Centre No.						Paper Reference							Surname	Initial(s)
Candidate No.						5	5	2	1	/	0	2	Signature	

Paper Reference(s)

5521/02

Examiner's use only

Team Leader's use only

Edexcel GCSE

Mathematics A – 1387

Paper 2 (Calculator)

Foundation Tier

Monday 11 June 2007 – Morning

Time: 1 hour 30 minutes

Materials required for examination

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser, calculator. Tracing paper may be used.

Items included with question papers

Nil

Instructions to Candidates

In the boxes above, write your centre number, candidate number, your surname, initials and signature.
Check that you have the correct question paper.
Answer ALL the questions. Write your answers in the spaces provided in this question paper.
You must NOT write on the formulae page. Anything you write on the formulae page will gain NO credit.
If you need more space to complete your answer to any question, use additional answer sheets.

Information for Candidates

The marks for individual questions and the parts of questions are shown in round brackets: e.g. **(2)**.
There are 28 questions in this question paper. The total mark for this paper is 100.
There are 24 pages in this question paper. Any blank pages are indicated.
Calculators may be used.
If your calculator does not have a π button, take the value of π to be 3.142 unless the question instructs otherwise.

Advice to Candidates

Show all stages in any calculations.
Work steadily through the paper. Do not spend too long on one question.
If you cannot answer a question, leave it and attempt the next one.
Return at the end to those you have left out.

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Turn over

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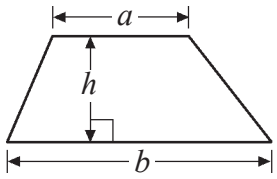
GCSE Mathematics 1387/8

Formulae: Foundation Tier

You must not write on this formulae page.
Anything you write on this formulae page will gain NO credit.

Area of trapezium = $\frac{1}{2}(a+b)h$



Leave blank

Answer ALL TWENTY EIGHT questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1. Here are some patterns made using sticks.

Pattern number 1 Pattern number 2 Pattern number 3

(a) In the space below, complete Pattern number 4.

Pattern number 4

(1)

(b) Complete the table.

Pattern number	1	2	3	4	5
Number of sticks	4	7	10		

(1)

(c) How many sticks are used in Pattern number 10?

.....

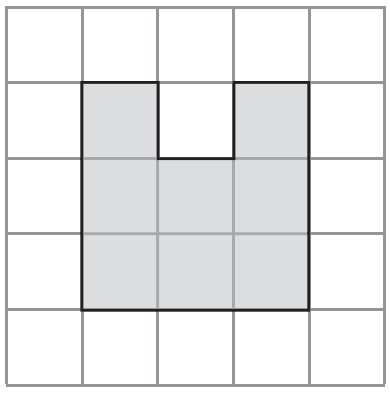
(1)

Q1

(Total 3 marks)

Leave blank

2. Here is a shaded shape on a centimetre grid.



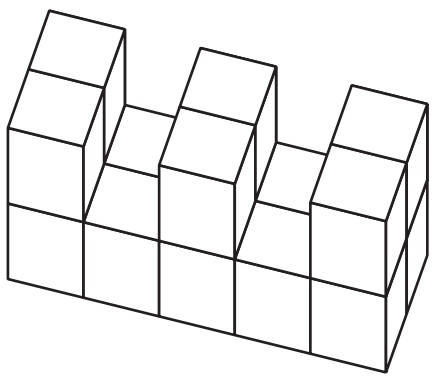
(a) Find the area of the shaded shape.

..... cm^2
(1)

(b) Find the perimeter of the shaded shape.

..... cm
(2)

Here is a solid prism made of centimetre cubes.



(c) Find the volume of the solid prism.

