**Pearson
Edexcel GCSE**

Centre Number

Candidate Number

Mathematics A
Paper 2 (Calculator)

Foundation Tier

| Monday 8 June 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 ▶

PEARSON

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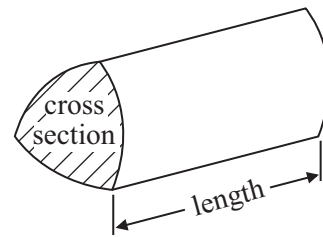**Anything you write on this formulae page will gain NO credit.**

Area of trapezium = $\frac{1}{2}(a + b)h$
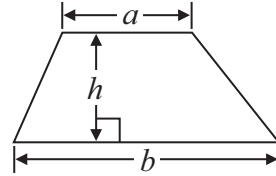
Volume of prism = area of cross section × length

Answer ALL questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

1 Use your calculator to work out

(a) 3.8×4.5

....
(1)

(b) $\sqrt{1.69}$

....
(1)

(c) 3.2^2

....
(1)

(Total for Question 1 is 3 marks)

2
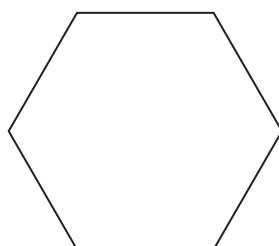
(a) Write down the mathematical name of this polygon.

....
(1)

(b) How many sides has an octagon?

....
(1)

(Total for Question 2 is 2 marks)

3 A Youth Club is having a quiz night.

There will be 17 teams at the quiz night.
There will be 4 people in each team.
There will also be 3 people to organise the quiz.

Each person at the quiz will need a chair.

Work out the number of chairs needed.

....

(Total for Question 3 is 2 marks)

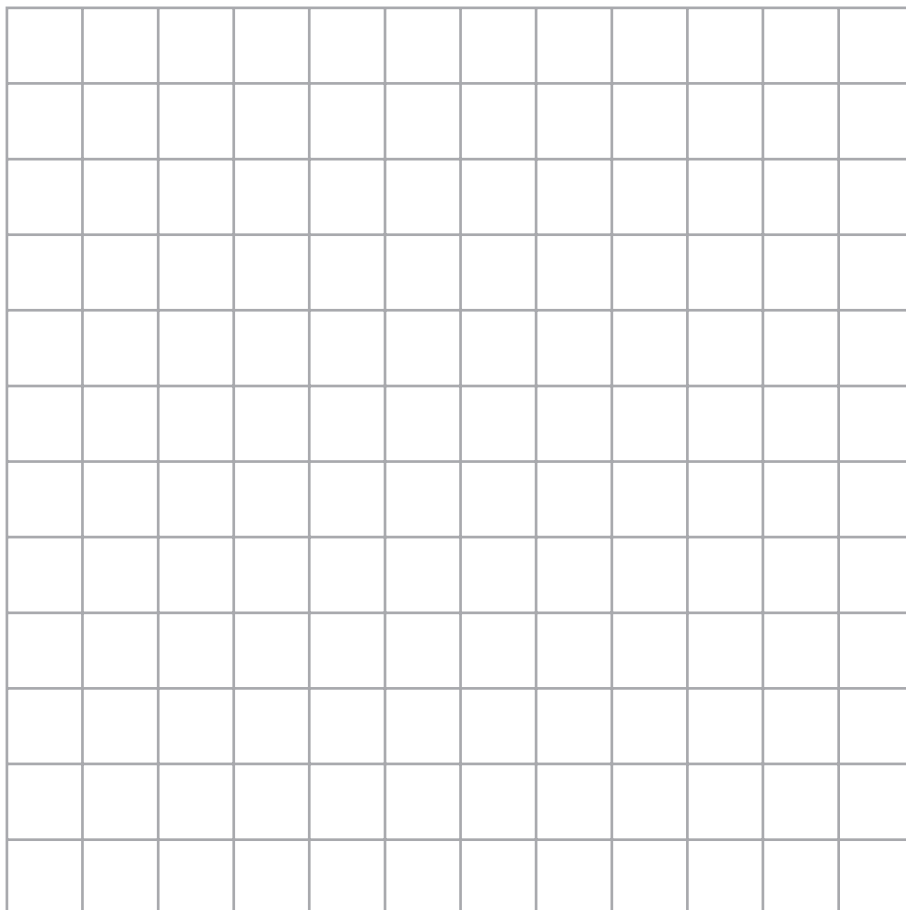*4   Karen carried out a survey to find out the type of pet her friends most wanted to own.

