Please check the examination details below before entering your candidate information

Candidate surname	Other names

Pearson Edexcel
Level 1/Level 2 GCSE (9-1)

Centre Number | Candidate Number

Time 1 hour 30 minutes

Paper reference **1MA1/1F**

Mathematics

PAPER 1 (Non-Calculator)
Foundation Tier

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, Formulae Sheet (enclosed). Tracing paper may be used.

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided
  – *there may be more space than you need.*
- You must **show all your working**.
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- **Calculators may not be used.**



Information

- The total mark for this paper is 80
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.
- Good luck with your examination.

Turn over ▶

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Pearson

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all the stages in your working.

1 Change 40 centimetres into millimetres.

..... millimetres

(Total for Question 1 is 1 mark)

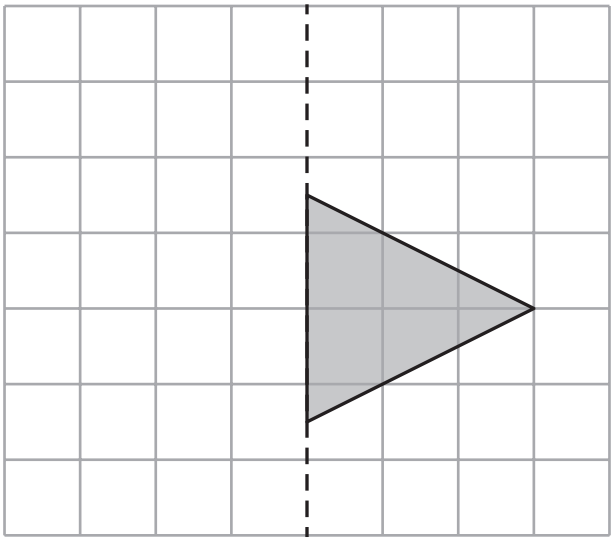
2 Simplify $e + e + e + e$

.....

(Total for Question 2 is 1 mark)

3 On the grid, reflect the shaded triangle in the mirror line.

mirror line



(Total for Question 3 is 1 mark)

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4 Write down the value of the 6 in the number 16 007

.....

(Total for Question 4 is 1 mark)

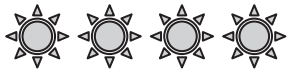
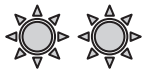
5 Write these numbers in order of size.
Start with the smallest number.

$\frac{1}{2}$ 0.55 45%

.....

(Total for Question 5 is 1 mark)

6 The pictogram gives information about the number of hours of sunshine on a Saturday and on a Sunday.

Saturday	
Sunday	

Key:  represents 2 hours of sunshine

Work out the number of hours of sunshine on Saturday.

..... hours

(Total for Question 6 is 1 mark)

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7 Simon buys some candles.
Each candle costs £2

Simon pays with a £20 note.
He gets £6 change.

