Write your name here

Surname	Other names

Pearson Edexcel GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics A

Paper 2 (Calculator)

Foundation Tier

Friday 6 November 2015 – Morning
Time: 1 hour 45 minutes

Paper Reference
1MA0/2F

You must have: Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser, calculator. 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.*
- **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.

Information

- The total mark for this paper is 100
- The marks for **each** question are shown in brackets
  – *use this as a guide as to how much time to spend on each question.*
- Questions labelled with an **asterisk** (*) are ones where the quality of your written communication will be assessed.

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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P 4 5 8 3 9 A 0 1 2 8

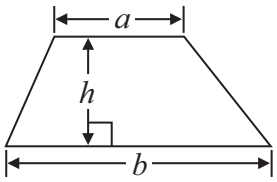
PEARSON

GCSE Mathematics 1MA0

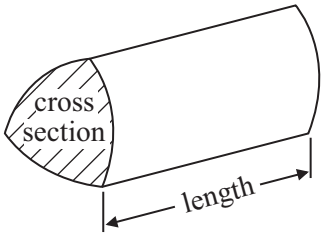
Formulae: Foundation Tier

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

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



Volume of prism = area of cross section × length

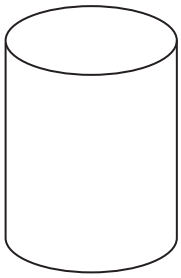


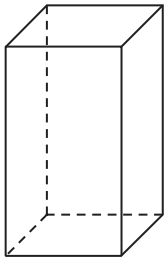
Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 Write down the mathematical name of each of these 3-D shapes.





(i) .....

(ii) .....

(Total for Question 1 is 2 marks)

2 A film starts at 1830
The film ends at 2050

(a) How long does the film last?

.....

(2)

Jan watches this film and then catches a bus home.

The bus leaves the bus stop 18 minutes after the film ends.
The bus takes 24 minutes to get to Jan's home.

*(b) Will Jan be home before 2130?
You must show all your working.

(3)

(Total for Question 2 is 5 marks)

3 Here is a shopping bill.

Item	Cost
apples	£1.69
orange juice	98p
3 tins of peas at 37p each	.....
1 packet of cheese	£4.52
salmon	.....
Total cost	£10.98

(a) Complete the shopping bill by writing in the missing costs.

(3)

Pat wants to buy a book.
The book costs £5.50

Pat has a voucher for £1.70
She also has 3 pound coins and 3 twenty pence coins.
She wants to buy the book with the voucher and the coins.

(b) Is this enough for Pat to buy the book?
You must show all your working.

(3)

(Total for Question 3 is 6 marks)

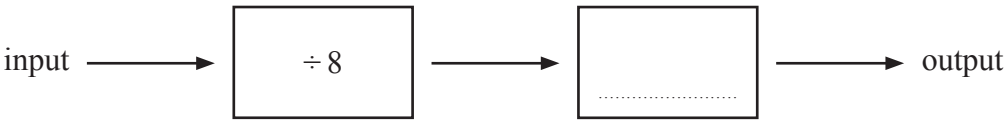
4 Here is a two-stage number machine.

(a) Complete the table.

input	output
1	2
3	14
6	.....
.....	50

(2)

Here is a different two-stage number machine.



When the input is 24, the output is 10

(b) Complete the number machine.

(1)

(Total for Question 4 is 3 marks)

5 (a) Solve $y + 6 = 11$

$y =$ .....

(1)

(b) Solve $5p = 14$

$p =$ .....

(1)

(c) Solve $4x + 3 = 9$

$x =$ .....

(2)

(Total for Question 5 is 4 marks)

***6** The table shows information about the numbers of cars sold in Tyler's garage and in Fletcher's garage for each of four months.

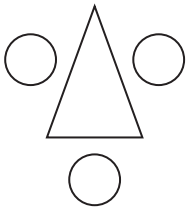
	Jan	**Feb**	**Mar**	**Apr**
Tyler	20	16	36	20
Fletcher	22	16	32	24

Viv wants to compare this information.

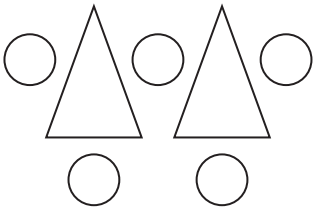
On the grid, draw a suitable diagram or chart.