Here are her results.

dog	dog	cat	dog	fish
cat	rabbit	dog	rabbit	rabbit
fish	cat	dog	dog	dog
snake	fish	rabbit	cat	cat

Draw a suitable chart or diagram to represent Karen's results.

(Total for Question 4 is 3 marks)

Turn over ▶

5 (a) Simplify $e + e + e - e + 3e$

....

(1)

(b) Simplify $7 \times g \times h$

....

(1)

(c) Simplify $3a + d - 2a + 5d$

....

(2)

(Total for Question 5 is 4 marks)

6 A school bus takes students between 3 different schools.

The bus leaves school A.
There are 16 students on the bus.

The bus then goes to school B.
At school B, 13 students get off the bus and 4 students get on the bus.

The bus then goes to school C.
At school C, 5 students get off the bus and 7 students get on the bus.

How many students are now on the bus?

....

(Total for Question 6 is 3 marks)

7 Here is a triangle.
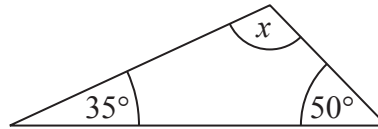
Diagram **NOT** accurately drawn

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

.... °

(ii) Give a reason for your answer.

....

....

(2)

Here is a different triangle.
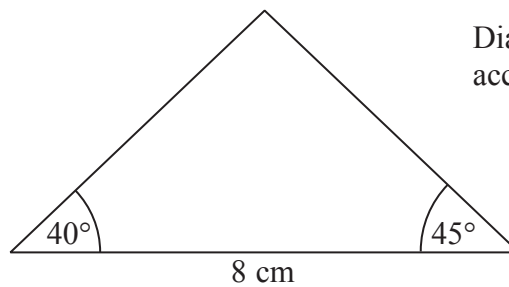
Diagram **NOT** accurately drawn

(b) In the space below, make an accurate drawing of this triangle.

(3)

(Total for Question 7 is 5 marks)

8 Samantha has to go to a meeting.

The meeting should start at 2 pm.
Samantha gets to the meeting at 1 45 pm.

(a) How long does Samantha have to wait until 2 pm?

....
(2)

The 2 pm meeting starts 10 minutes late.
The meeting lasts 55 minutes.

(b) Work out the time the meeting finishes.

....
(2)

Samantha then has to go to a 4 pm meeting.
It will take Samantha 75 minutes to get to this meeting.

*(c) Can Samantha get to this meeting by 4 pm?
You must show how you get your answer.

(2)

(Total for Question 8 is 6 marks)

9 (a) Write $\frac{1}{8}$ as a percentage.

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

(b) Work out $\frac{5}{6}$ of 600

....
(2)

(Total for Question 9 is 3 marks)

10 There are 105 cars in a college car park.

Teachers own 68 of the cars.
Students own 15 of the cars.

One of the cars in the car park is chosen at random.

(a) Write down the probability that this car is owned by a teacher.

....
(1)

(b) Work out how many of the cars are **not** owned by either a teacher or by a student.

....
(2)

(c) Work out what percentage of the cars in the car park are owned by students.
Give your answer correct to 1 decimal place.

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

(Total for Question 10 is 5 marks)

