

Write your name here

Surname

Other names

Centre Number

Candidate Number

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

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Mathematics

Paper 1 (Non-Calculator)

Foundation Tier

Mock Set 3 – Autumn 2017

Time: 1 hour 30 minutes

Paper Reference

1MA1/1F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.
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.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

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 (a) Write the following numbers in order of size.
Start with the smallest number.

-8 2 -12 5 10



.....
(1)

- (b) Write the following numbers in order of size.
Start with the smallest number.

1.073 1.37 1.307 1.703

.....
(1)

(Total for Question 1 is 2 marks)

- 2 Write 27% as a fraction.



.....
(Total for Question 2 is 1 mark)

- 3 Write 0.09 as a fraction.



.....
(Total for Question 3 is 1 mark)

- 4 Write 2549 correct to the nearest 10



.....
(Total for Question 4 is 1 mark)

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5 In the space below, draw a hexagon.



(Total for Question 5 is 1 mark)

6 Find the number that is exactly half way between -4 and 10



(Total for Question 6 is 2 marks)

7 Work out $\pounds 3.89 \times 5$

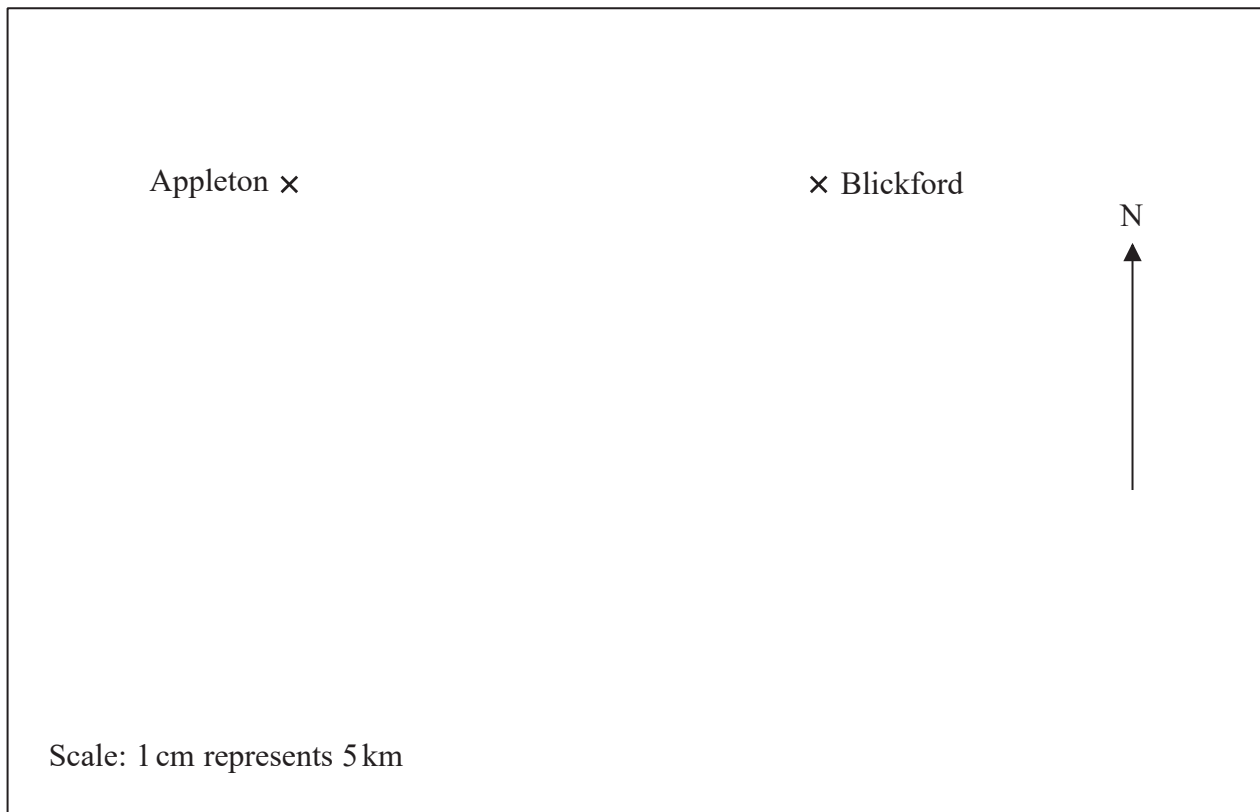


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(Total for Question 7 is 2 marks)



8 Here is part of an accurately drawn map showing two towns, Appleton and Blickford.



(a) Find, in kilometres, the real distance between Appleton and Blickford.



