Write your name here

Surname	Other names

Pearson Edexcel GCSE

Centre Number | | | | | |

Candidate Number | | | | |

Mathematics B

Unit 1: Statistics and Probability (Calculator)

Foundation Tier

Wednesday 4 November 2015 – Morning
Time: 1 hour 15 minutes

Paper Reference
5MB1F/01

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 60
- 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 9 0 4 A 0 1 1 6

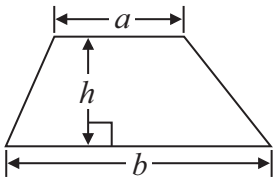
PEARSON

GCSE Mathematics 2MB01

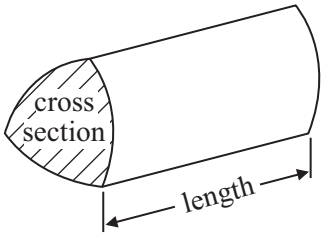
Formulae: Foundation Tier

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 The table shows some information about six students.

Name	Gender	Age	Hair colour
Ali	male	14	brown
Becky	female	13	blonde
Charlie	male	15	black
Derek	male	14	blonde
Fran	female	16	red
Gary	male	13	brown

(a) Write down Charlie's hair colour.

.....

(1)

(b) Write down the name of the oldest student.

.....

(1)

One student is 14 years old and has blonde hair.

(c) Write down the name of this student.

.....

(1)

(Total for Question 1 is 3 marks)

2 This pictogram shows information about the number of games sold in a shop on Monday, on Tuesday and on Wednesday one week.

Monday	⊠⊠ ⊠⊠ ⊠⊠
Tuesday	⊠⊠ ⊠
Wednesday	⊠⊠ ⊠⊠

Key:

⊠⊠

represents 8 games

Write down the number of games sold

(i) on Wednesday,

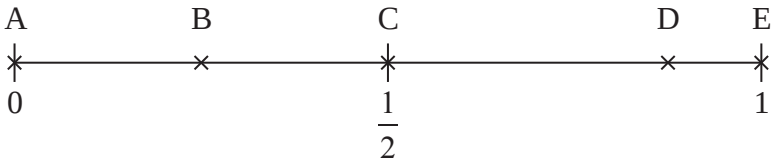
.....

(ii) on Tuesday.

.....

(Total for Question 2 is 2 marks)

3 Here is a probability scale.
It shows the probability of each of the events A, B, C, D and E.



(a) Write down the letter of the event that is **impossible**.

.....

(1)

(b) Write down the letter of the event that is **likely** but not certain.

.....

(1)

(Total for Question 3 is 2 marks)

***4** Jane can claim expenses when she drives as part of her job.
She can claim 35p for every mile she drives.

For one journey she writes down

Mileage at end of journey	8565
Mileage at start of journey	8437

Work out how much money Jane can claim for this journey.

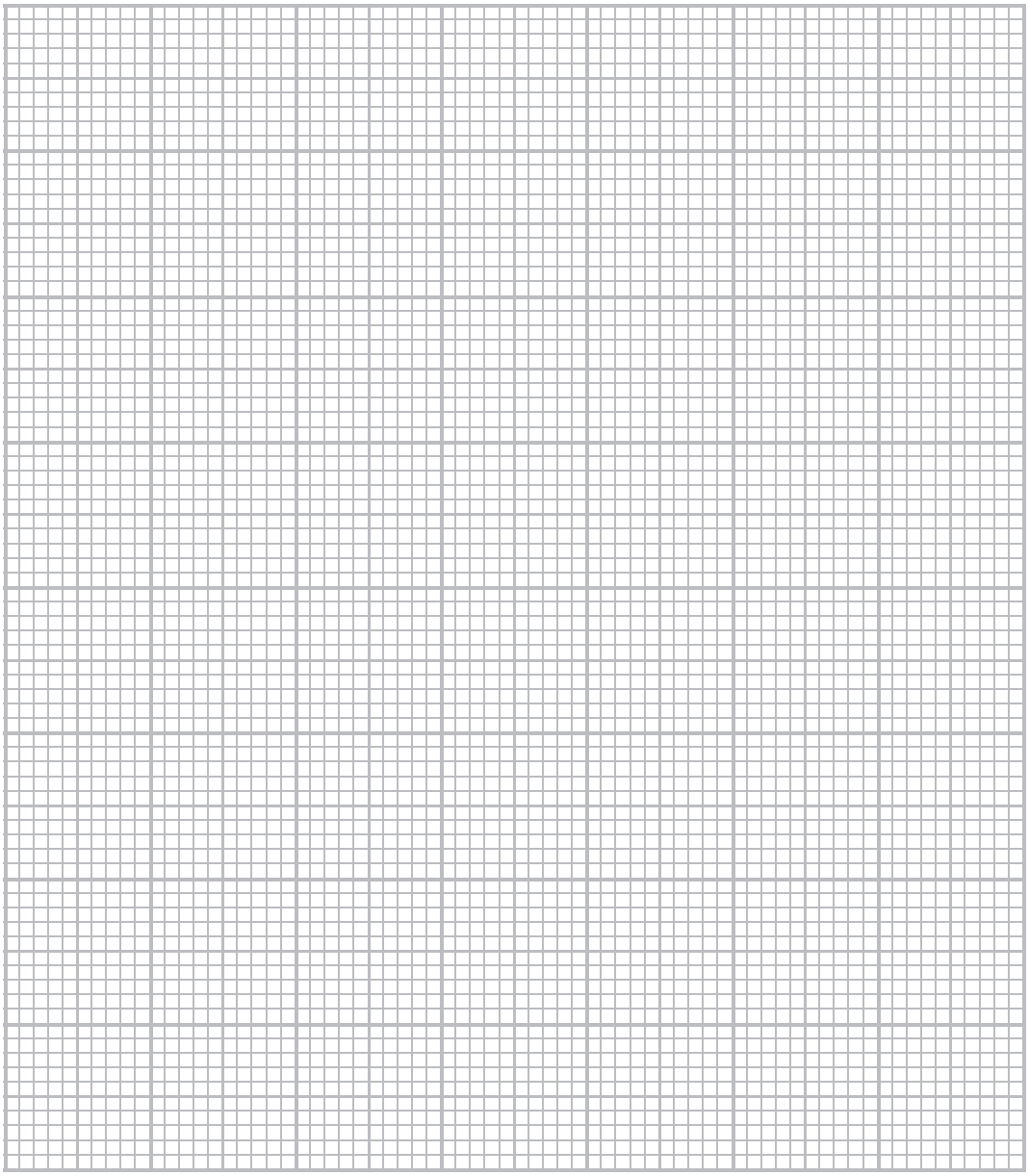
(Total for Question 4 is 4 marks)