(Total for Question 6 is 4 marks)

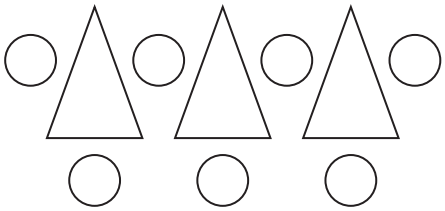
7 Here is a sequence of patterns made from triangles and circles.



pattern number 1

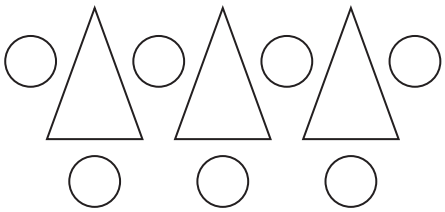


pattern number 2



pattern number 3

(a) Complete the diagram below to show pattern number 4



(1)

(b) Find the number of circles in pattern number 7

.....

(2)

Jane says pattern number 17 has 36 circles.

Jane is wrong.

(c) Explain why.

.....

.....

(1)

(Total for Question 7 is 4 marks)

8

(a) Write down the fraction of this shape that is shaded.

.....

(1)

(b) Shade 40% of this shape.

(1)

(c) Work out 0.75 of 200

.....

(2)

Michael says $\frac{5}{7} - \frac{3}{5} = \frac{2}{2}$

Michael is wrong.

*(d) Explain why.

(2)

(Total for Question 8 is 6 marks)

9 The table gives information about six energy companies.

Energy company	Gas price increase (%)	Electricity price increase (%)
E-top	9.4	7.7
TMF Energy	10.8	10.8
U Power	8.5	9.0
Plus Power	11.1	9.3
Local Gas	8.4	10.4
KLY	8.2	8.3

(a) Which energy company has the greatest percentage gas price increase?

.....

(1)

(b) Which energy company has the same percentage price increase for both gas and electricity?

.....

(1)

(c) Work out the range of the percentage gas price increases.

.....%

(2)

(Total for Question 9 is 4 marks)

10 At 1am on Monday, the temperature in Oslo was –5 °C.
At 1pm on Monday, the temperature in Oslo was 12 °C higher than the temperature at 1am.
At 1am on Tuesday, the temperature in Oslo was 18 °C lower than the temperature at 1pm on Monday.

(a) Work out the temperature in Oslo at 1am on Tuesday.

.....°C

(2)

In Malaga, the temperature is 18 °C.
In Granada, the temperature is –6 °C.

(b) Work out the difference in temperature between Malaga and Granada.

.....°C

(2)

(Total for Question 10 is 4 marks)

11 10 adults stand in a queue.

6 of the adults have **no** children with them.
The rest of the adults each have one child with them.

Work out the total number of adults and children in the queue.

.....

(Total for Question 11 is 2 marks)

12 Here is a list of 11 numbers.

4 3 –6 2 4 5 4 –5 6 2 3

(a) Write down the mode.

.....

(1)

(b) Find the median.

.....

(2)

(c) Work out the mean.

.....

(2)

(Total for Question 12 is 5 marks)

13 n is a positive whole number.

(a) What type of positive whole number is $2n - 1$?

.....

(1)

(b) Write down an expression for the nth multiple of 5

.....

(1)

Alan has 4 boxes of cakes.
There is the same number of cakes in each box.
Alan has a total of t cakes.

(c) Write down an expression, in terms of t, for the number of cakes in each box.

.....

(1)

(Total for Question 13 is 3 marks)

14 (a) Draw an angle of 40° at the point *P*.

(1)

(b) Construct an equilateral triangle with sides of length 6 cm.

(2)

(Total for Question 14 is 3 marks)

15 $p = 2e + 3g$

$e = 6.5$
$g = 2$

Work out the value of p.

.....