..... km
(2)

Cookwood is a town 22 km due South of Blickford.

(b) On the map, mark with a cross (×) the position of Cookwood.

(2)

(Total for Question 8 is 4 marks)



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9 Here are some prices in a cafe.

Prices	
Tea	£1.60
Coffee	£2.25
Milk	95p
Toast	£1.85
Bacon sandwich	£3.30
Egg sandwich	£2.95

Jack orders

- 2 teas
- 1 coffee
- 1 toast
- 1 bacon sandwich

Jack only has a £10 note.

Does he have enough money to pay the bill?

You must show how you get your answer.

(Total for Question 9 is 3 marks)





- 10 There are only 9 counters in a bag.
There are
- 2 red counters
 - 3 green counters
 - 4 blue counters

Lethna takes at random a counter from the bag.

(a) Write down the probability that she takes

(i) a blue counter,

.....
(1)

(ii) a white counter.

.....
(1)

There are only 3 buttons in a box.
There is

- 1 pink button
- 1 yellow button
- 1 brown button

Indre takes a button from the box.
She also throws an ordinary dice once.

(b) List all the possible outcomes.

.....
.....
.....
(2)

(Total for Question 10 is 4 marks)

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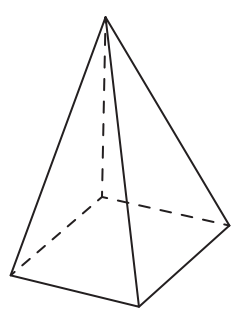
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11 (a) Write down the number of faces of a cube.

.....
(1)

Here is a square-based pyramid.



(b) Write down the number of edges.

.....
(1)

(Total for Question 11 is 2 marks)

12 Mel drives a bus 39 weeks in a year.

She drives the bus an average of 298 miles each week.



(a) Work out an estimate for the total number of miles Mel drives the bus in one year.

.....miles
(2)

(b) Is your answer to part (a) an underestimate or an overestimate?
You must give a reason for your answer.

.....
.....
(1)

(Total for Question 12 is 3 marks)

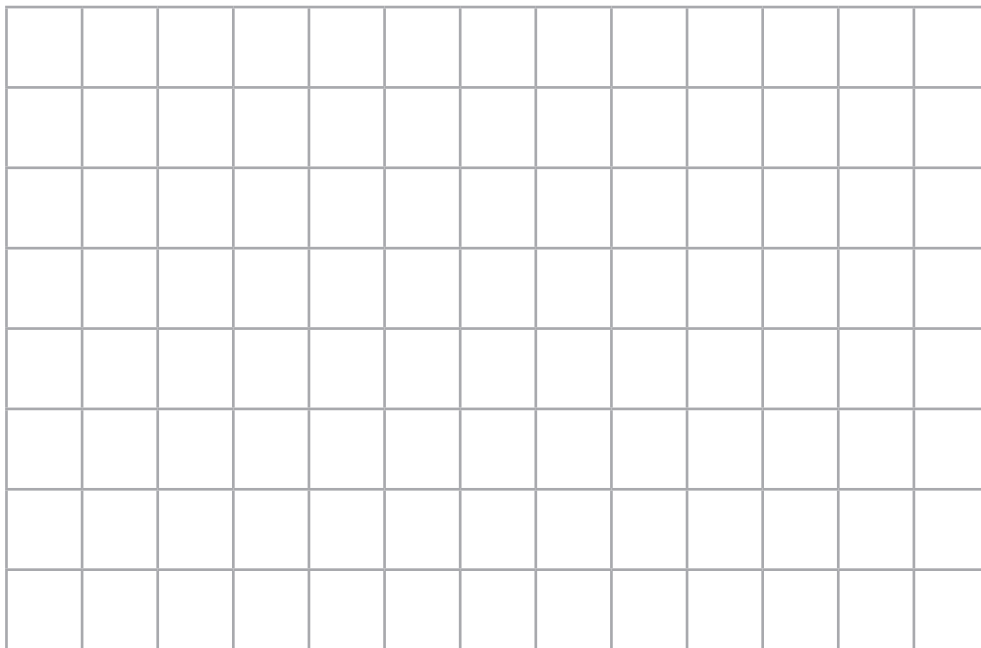


13 The table shows information about the favourite instrument played by each of 24 students.



Instrument	Number of boys	Number of girls
guitar	6	2
violin	2	5
keyboard	3	2
recorder	1	3

(a) On the grid below, draw a suitable diagram to show this information.