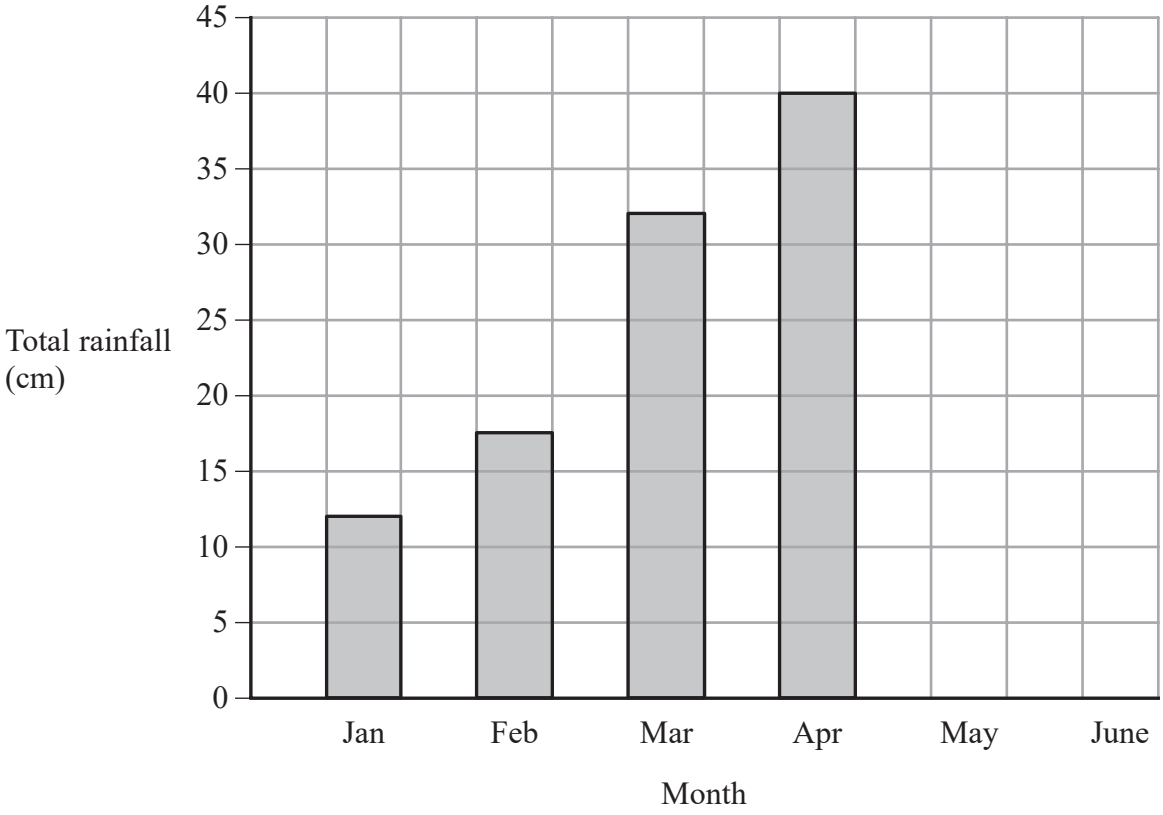
Work out the number of candles Simon buys.

.....

(Total for Question 7 is 3 marks)

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8 The bar chart shows information about the total rainfall each month for four months in a city.



In May, the total rainfall was 35 cm.
In June, the total rainfall was 20 cm.

(a) Use this information to complete the bar chart.

(2)

Rupa says,

"In February there was 15.5 cm of rainfall because the bar is half a square above 15"

(b) Explain why Rupa is incorrect.

.....

.....

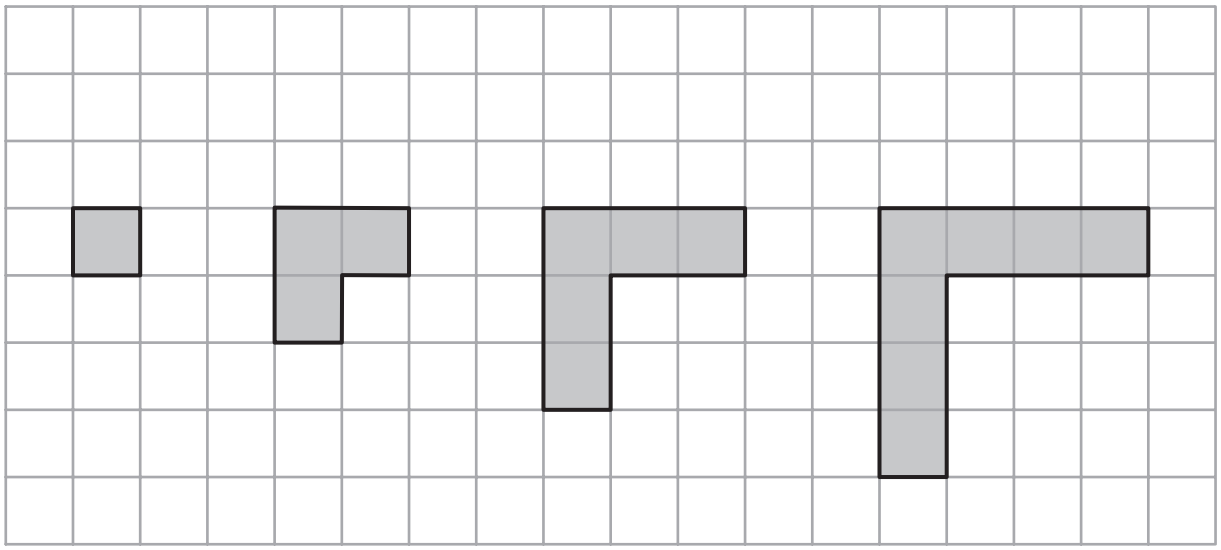
.....