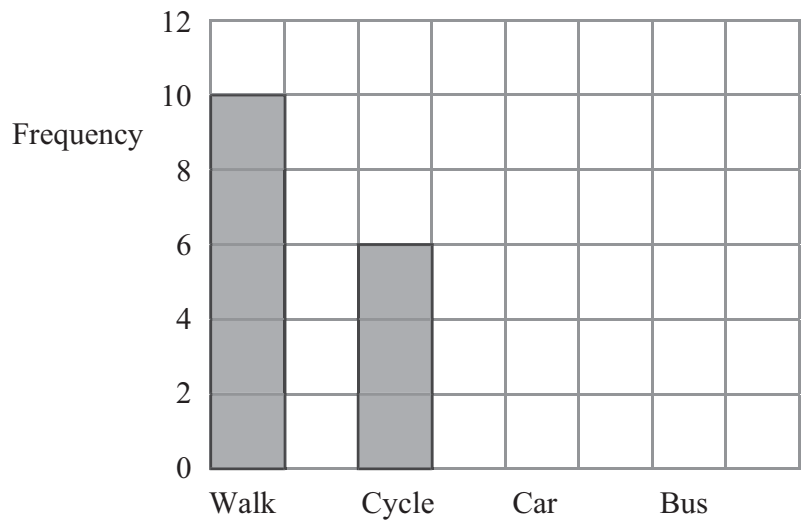
..... cm^3
(2)
(Total 5 marks)

Q2

Leave blank

3. Sophie asked the students in her class how they travelled to school.

The bar chart shows some information about the results, for everyone in Sophie's class.



4 students travel to school by car.
7 students travel to school by bus.

(a) Complete Sophie's bar chart.

(2)

(b) How many students in Sophie's class cycle to school?

.....

(1)

(c) Which method of travelling to school is used by the greatest number of students in Sophie's class?

.....

(1)

(d) Work out the total number of students Sophie asked.

.....

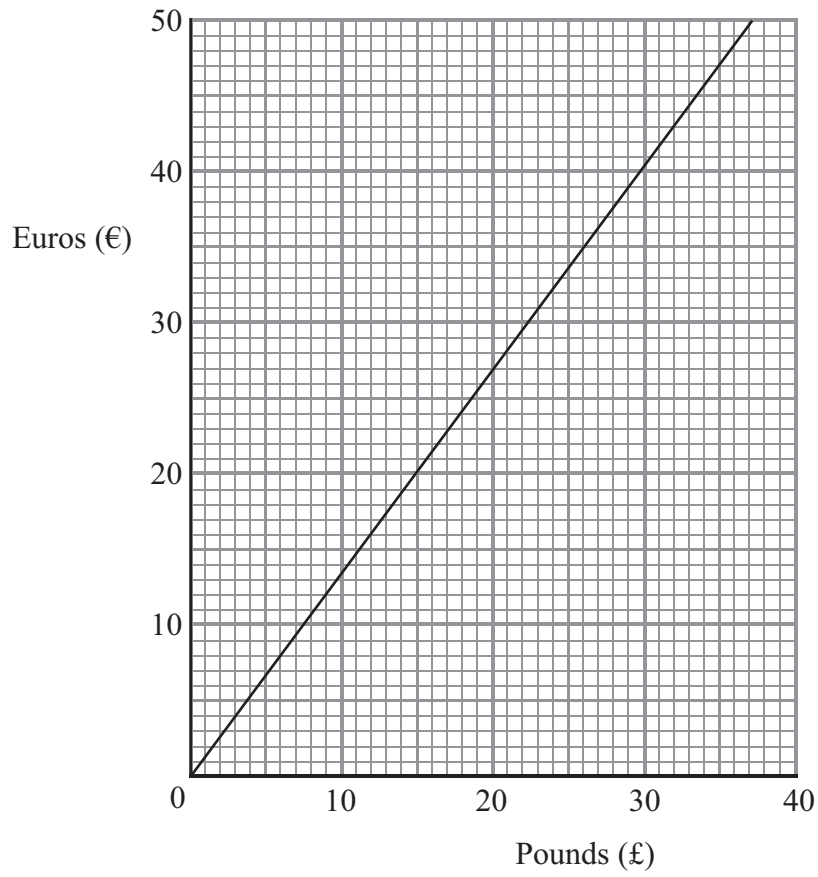
(1)

Q3

(Total 5 marks)

Leave blank

4. The conversion graph can be used to change between pounds (£) and Euros (€).



(a) Use the graph to change 30 pounds to Euros.

€ .....

(1)

(b) Use the graph to change 16 Euros to pounds.

£ .....

(1) **Q4**

(Total 2 marks)

Leave blank

5. Charlotte worked out the sum of some consecutive odd numbers starting with 1.
She put her results in a table.

Sum of the first odd number	1	= 1
Sum of the first 2 odd numbers	1 + 3	= 4
Sum of the first 3 odd numbers	1 + 3 + 5	= 9
Sum of the first 4 odd numbers	1 + 3 + 5 + 7	= 16
Sum of the first 5 odd numbers	1 + 3 + 5 + 7 + 9	= 25
Sum of the first 6 odd numbers		

(a) Complete the bottom row of the table.