(4)

One of the students is chosen at random.

(b) What is the probability that this student's favourite instrument is **not** the recorder?

.....
(2)

(Total for Question 13 is 6 marks)



14 Work out 172×34



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(Total for Question 14 is 3 marks)



S 5 7 4 9 1 A 0 9 2 4



15 There are 360 golf balls in a bucket.
There are

- 60 yellow golf balls
- 50 orange golf balls
- 40 pink golf balls

The rest of the golf balls are white.

What fraction of the golf balls are white?
Give your fraction in its simplest form.

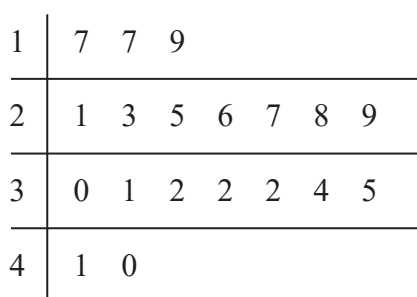
(Total for Question 15 is 3 marks)

16 Here are the ages, in years, of 20 footballers.



- 17 32 25 41 23 26 29 29 32 30
- 21 17 40 35 34 28 32 19 27 31

Wayne drew this stem and leaf diagram to show this information.



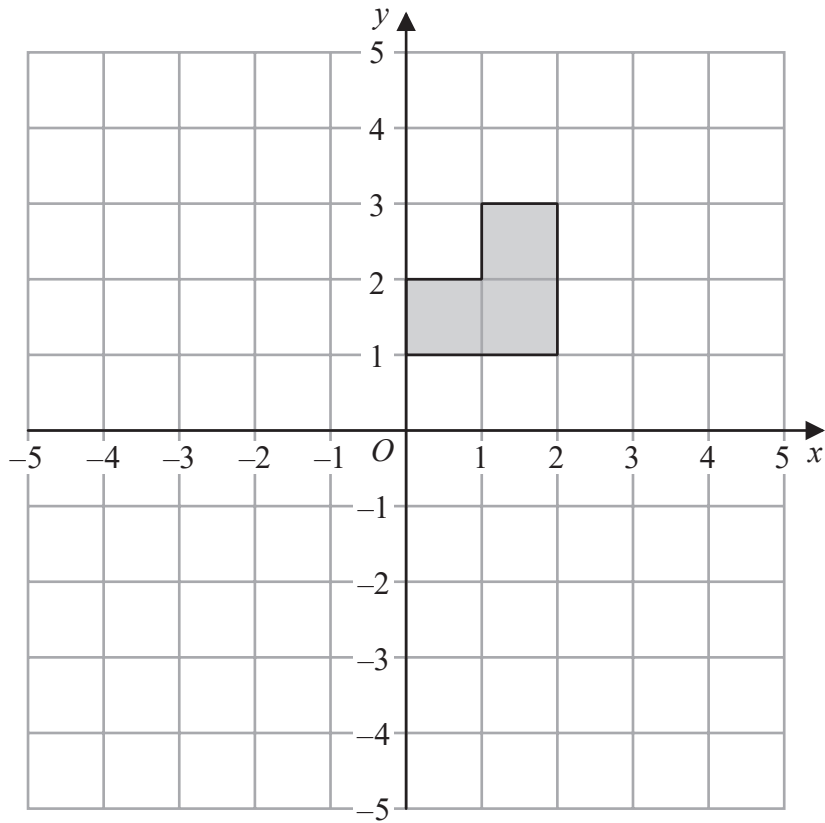
Key: 1|7 represents 17 footballers

Write down two things that are wrong with the stem and leaf diagram.

