuboid made from 12 cubes.

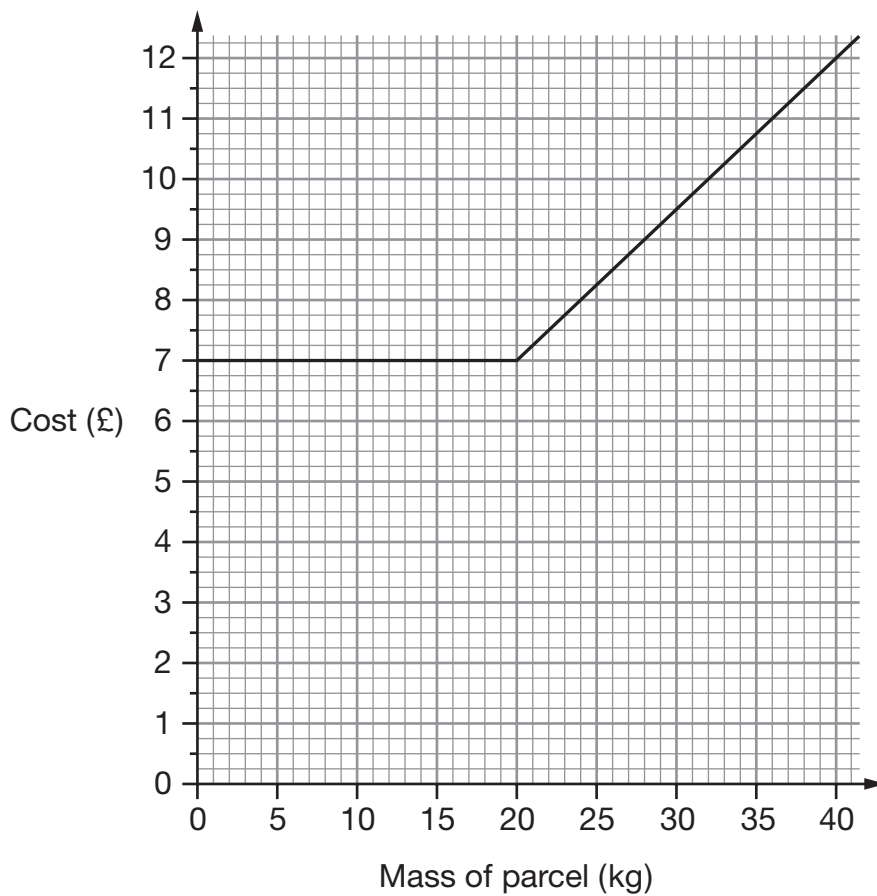


Isometric grid

2 marks



26. The graph shows how much a company charges to deliver parcels.



- (a) Use the graph to complete the sentences below.



The company charges exactly £ _____ for parcels up to _____ kg.

_____ 1 mark



Then for **each** extra kilogram the company charges another _____.

_____ 1 mark

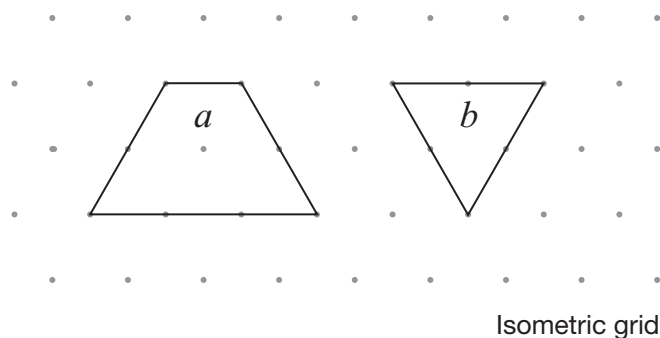
- (b) Altogether, how much would the company charge to deliver two parcels, one of **15kg** and one of **37kg**?



£

_____ 1 mark

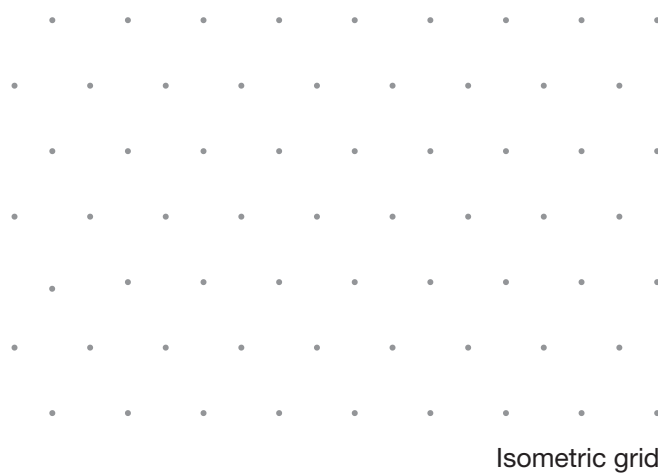
27. The diagram below shows a trapezium and an equilateral triangle.



The **trapezium** has area a

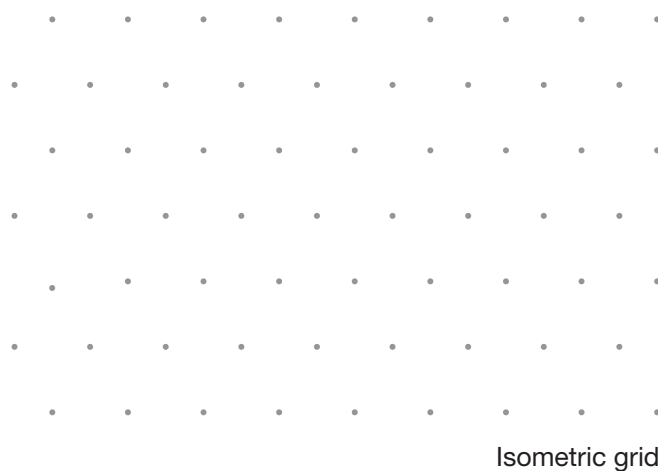
The **triangle** has area b

- (a) On the grid below, draw a shape with area $a + 2b$



1 mark

- (b) On the grid below, draw a shape with area $a - b$



1 mark



END OF TEST