(2)

(b) What is the special name for the numbers 1, 4, 9, 16, 25?

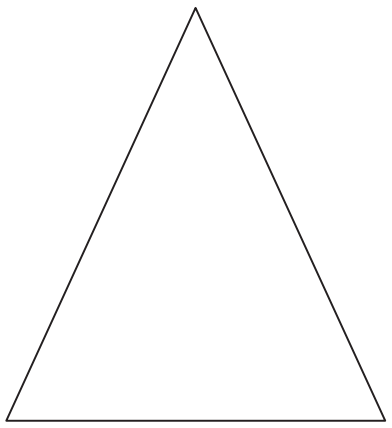
.....

(1)

(Total 3 marks)

Q5

6. Here is a triangle.



Draw a line of symmetry on the triangle.

Q6

(Total 1 mark)

Leave blank

7. Here is part of a railway timetable.

Manchester	05 15	06 06	06 45	07 05	07 15	07 45
Stockport	05 26	06 16	06 55	07 15	07 25	07 55
Macclesfield	05 39	06 29	07 08		07 38	08 08
Stoke-on-Trent	05 54	06 45	07 24		07 54	08 24
Stafford	06 12		07 41		08 11	
London Euston	08 07	08 26	09 06	09 11	09 50	10 08

A train leaves Manchester at 06 45

(a) (i) At what time should this train get to London Euston?

.....

(ii) How long should it take to travel between Manchester and Stoke-on-Trent?

..... minutes
(2)

Mark has to go to a meeting in Stafford.
He will catch the train in Stockport.
He needs to arrive in Stafford **before** 08 00

(b) Write down the time of the latest train he can catch from Stockport.

.....
(1)

Leave blank

(c) Work out how long it should take the 07 05 train from Manchester to get to London Euston.
Give your answer in hours and minutes.

..... hours ..... minutes
(1)

The 06 45 train from Manchester takes more time to get to London Euston than the 07 05 train from Manchester.

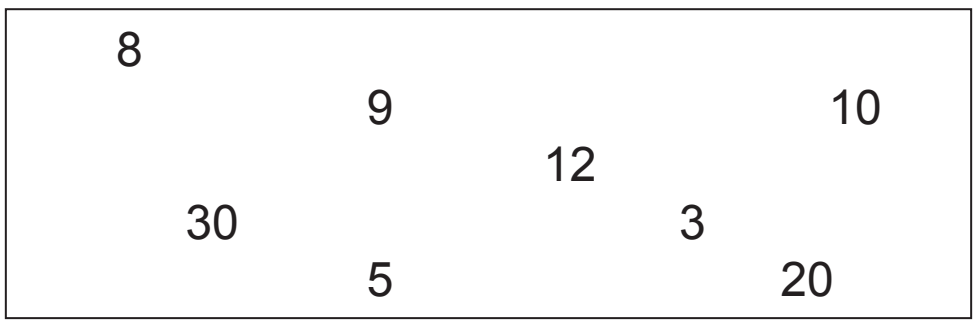
(d) Work out how many more minutes the 06 45 train takes.

..... minutes
(2)

(Total 6 marks)

Q7

8.



Using only the numbers in the rectangle, write down

(i) an even number

.....

(ii) a multiple of 4

.....