***5** Wizard and Reds are two basketball teams.

The table shows some information about the total number of points scored by Wizard and the total number of points scored by Reds in each of four months last year.

	September	**October**	**November**	**December**
Wizard	20	27	19	33
Reds	18	26	38	30

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



(Total for Question 5 is 4 marks)

6 Here is a menu in a cafe.

Menu	
Starter	**Main course**
soup juice	fish meat pasta

Sally is going to have a meal in the cafe.
She is going to choose one starter and one main course.

Make a list of all the different meals Sally can choose.

.....

.....

.....

(Total for Question 6 is 2 marks)

7 Here are 10 letters.

A A B C C C D E E F

Wallid takes at random one of the letters.

(a) Write down the probability that he takes a letter C.

.....

(2)

(b) Write down the probability that he does **not** take a letter C.

.....

(1)

(Total for Question 7 is 3 marks)

8 Here are some numbers.

3 6 2 2 5 3

(a) Find the median.

.....

(2)

(b) Work out the range.

.....

(2)

(c) Work out the mean.

.....

(2)

(Total for Question 8 is 6 marks)

9 Sam wants to find out which type of fruit people like best.

Design a suitable table for a data collection sheet that he could use.

(Total for Question 9 is 3 marks)

10 The number of people in each car was recorded in a survey.

The table gives information about the results.

Number of people in car	Number of cars
1	8
2	6
3	7
4	4
5	2

Work out the total number of people in these cars.

.....

(Total for Question 10 is 2 marks)

11 The table shows the costs of some tins of pet food.

dog food	96p per tin
cat food	56p per tin

Special offer

$\frac{1}{4}$ off the total cost

Panashe buys

4 tins of dog food
and 3 tins of cat food

He gets $\frac{1}{4}$ off the total cost.

He pays with a £20 note.

(a) How much change should he get?

£.....

(4)

Packets of fish food cost £1.84 each.

Pulkova has £14 to spend on fish food.

(b) Work out the greatest number of packets of fish food she can buy.

.....

(2)

(Total for Question 11 is 6 marks)

12 Batteries are sold in packets and in boxes.

There are 4 batteries in a packet.
There are 20 batteries in a box.

Derek buys one box of batteries.
He takes t batteries out of the box.

(a) Write down an expression, in terms of t, for the number of batteries left in the box.

.....

(1)

Sameena buys x packets of batteries and y boxes of batteries.

(b) Write down an expression, in terms of x and y, for the total number of batteries Sameena buys.

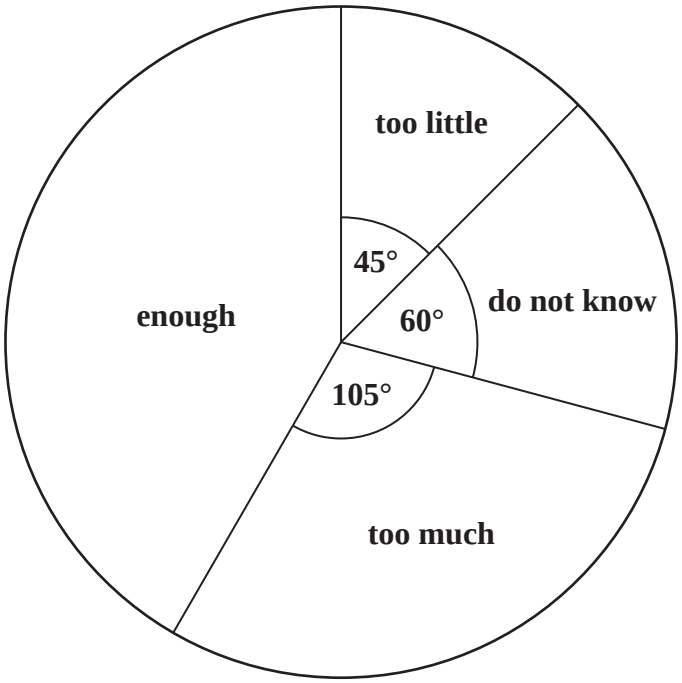
.....