(1)

(Total for Question 8 is 3 marks)

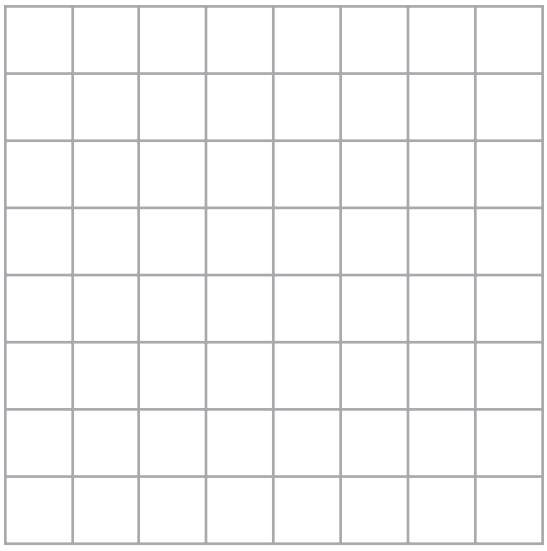
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9 Here is a sequence of patterns made from grey square tiles.



Pattern number 1 | Pattern number 2 | Pattern number 3 | Pattern number 4

(a) On the grid below, draw Pattern number 5



(1)

(b) Complete the table.

Pattern number	1	2	3	4	5	6
Number of squares	1	3	5	7		

(1)

(Total for Question 9 is 2 marks)

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10 In Norway last year, the lowest temperature was −15°C.
In Norway last year, the highest temperature was 42°C greater than the lowest temperature.

Work out the highest temperature in Norway last year.

.....°C

(Total for Question 10 is 2 marks)

11 At the end of October, Fiona's electricity meter reads 88 738 kWh.
At the end of November, her electricity meter reads 89 198 kWh.

Each kWh of electricity Fiona uses costs 16p

Work out how much Fiona had to pay for the electricity she used in November.

.....

(Total for Question 11 is 4 marks)

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12 (a) Work out $\frac{5}{12} + \frac{1}{6}$

.....

(2)

(b) Work out $\frac{3}{10} \times \frac{5}{8}$

Give your answer as a fraction in its simplest form.

.....

(2)

(Total for Question 12 is 4 marks)

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13 There are 15 sweets in a jar.
4 of the sweets are red.

Jill takes at random a sweet from the jar.

(a) Write down the probability that the sweet is red.

.....

(1)

There are only green counters and blue counters in a bag.

A counter is taken at random from the bag.
The probability that the counter is green is 0.3

(b) Find the probability that the counter is blue.

.....

(1)

(Total for Question 13 is 2 marks)

14 $y = 6x - 5$

Work out the value of y when $x = 4$

$y =$ .....

(Total for Question 14 is 2 marks)

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15 (a) Work out an estimate for the value of 92×1.63
You must show all your working.

.....

(2)

Given that

$$2.96 \times 3.2 = 9.472$$

(b) find the value of 29.6×32

.....

(1)

(Total for Question 15 is 3 marks)

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16 Savio leaves his home at 07 30 to drive to work.

He drives a distance of 50 miles.

Savio thinks he drives at an average speed of 40 miles per hour.

(a) If Savio is correct, at what time will he arrive at work?

.....

(3)

In fact, Savio's average speed was greater than 40 miles per hour.

(b) How does this affect your answer to part (a)?

.....

.....

.....