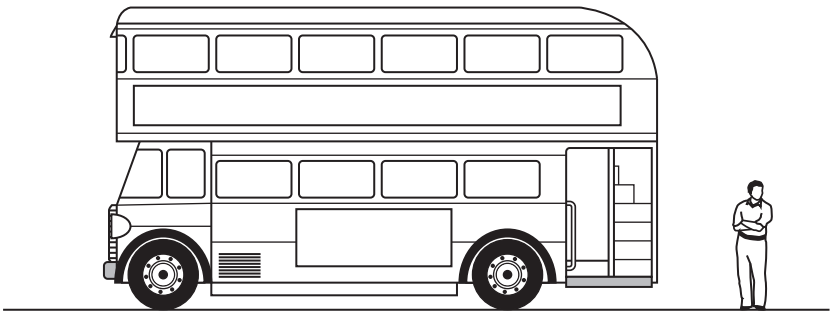
(Total for Question 15 is 2 marks)

16 Lin is carrying out a survey at a leisure centre.
She wants to collect information so she can find out the most popular sporting activity.

Design a suitable table for a data collection sheet Lin can use.

(Total for Question 16 is 3 marks)

17



The picture shows a bus driver standing next to his bus.
The bus driver and the bus are drawn to the same scale.

Work out an estimate for the height of the bus.
You must clearly show how you get your answer.

.....

(Total for Question 17 is 3 marks)

18

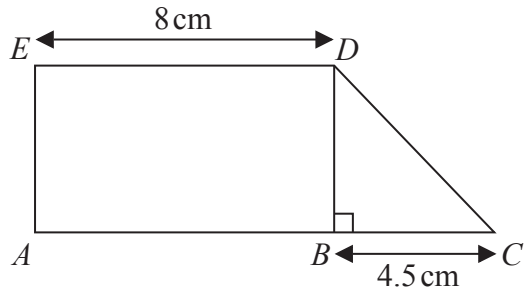


Diagram **NOT** accurately drawn

ABDE is a rectangle.
ED is 8 cm.

BDC is a right-angled triangle.
BC is 4.5 cm.

ABC is a straight line.

The area of the rectangle *ABDE* is 40 cm^2.
Work out the area of the triangle *BDC*.

..... cm^2

(Total for Question 18 is 3 marks)

19 Use your calculator to work out

(a) $\sqrt[3]{42.875}$

.....

(1)

(b) $\dfrac{3.4 \times 5.2}{2.6 - 0.39}$

.....

(2)

(Total for Question 19 is 3 marks)

20 (a) (i) Shade 4 sectors on diagram **A** so that it has rotational symmetry of order 4

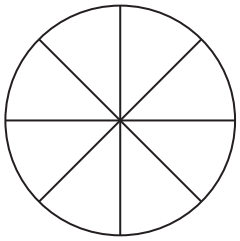


diagram **A**

(ii) Shade 4 sectors on diagram **B** so that it has rotational symmetry of order 2

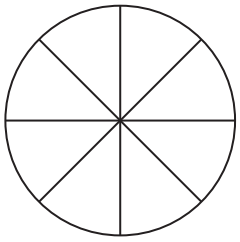
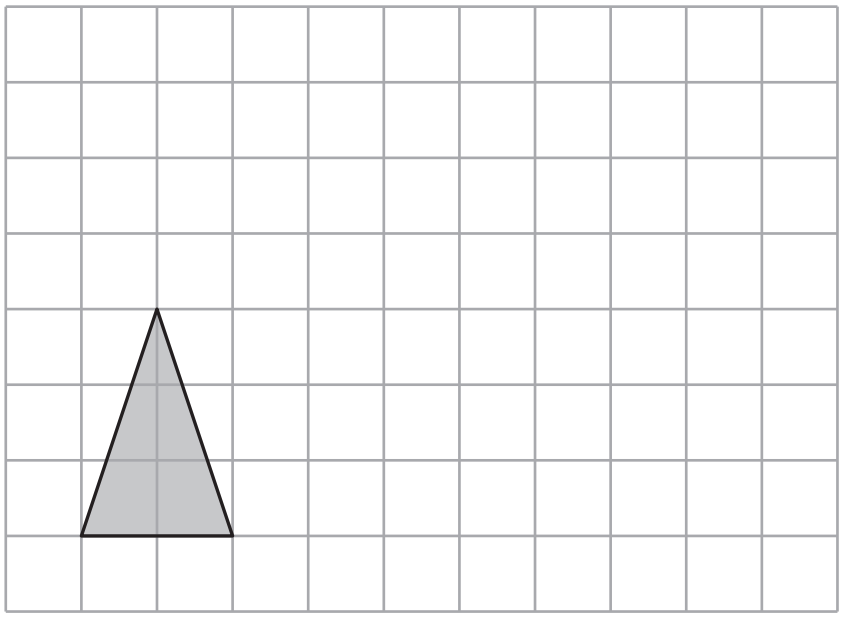


diagram **B**

(2)