- 1
- 2

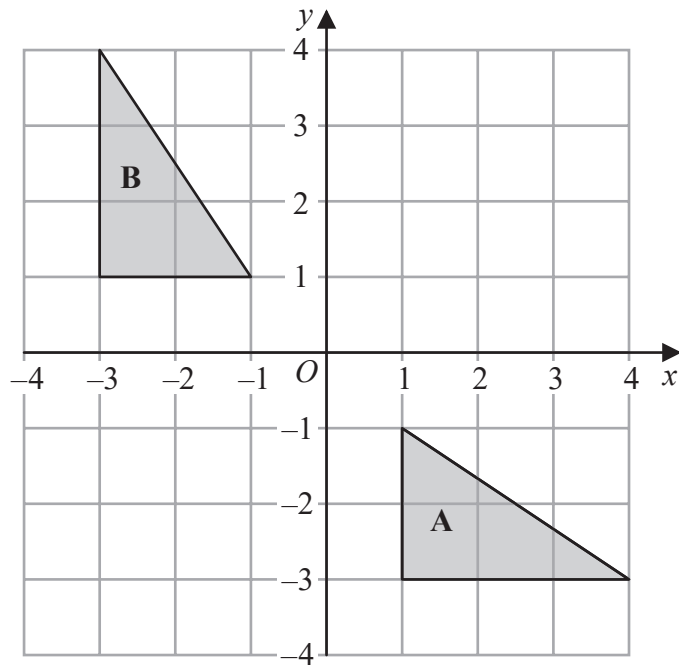
(Total for Question 16 is 2 marks)





(a) On the grid above, reflect the shaded shape in the line with equation $x = -1$

(2)



Triangle A is a reflection of triangle B.

(b) Write down the equation of the line of reflection.

.....
(1)

(Total for Question 17 is 3 marks)

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18 A number of students go on a coach trip.

The cost of hiring the coach is £180
The school pays 80% of this cost.
The students pay the rest of the cost.

Each student pays £1.50

Work out the number of students on the coach trip.

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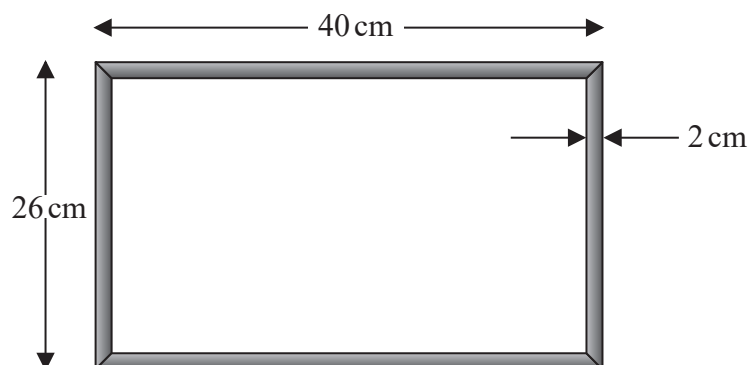
.....
(Total for Question 18 is 4 marks)





19 Peter has 4 photos.
Each photo is in the shape of a rectangle with dimensions 12 cm by 8 cm.

Peter is going to enlarge each photo by a scale factor of 1.5
He wants to put all 4 enlarged photos in the picture frame shown below.



The dimensions of the outside of the picture frame are 40 cm by 26 cm.
The width of each side of the frame is 2 cm.

Can the 4 enlarged photos be put in the picture frame so they do **not** overlap?
You must show how you get your answer.

(Total for Question 19 is 4 marks)



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20 (a) Write $\frac{3^5 \times 3^4}{3^2}$ as a power of 3

.....
(2)

(b) Write down the value of 12^0

.....
(1)

(c) Write down the value of 3^{-2}

.....
(1)

(Total for Question 20 is 4 marks)

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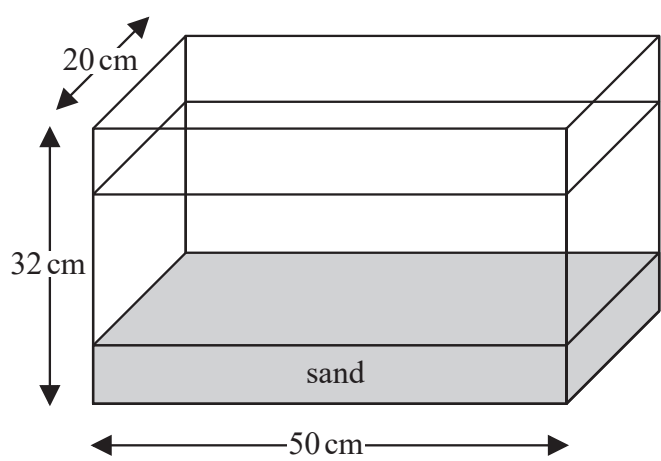
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21 The diagram shows a fish tank in the shape of a cuboid.