(1)

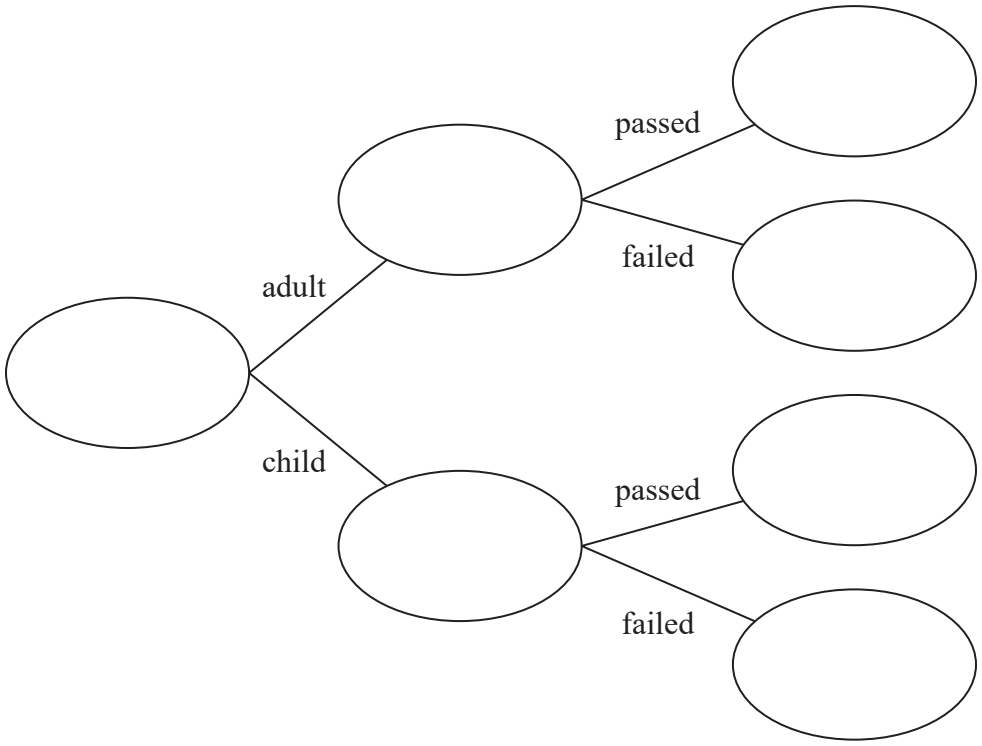
(Total for Question 16 is 4 marks)

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17 72 people did a test.

20 of the 32 adults who did the test passed.
6 of the children who did the test failed.

(a) Use this information to complete the frequency tree.



(3)

One of these people is picked at random.

(b) Find the probability that this person is an adult who failed the test.

.....

(2)

(Total for Question 17 is 5 marks)

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18 Here is a list of ingredients for making 10 scones.

Ingredients for 10 scones

75 g	butter
350 g	self-raising flour
40 g	sugar
150 m*l*	milk
2	eggs

Mia wants to make 25 scones.
Work out how much sugar she needs.

..... g

(Total for Question 18 is 2 marks)

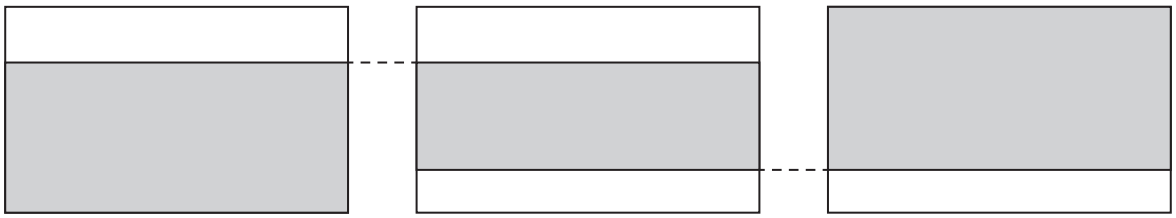
19 Increase 240 by 20%

.....

(Total for Question 19 is 3 marks)

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20 The diagram shows three identical rectangles **A**, **B** and **C**.



Rectangle **A** Rectangle **B** Rectangle **C**

$\frac{5}{8}$ of rectangle **A** is shaded.

$\frac{9}{11}$ of rectangle **C** is shaded.

Work out the fraction of rectangle **B** that is shaded.

.....

(Total for Question 20 is 3 marks)

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21 Here are the ages, in years, of 15 people.