11 The graph shows the number of adults and the number of children going to a museum each month from January to April.
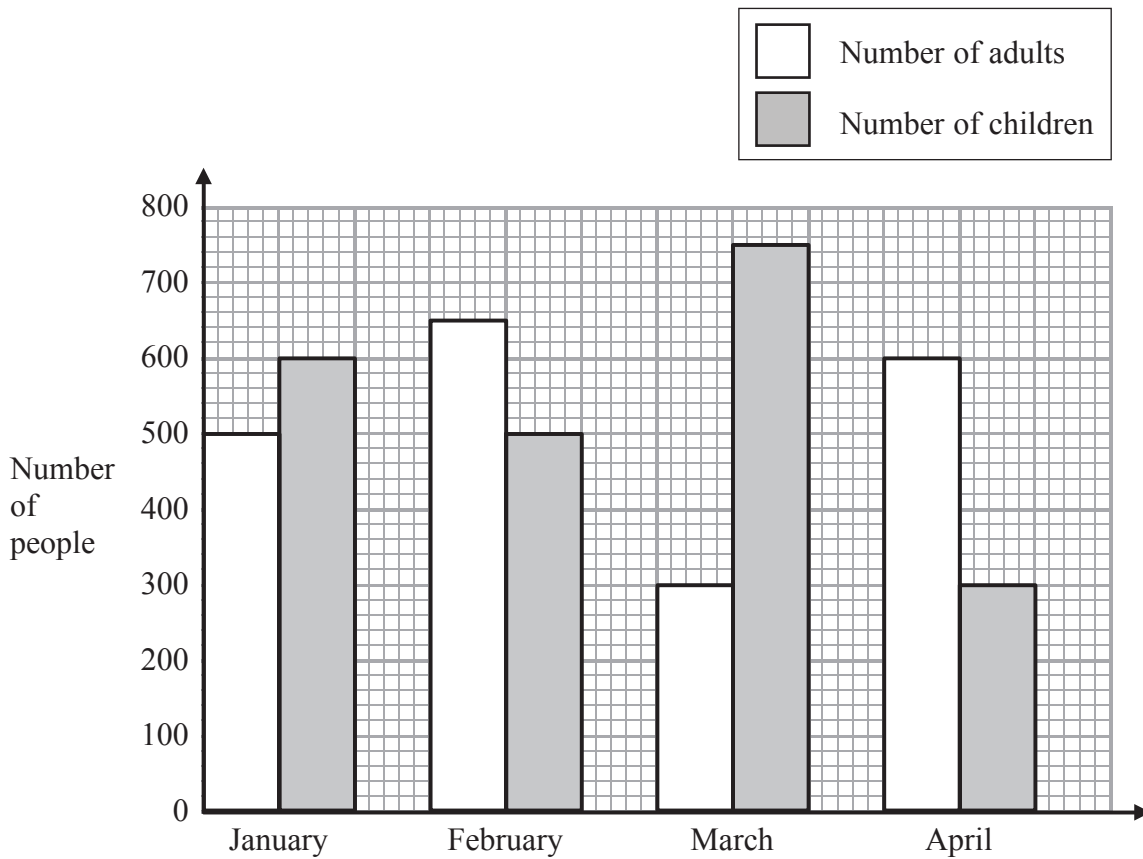
(a) How many adults went to the museum in March?

....

(1)

More children than adults went to the museum in the 4 months from January to April.

(b) Work out how many more.

....

(3)

(Total for Question 11 is 4 marks)

*12 Here is part of Dani's electricity bill.

> ### Electricity Bill
>
> New reading   2968 units
> Old reading   2675 units
>
> Price per unit   18p

Work out how much Dani has to pay for the units of electricity she has used.

(**Total for Question 12 is 4 marks**)

13 Here are the first four terms of a number sequence.

$$3 \quad 7 \quad 11 \quad 15$$

(a) (i) Write down the next term in the sequence.

....

(ii) Explain how you got your answer.

....

(2)

(b) Work out the 11th term in the sequence.

....

(1)

(c) Is 79 a term in this sequence?
Explain how you got your answer.

....

....

(1)

(Total for Question 13 is 4 marks)

14 Here is a list of 12 numbers.

| 12 | 15 | 18 | 12 | 15 | 12 | 16 | 13 | 17 | 15 | 12 | 17 |

(a) Write down the mode.

....

(1)

(b) Work out the range.

....

(2)

(c) Work out the median.

....

(2)

(d) Work out the mean.

....

(2)

(Total for Question 14 is 7 marks)

*15 Andy cycles to keep fit.
He wants to cycle a total of 70 km each week.

Andy went on four cycle rides last week.

Here are the distances he cycled.

$$18.2 \text{ km} \qquad 14 \text{ km } 250 \text{ m} \qquad 20\frac{1}{2} \text{ km} \qquad 12\,050 \text{ m}$$

Did Andy cycle a total of 70 km last week?
You must show how you got your answer.

(Total for Question 15 is 4 marks)

16 Ralph is carrying out a survey about the colours of cars in a car park.

Design a suitable table for a data collection sheet for Ralph to use.

(Total for Question 16 is 3 marks)

17 Buttons are sold in packets and in boxes.

There are 6 buttons in a packet.
There are 15 buttons in a box.

Nomusa buys d packets of buttons and f boxes of buttons.

She buys a total of T buttons.