(iii) a factor of 15

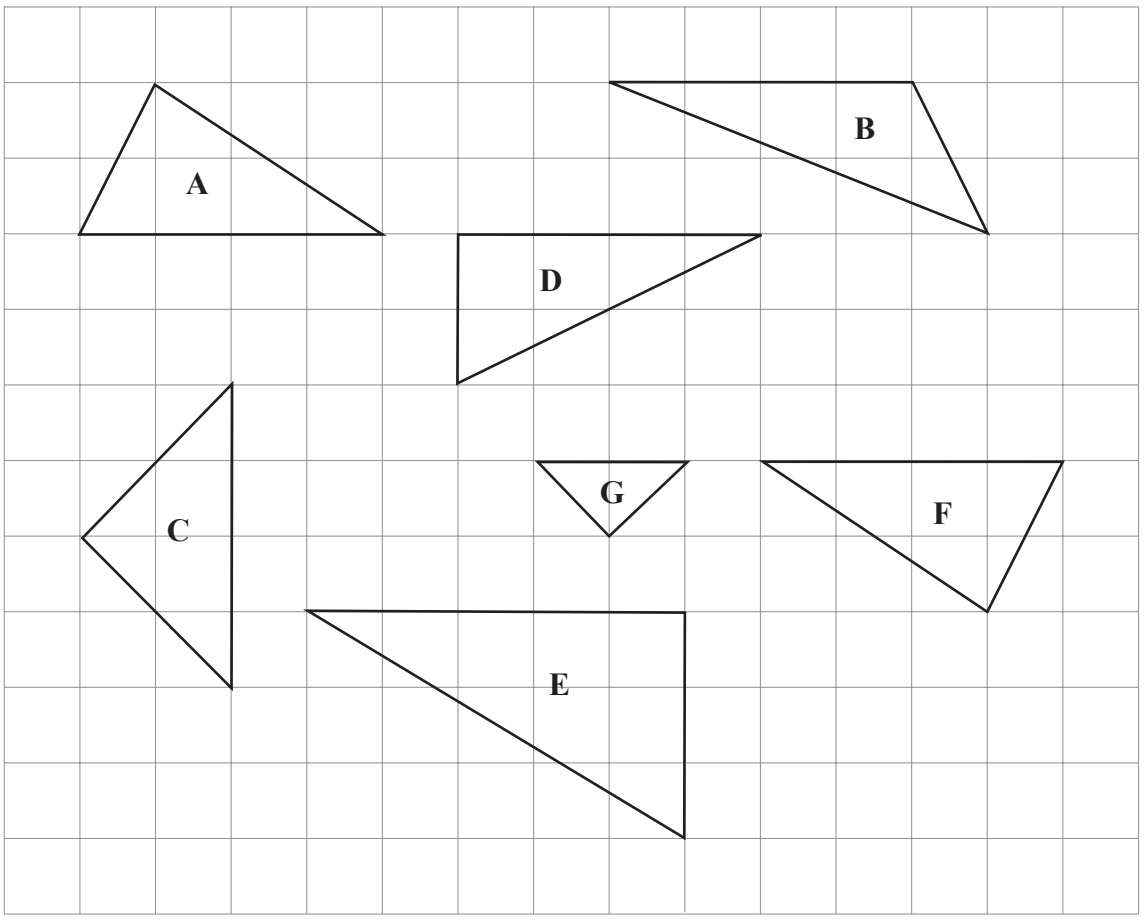
.....

(Total 3 marks)

Q8

Leave blank

9.



(a) Write down the letter of an isosceles triangle.

.....

(1)

(b) Write down the letters of **two** triangles which are congruent.

..... and .....

(1)

Triangle **C** is an enlargement of triangle **G**.

(c) Write down the scale factor of this enlargement.

.....

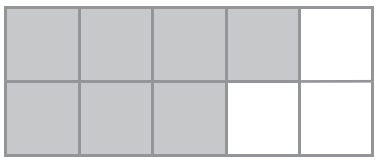
(1)

Q9

(Total 3 marks)

Leave blank

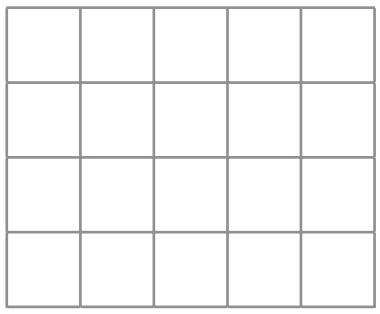
10. Shape A



(a) What fraction of Shape A is shaded?

.....
(1)

Shape B



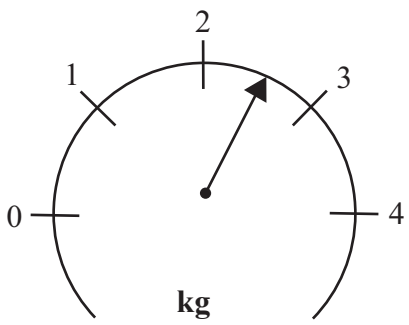
(b) (i) Shade 20% of Shape B.

(ii) What percentage of shape B is **not** shaded?