19	28	29	33	27
27	37	25	27	37
17	45	47	25	26

Show this information in a stem and leaf diagram.

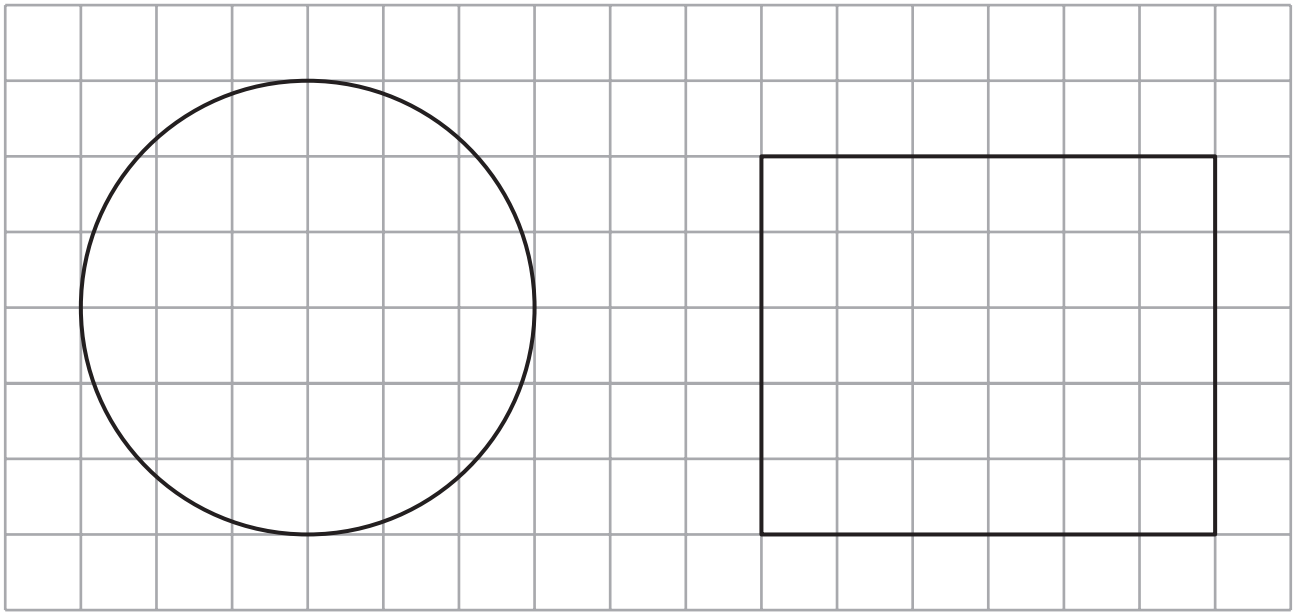


Key:

(Total for Question 21 is 3 marks)

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22 The centimetre grid shows the plan and the front elevation of a cylinder.



Plan

Front elevation

Work out the volume of the cylinder.
Give your answer in terms of π

..... cm^3

(Total for Question 22 is 3 marks)

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23 Solve $7x - 27 < 8$

.....

(Total for Question 23 is 2 marks)

24 Write 124 as a product of its prime factors.

.....

(Total for Question 24 is 2 marks)

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25 A delivery company has a total of 160 cars and vans.

the number of cars : the number of vans = 3 : 7

Each car and each van uses electricity or diesel or petrol.

$\frac{1}{8}$ of the cars use electricity.
25% of the cars use diesel.
The rest of the cars use petrol.

Work out the number of cars that use petrol.
You must show all your working.

.....

(Total for Question 25 is 5 marks)

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26 (a) Write 1.63×10^{-3} as an ordinary number.

.....

(1)

(b) Write 438 000 in standard form.

.....

(1)

(c) Work out $(4 \times 10^{3}) \times (6 \times 10^{-5})$
Give your answer in standard form.