Write a formula for T in terms of d and f.

....

(Total for Question 17 is 3 marks)

18 Here is a list of numbers.

$$1 \quad 2 \quad 4 \quad 5 \quad 8 \quad 9 \quad 12 \quad 15 \quad 16$$

(a) From the list, write down a prime number.

....

(1)

(b) From the list, write down **three** square numbers that add to make 21

.... , ... , ...

(2)

(Total for Question 18 is 3 marks)

19 (a) Solve $8f + 19 = 15$

$$f = \text{..............................}$$
(2)

(b) Solve $2c + 5 = c + 8$

$$c = \text{..............................}$$
(2)

(Total for Question 19 is 4 marks)

20 Jay is paid £2000 each month.

He saves 6% of the £2000 each month.

How many months will it take Jay to save £480?

.... months

(Total for Question 20 is 3 marks)

21 4.5 kg of oranges and 3 kg of apples cost a total of £3.87
2.5 kg of oranges cost £1.40

Work out the cost of 1 kg of apples.

.... p

(Total for Question 21 is 4 marks)

22 Uditi has a bag of chocolate sweets.

There are 30 sweets in the bag.

This table shows the types of sweets in the bag.

	Strawberry	**Caramel**	**Nut**
Dark chocolate	3	1	6
Milk chocolate	4	5	2
White chocolate	1	4	4

Uditi takes at random a sweet from the bag.

(a) Write down the probability that the sweet is a dark chocolate caramel.

....

(1)

(b) Work out the probability that the sweet is a white chocolate.

....

(2)

There are some dark chocolates, some milk chocolates and some white chocolates in a box.

The table below shows the probabilities that a chocolate taken at random from the box is a dark chocolate or is a milk chocolate.

	Dark chocolate	**Milk chocolate**	**White chocolate**
Probability	0.35	0.17	

A chocolate is taken at random from the box.

(c) Work out the probability that the chocolate is a white chocolate.

....

(2)

(Total for Question 22 is 5 marks)

*23 Redlands School sent *x* students to a revision day.
St Samuel's School sent twice as many students as Redlands School.
Francis Long School sent 7 fewer students than Redlands School.

Each student paid £15 for the revision day.
The students paid a total of £1155

Work out how many students were sent by each school to the revision day.
You must show all your working.

(Total for Question 23 is 5 marks)

24 Here is a scale drawing of an office.
The scale is 1 cm to 2 metres.

A _____ D

B _____ C

A photocopier is going to be put in the office.
The photocopier has to be closer to B than it is to A.
The photocopier also has to be less than 8 metres from C.

Show, by shading, the region where the photocopier can be put.

(Total for Question 24 is 3 marks)
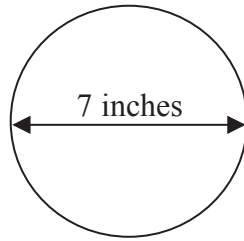
*25 The diagram shows the top of Levi's birthday cake.

Diagram **NOT**
accurately drawn

7 inches

The top of the cake is in the shape of a circle.
The diameter of the circle is 7 inches.

A ribbon is going to be put around the side of the cake.
Ribbons are sold in 50 cm lengths.

1 inch is 2.54 cm.

Work out if one length of ribbon is long enough to go all the way around the cake.
You must show your working.

(Total for Question 25 is 4 marks)
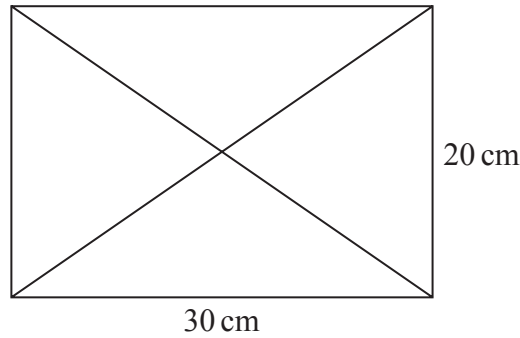
26 A frame is made from wire.

Diagram **NOT** accurately drawn

20 cm

30 cm

The frame is in the shape of a rectangle, 30 cm by 20 cm.
The two diagonals of the rectangle are also made from wire.

Calculate the total length of wire needed to make the frame and the diagonals.
Give your answer correct to 1 decimal place.

.... cm

(Total for Question 26 is 4 marks)

TOTAL FOR PAPER IS 100 MARKS

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