The dimensions of the tank are 50 cm by 32 cm by 20 cm.

The tank is $\frac{3}{4}$ full of water and sand.

The ratio of the volume of water to the volume of sand is 5 : 1

Work out the number of litres of water in the tank.

You must show all your working.

.....litres

(Total for Question 21 is 5 marks)





22 In a sale, the price of a cooker is reduced by 50%
At the end of the sale, the sale price of the cooker is increased by 50%

Betty says,

“The cooker is now the same price as it was before the sale.”

Is Betty correct?

Explain why.

.....

.....

.....

(Total for Question 22 is 2 marks)

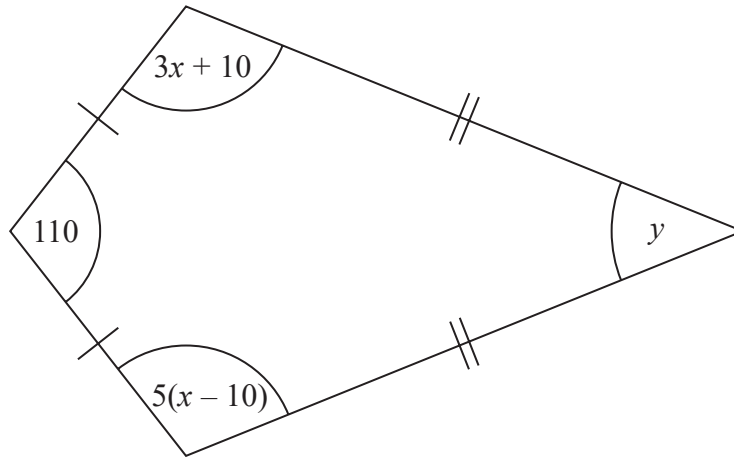
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23 Here is a kite.



All angles are measured in degrees.

Work out the value of y .

(Total for Question 23 is 4 marks)



24 Solve the simultaneous equations

$$\begin{aligned}3x - 2y &= -5 \\2x - 4y &= 2\end{aligned}$$



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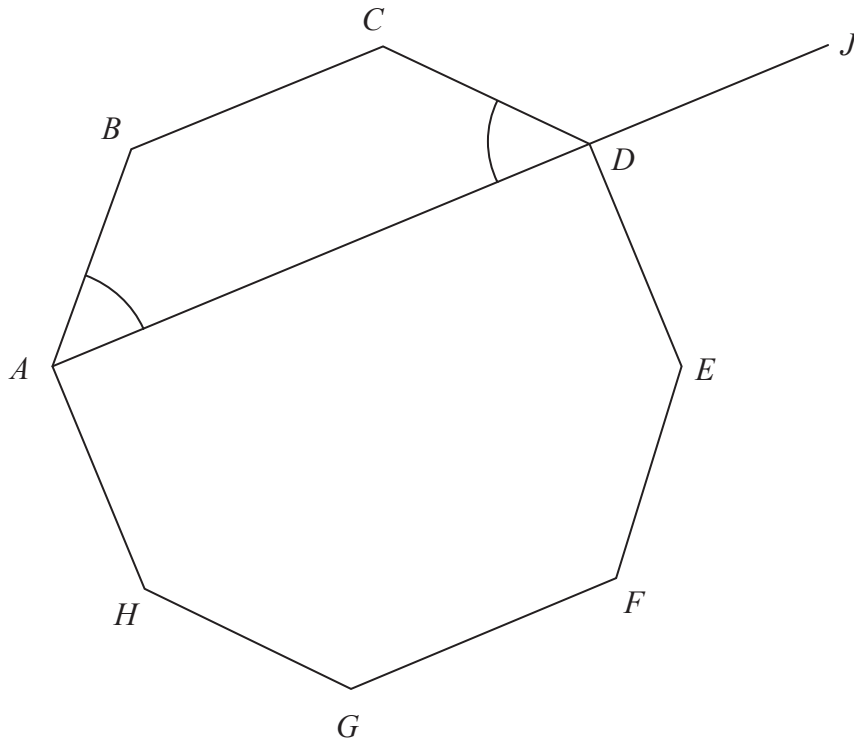
$x = \dots\dots\dots$