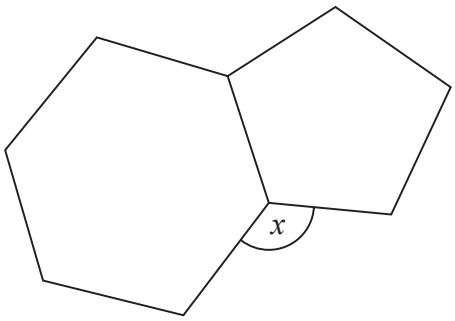
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(2)

(Total for Question 26 is 4 marks)

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27 Here is a regular hexagon and a regular pentagon.



Work out the size of the angle marked x.
You must show all your working.

.....°

(Total for Question 27 is 3 marks)

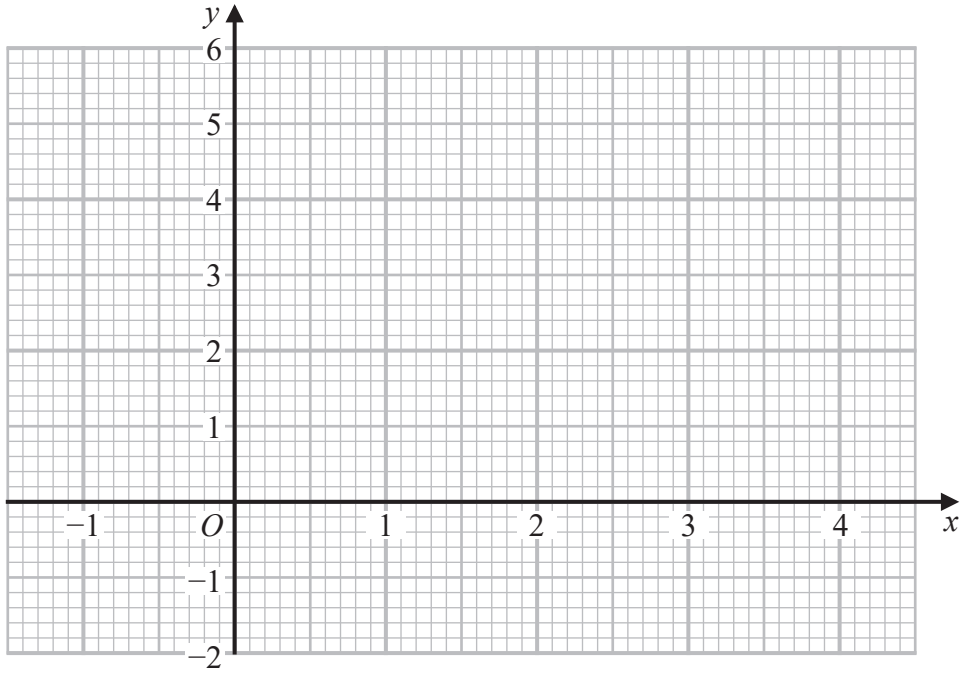
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28 (a) Complete the table of values for $y = x^2 - 3x + 1$

x	−1	0	1	2	3	4
y		1	−1			

(2)

(b) On the grid, draw the graph of $y = x^2 - 3x + 1$ for values of x from −1 to 4



(2)

(c) Using your graph, find estimates for the solutions of the equation $x^2 - 3x + 1 = 0$

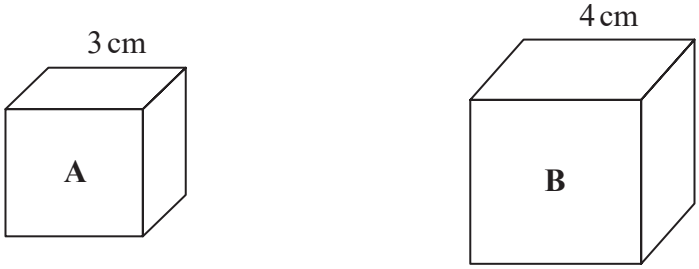
.....

(2)

(Total for Question 28 is 6 marks)

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29 Here are two cubes, **A** and **B**.



Cube **A** has a mass of 81 g.

Cube **B** has a mass of 128 g.

Work out

the density of cube **A** : the density of cube **B**

Give your answer in the form $a : b$, where a and b are integers.

.....

(Total for Question 29 is 3 marks)

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30 Write down the value of sin 30°

.....

(Total for Question 30 is 1 mark)

TOTAL FOR PAPER IS 80 MARKS

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