(b) On the grid, draw an enlargement of the shaded triangle with a scale factor of 2



(2)

(Total for Question 20 is 4 marks)

21 There are only red counters and blue counters in a bag.
The ratio of the number of red counters to the number of blue counters is 4 : 6

(a) Write this ratio in its simplest form.

.....

(1)

A counter is to be taken at random from the bag.

(b) Write down the probability that the counter will be blue.

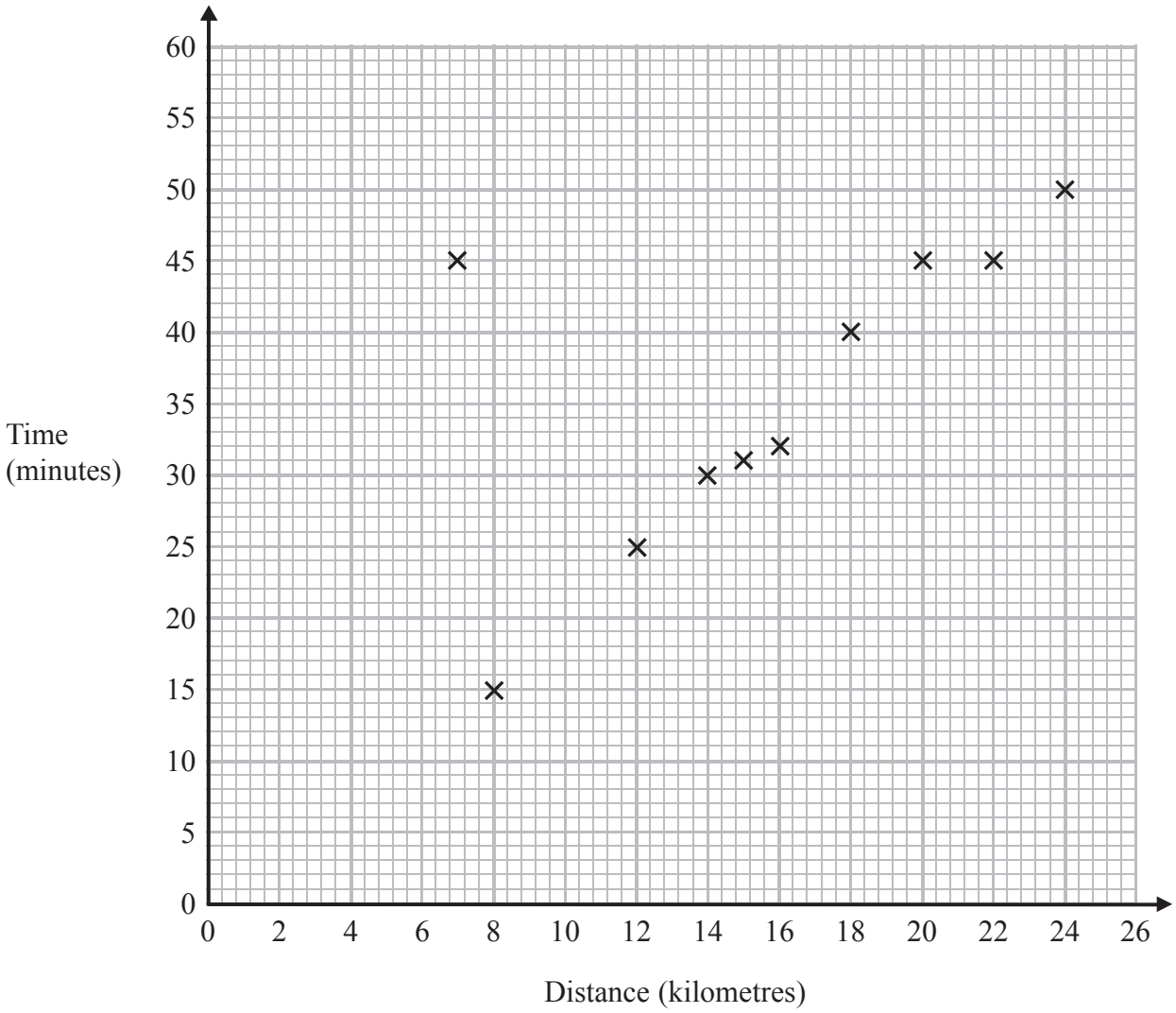
.....