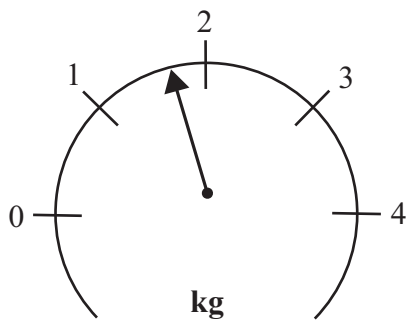
..... %
(2)

(c) What is the reading on each of these scales?

(i)



(ii)



(i) ..... kg (ii) ..... kg

(2) **Q10**

(Total 5 marks)

Leave blank

11. The table shows the highest and lowest temperatures one day in London and Moscow.

	Highest	**Lowest**
London	8°C	–6°C
Moscow	–3°C	–8°C

(a) Work out the difference between the **lowest** temperature in London and the **lowest** temperature in Moscow.

..... °C
(1)

(b) Work out the difference between the **highest** and **lowest** temperature in London.

..... °C
(1)

(Total 2 marks)

Q11

12.

Waxworks

Adult ticket: £8.50
Child ticket: £4.50

Mr and Mrs Jones take their three children to the Waxworks.
Mrs Jones pays for 2 adult tickets and 3 child tickets.
She pays with a £50 note.

How much change should she receive from £50?

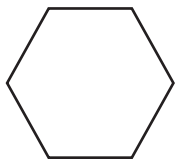
£ .....

Q12

(Total 3 marks)

Leave blank

13.



This shape is a regular polygon.

(a) Write down the special name for this type of regular polygon.

.....

(1)

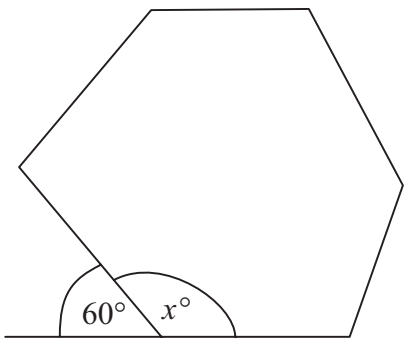


Diagram **NOT** accurately drawn

(b) (i) Work out the size of the angle marked $x°$.

..... °

(ii) Give a reason for your answer.

.....

.....

(2)

(c) Write down the special name for the angle marked $x°$.

.....

(1)

Q13

(Total 4 marks)

Turn over

Leave blank

14. Peter rolled a 6-sided dice ten times.
Here are his scores.

3 2 4 6 3 3 4 2 5 4

(a) Work out the median of his scores.

.....

(2)

(b) Work out the mean of his scores.

.....

(2)

(c) Work out the range of his scores.

.....

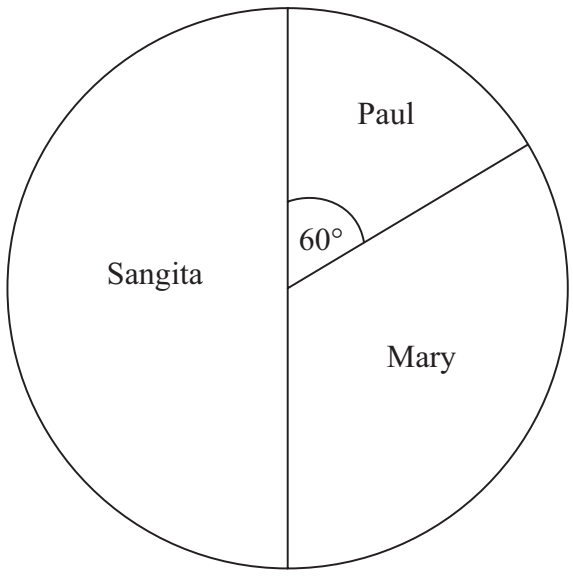
(1)

Q14

(Total 5 marks)

Leave blank

15. The pie chart gives information about the votes received by Paul, Mary and Sangita in an election.



(a) Who got the least votes?

.....

(1)

The total number of votes in the election was 36

(b) How many votes did Sangita get?

.....

(1)

The angle in the pie chart for Paul is 60°

(c) What fraction of the votes did Paul get?
Write your fraction in its simplest form.

.....

(2)

(Total 4 marks)

Q15

Leave blank

16. Use your calculator to work out $\dfrac{4.7}{9.4-3.5}$

Write down all the figures on your calculator display.

.....

(Total 2 marks)

Q16

17. Solve $6x - 7 = 38$

$x =$ .....