$y = \dots\dots\dots$

(Total for Question 24 is 3 marks)

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$ABCDEFGH$ is a regular octagon.
 ADJ is a straight line.

angle BAD = angle CDA

Show that angle $CDJ = 135^\circ$

(Total for Question 25 is 4 marks)



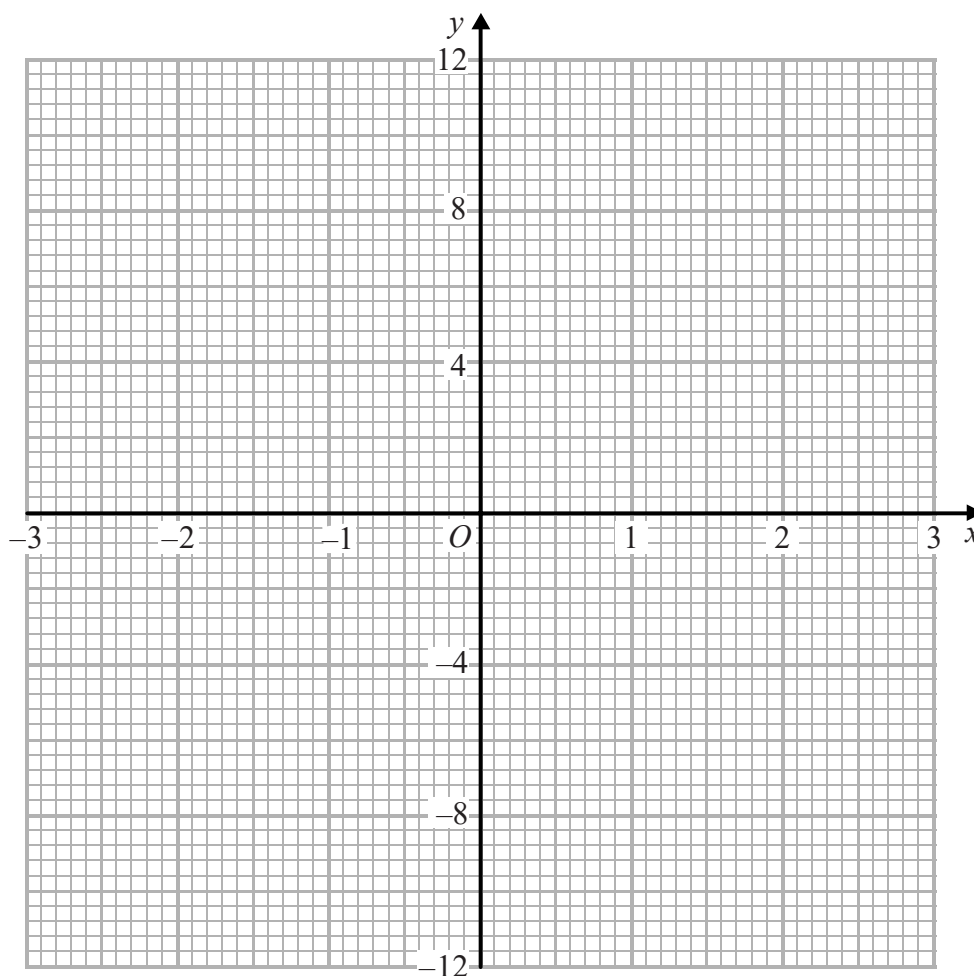


26 (a) Complete the table of values for $y = x^3 + x^2 - 2x + 1$

x	-3	-2	-1	0	1	2
y		1	3		1	

(2)

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



(2)

(Total for Question 26 is 4 marks)

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27 Here are the first five terms of an arithmetic sequence.

2 7 12 17 22

The n th term of a different arithmetic sequence is $4n + 15$

The last term of each sequence is the same number.
There are the same number of terms in each sequence.

Find the number of terms in each sequence.

.....
(Total for Question 27 is 3 marks)

TOTAL FOR PAPER IS 80 MARKS



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