(2)

(Total for Question 21 is 3 marks)

22 A delivery driver records for each delivery the distance he drives and the time taken.

The scatter graph shows this information.



For another delivery he drives 22 kilometres and takes 50 minutes.

(a) Show this information on the scatter graph.

(1)

(b) What type of correlation does the scatter graph show?

.....

(1)

The driver has to drive a distance of 10 km for his next delivery.

(c) Estimate the time taken for this delivery.

..... minutes
(2)

During one of the deliveries, the driver was delayed by road works.

(d) Using the graph write down the time taken for this delivery.

..... minutes
(1)

(Total for Question 22 is 5 marks)

23 Ali is y years old.
Bhavara is twice as old as Ali.
Ceris is 3 years younger than Ali.

The total of their ages is 125 years.

Work out the age of each person.

Ali ..... years

Bhavara ..... years

Ceris ..... years

(Total for Question 23 is 4 marks)

24 Celina and Zoe both sing in a band.

One evening the band plays for 80 minutes.
Celina sings for 65% of the 80 minutes.

Zoe sings for $\frac{5}{8}$ of the 80 minutes.

Celina sings for more minutes than Zoe sings.

Work out for how many more minutes.
You must show all your working.

.....minutes

(Total for Question 24 is 4 marks)

25 (a) Simplify $\frac{n^3}{n}$

.....

(1)

(b) Simplify $a^3 \times a^4$

.....

(1)

(Total for Question 25 is 2 marks)

***26** Here is part of a field.

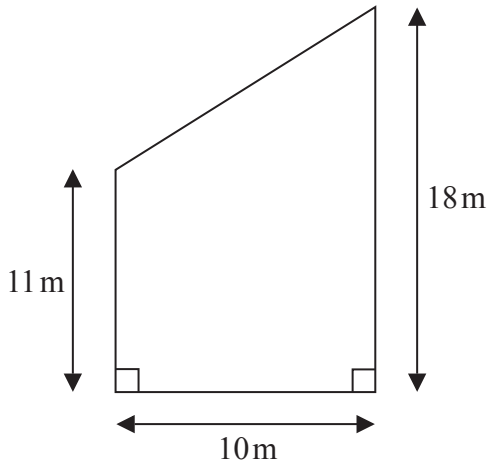


Diagram **NOT** accurately drawn

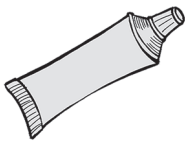
This part of the field is in the shape of a trapezium.
A farmer wants to put a fence all the way around the edge of this part of the field.

The farmer has 50 m of fence.

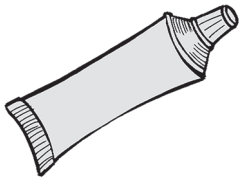
Does he have enough fence?
You must show all your working.

(Total for Question 26 is 5 marks)

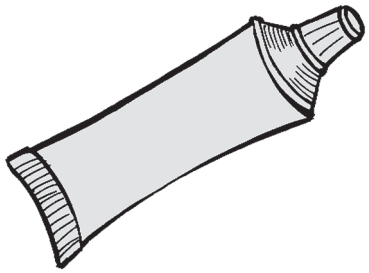
*27 Toothpaste is sold in three different sizes of tube.



50 m*l*



75 m*l*



125 m*l*

A 50 m*l* tube costs £1.09
A 75 m*l* tube costs £1.68
A 125 m*l* tube costs £2.69

Which tube of toothpaste is the best value for money?
You must show all your working.

(Total for Question 27 is 4 marks)

TOTAL FOR PAPER IS 100 MARKS

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