(Total 2 marks)

Q17

18. The two-way table shows some information about students in Years 7, 8 and 9.

	Year 7	**Year 8**	**Year 9**	**Total**
Can swim		61	74	
Cannot swim	33			60
Total			84	250

Complete the two-way table.

(Total 3 marks)

Q18

Leave blank

19. Jamie goes on holiday to Florida.
The exchange rate is £1 = 1.70 dollars.

He changes £900 into dollars.

(a) How many dollars should he get?

..... dollars
(2)

After his holiday Jamie changes 160 dollars back into pounds.
The exchange rate is still £1 = 1.70 dollars.

(b) How much money should he get?
Give your answer to the nearest penny.

£ .....
(2)

Q19

(Total 4 marks)

Leave blank

20.

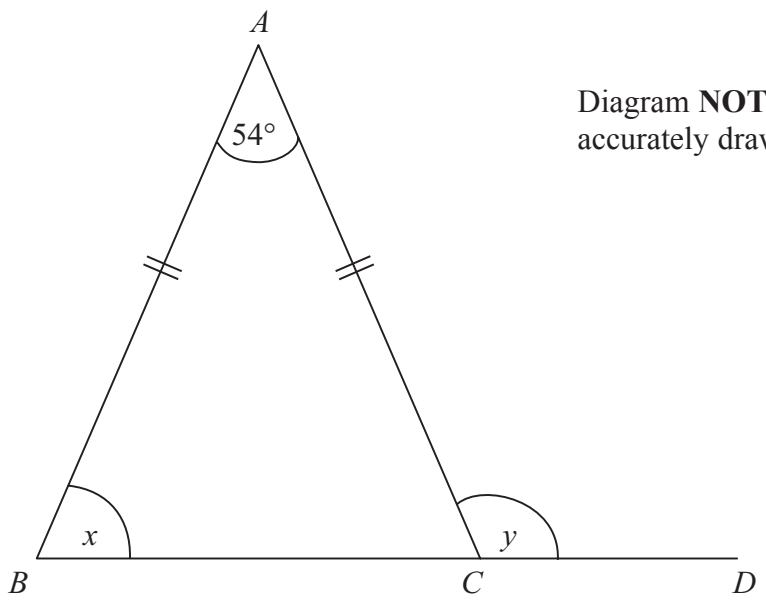


Diagram **NOT** accurately drawn

ABC is an isosceles triangle.
BCD is a straight line.
AB = *AC*.
Angle *A* = 54°.

(a) (i) Work out the size of the angle marked *x*.

..... °

(ii) Give a reason for your answer.

.....

.....

(3)

(b) Work out the size of the angle marked *y*.

..... °

(1)

Q20

(Total 4 marks)

Leave blank

21. Tom the plumber charges £35 for each hour he works at a job, plus £50
The amount Tom charges, in pounds, can be worked out using this rule.

> Multiply the number of hours he works by 35
>
> Add 50 to your answer

Tom works for 3 hours at a job.

(a) Work out how much Tom charged.

£ .....
(2)

At his next job Tom charged the customer £260

(b) How many hours did Tom work?

..... hours
(3)

Tom works h hours at a job.
He charges P pounds.

(c) Write down a formula for P in terms of h.

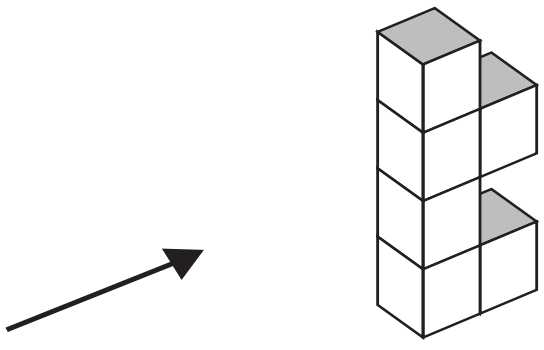
.....
(3)

(Total 8 marks)