(2)

(Total for Question 12 is 3 marks)

13 120 students are asked if they have enough homework one night.

The pie chart shows some information about their answers.



(a) Work out the number of students who answered **do not know**.

.....

(2)

(b) Work out the number of students who answered **enough**.

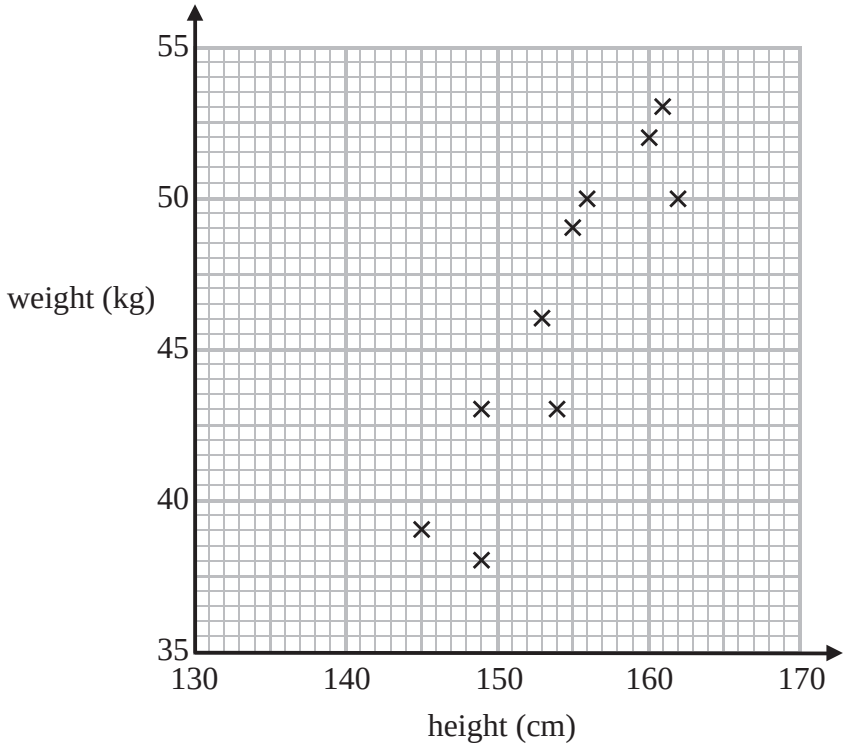
.....

(3)

(Total for Question 13 is 5 marks)

14 Leon recorded the height, in cm, and the weight, in kg, of each of ten students.

The scatter graph shows information about his results.



A different student has a height of 146 cm and a weight of 41 kg.

(a) Plot this information on the scatter graph.

(1)

(b) Describe the relationship between the height and the weight of these students.

.....

(1)

A student has a weight of 47.5 kg.

(c) Use the scatter graph to estimate the height of this student.

.....cm

(2)

(Total for Question 14 is 4 marks)

15 Mr and Mrs Jones are planning a trip to Colwyn for a day.
There will be two adults and three children on the trip.

They are going from Crewe.
They must be back in Crewe by 7.30 pm.

They buy the cheapest possible tickets for the day trip.

A child ticket is 30% of the price of an adult ticket.

The tables show part of the train timetable between Crewe and Colwyn.
They also show the price of an adult ticket.

Crewe	0723	0823	0849	0923	0949	1023	1049
Colwyn	0850	0943	1016	1034	1104	1148	1200
Price per adult	£25.20	£25.20	£25.20	£25.20	£25.20	£24.00	£24.00

Colwyn	1527	1646	1737	1832	1853	1925	1951
Crewe	1654	1754	1918	1954	2018	2038	2129
Price per adult	£22.00	£22.00	£22.00	£22.00	£18.50	£18.50	£18.50

The family want to be in Colwyn for as long as possible.

*(a) Plan a schedule for the day trip.
You must show the times of both their train journeys.
Write down how long they can spend in Colwyn.

(4)

A child ticket is 30% of the price of an adult ticket.

(b) Calculate the total cost of the train tickets for the Jones family.

£.....

(3)

(Total for Question 15 is 7 marks)

16 People can buy three types of plane tickets.

They can buy

an Economy ticket
a Premium ticket
or a Business ticket

200 people buy plane tickets.

92 males buy tickets
30 of the males buy Business tickets
62 females buy Economy tickets

A total of 44 people buy Business tickets.
A total of 60 people buy Premium tickets.

How many males buy Premium tickets?
You must show all your working.

.....

(Total for Question 16 is 4 marks)

TOTAL FOR PAPER IS 60 MARKS