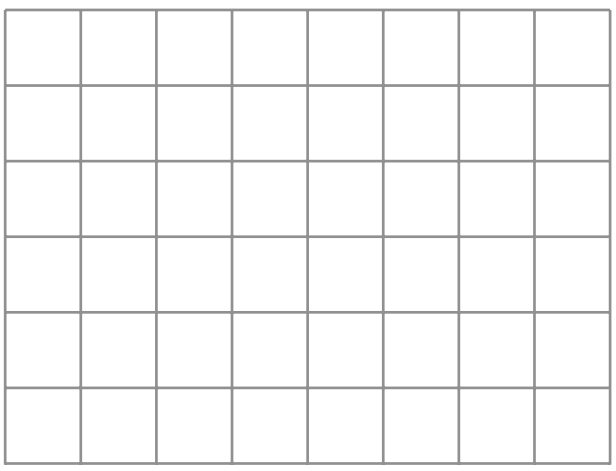
Q21

Leave blank

22. The diagram shows a solid object made of 6 identical cubes.

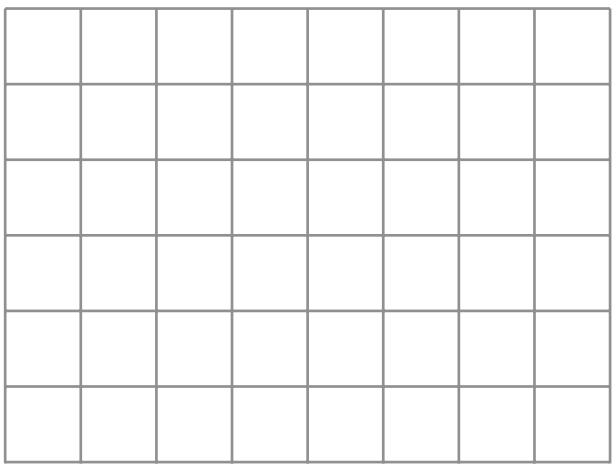


(a) On the grid below, draw the side elevation of the solid object from the direction of the arrow.



(2)

(b) On the grid below, draw the plan of the solid object.



(2)

(Total 4 marks)

Q22

Leave blank

23. The diagram shows a solid triangular prism.

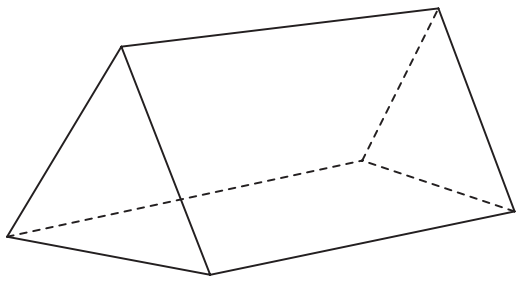


Diagram **NOT** accurately drawn

Write down

(i) the number of faces .....

(ii) the number of edges .....

(iii) the number of vertices .....

(Total 3 marks)

Q23

24. A concert ticket costs £45 plus a booking charge of 15%.

Work out the total cost of a concert ticket.

£ .....

(Total 3 marks)

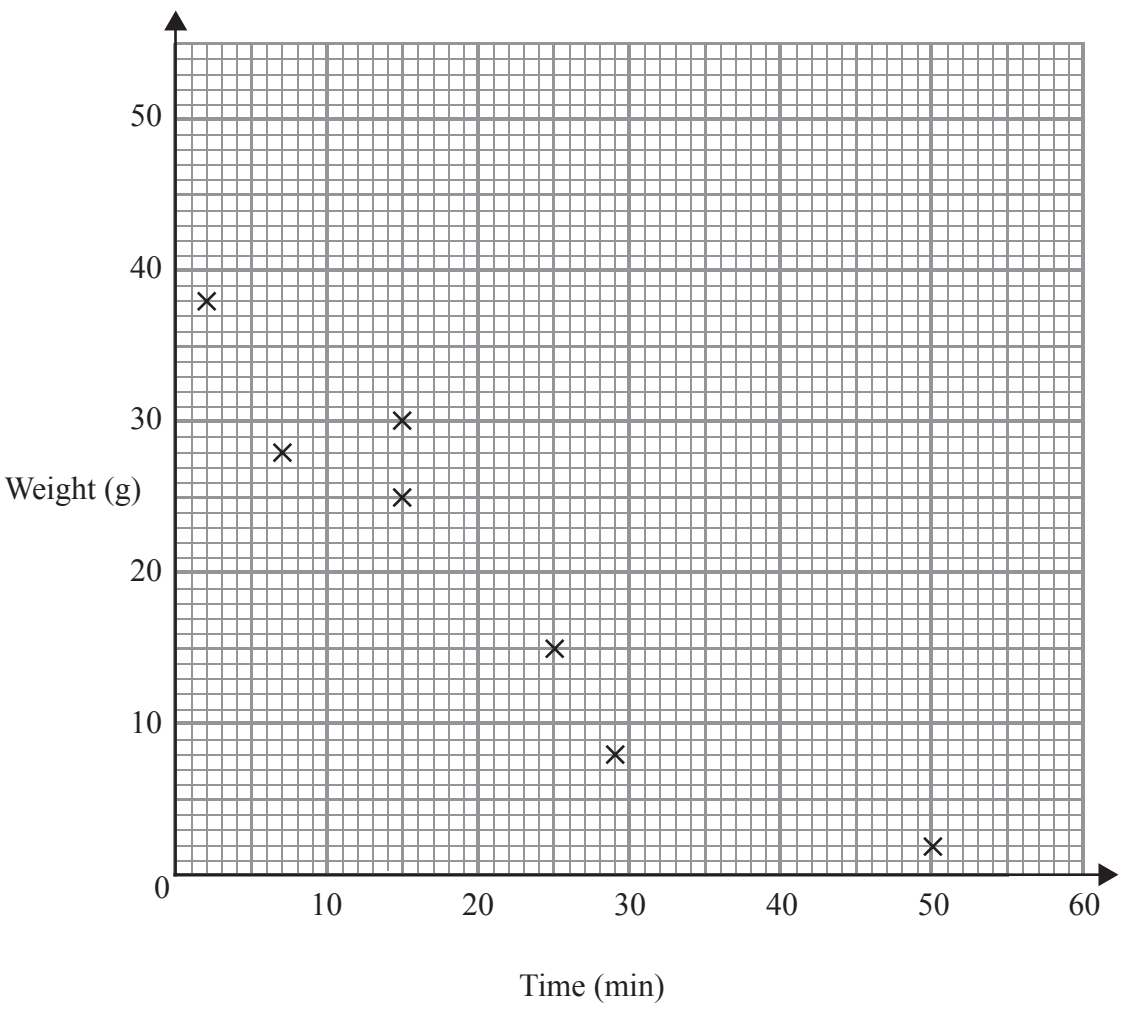
Q24

Leave blank

25. Identical candles were lit.
The table shows, for ten of these candles, the number of minutes each candle burnt before it went out and the weight left of each candle when it went out.

Time (min)	29	15	25	50	2	15	7	30	35	35
Weight (g)	8	25	15	2	38	30	28	20	15	12

(a) Complete the scatter graph. The first 7 points have been plotted for you.



(1)

(b) Describe the **correlation** between the time and the weight.

.....

(1)

(c) Draw a line of best fit on the scatter graph.

(1)

Leave blank

A candle burnt for 20 minutes.

(d) (i) Use your line of best fit to estimate the weight of this candle when it went out.

..... g

Another candle had a weight of 10 g when it went out.

(ii) Use your line of best fit to estimate the number of minutes this candle burnt before it went out.

..... min

(2)

Q25

(Total 5 marks)

26. Here is a list of the ingredients needed to make scones for **4** people.

Scones

Ingredients for **4** people

200 g of flour
2 eggs
50 g of currants
100 m*l* of milk

Work out how much of each ingredient is needed to make scones for **6** people.

..... g of flour

..... eggs

..... g of currants

..... m*l* of milk

(Total 3 marks)

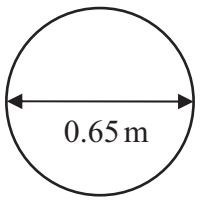
Q26

Leave blank

27. The diameter of a wheel on Harry's bicycle is 0.65 m.

Calculate the circumference of the wheel.
Give your answer correct to 2 decimal places.

Diagram **NOT** accurately drawn

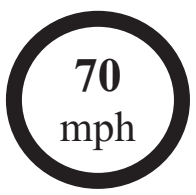


..... m

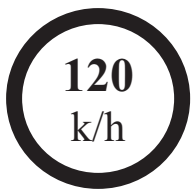
(Total 2 marks)

Q27

28.



Great Britain



Spain

The motorway speed limit in Great Britain is 70 miles per hour.
The motorway speed limit in Spain is 120 kilometres per hour.

Which of these speed limits is the lowest speed?
You must show working to explain your answer.

.....

(Total 3 marks)

Q28

TOTAL FOR PAPER: 100 MARKS

END