Write your name here

Surname	Other names

Edexcel GCSE

Centre Number	Candidate Number

Mathematics B

Unit 1: Statistics and Probability (Calculator)

Foundation Tier

Thursday 28 February 2013 – Afternoon **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 ▶

P42050A

6/6/8/3/

P 4 2 0 5 0 A 0 1 2 0

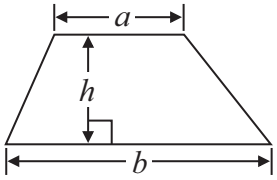
PEARSON

GCSE Mathematics 2MB01

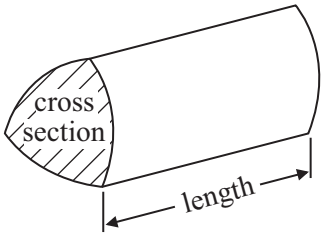
Formulae: Foundation Tier

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 Connor asks 20 people how they usually travel to their judo club.

Here are his results.

walk	bus	walk	bike	car	bus	bus	car	walk	bus
car	bus	bus	car	bike	walk	bike	car	bus	car

(a) Complete the frequency table.

Method of travel	Tally	Frequency
car		
bus		
walk		
bike		

(2)

(b) Write down the mode.

.....

(1)

(Total for Question 1 is 3 marks)

2 Here are nine numbers.

3 2 5 8 2 4 9 1 2

(a) Find the median.

.....

(2)

(b) Find the range.

.....

(2)

(Total for Question 2 is 4 marks)

3 Write down a suitable metric unit for measuring

(a) the weight of a banana,

.....

(1)

(b) the volume of water in a fish tank,

.....

(1)

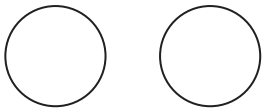
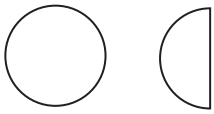
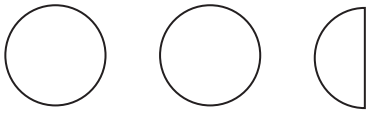
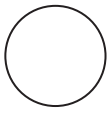
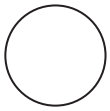
(c) the length of a lorry.

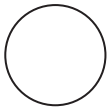
.....

(1)

(Total for Question 3 is 3 marks)

4 The pictogram shows the number of goals a hockey team scored in each of their first 5 matches.

Match 1	
Match 2	
Match 3	
Match 4	
Match 5	
Match 6	
Match 7	

Key:  represents 2 goals

(a) Write down the number of goals scored in Match 1

.....

(1)

(b) Write down the number of goals scored in Match 3

.....

(1)

6 goals were scored in Match 6
1 goal was scored in Match 7

(c) Show this information on the pictogram.

(2)

(Total for Question 4 is 4 marks)

5 A shop sells birthday cards.
Each card has a code on it.

The table shows each code and the price of the card.

Code	Price (£)
A	1.15
B	1.45
C	1.99
D	2.49
E	2.99

Ritu buys a card.
The card has code B on it.

(a) Write down the price of the card.

£.....

(1)

Mark buys two cards.

One card has code A on it.
The other card has code D on it.

(b) Work out the total amount Mark pays for the two cards.

£.....

(2)

Jennifer buys two cards.
The two cards have a total cost of £3.94

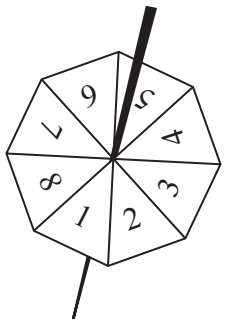
(c) Write down the code on each card Jennifer buys.

....

(2)

(Total for Question 5 is 5 marks)

6 Here is a fair 8-sided spinner used in a game.



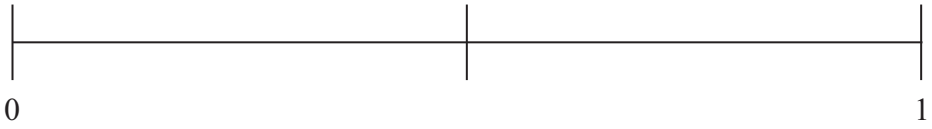
Alan spins the spinner once.

Work out the probability that the spinner will land on 8

.....

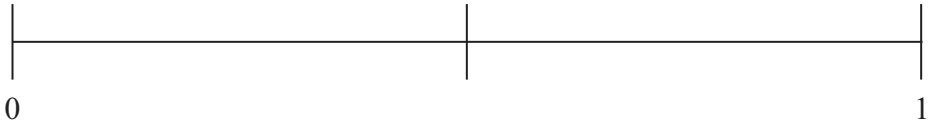
(Total for Question 6 is 1 mark)

7 (a) On the probability scale below, mark with a cross (×) the probability that an ordinary fair dice when thrown once will land on an even number.



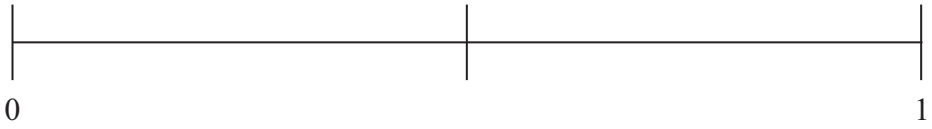
(1)

(b) On the probability scale below, mark with a cross (×) the probability that an ordinary fair dice when thrown once will land on a 5



(1)

(c) On the probability scale below, mark with a cross (×) the probability that an ordinary fair dice when thrown once will land on a number less than 7



(1)

(Total for Question 7 is 3 marks)

***8** A shop sells pencils at

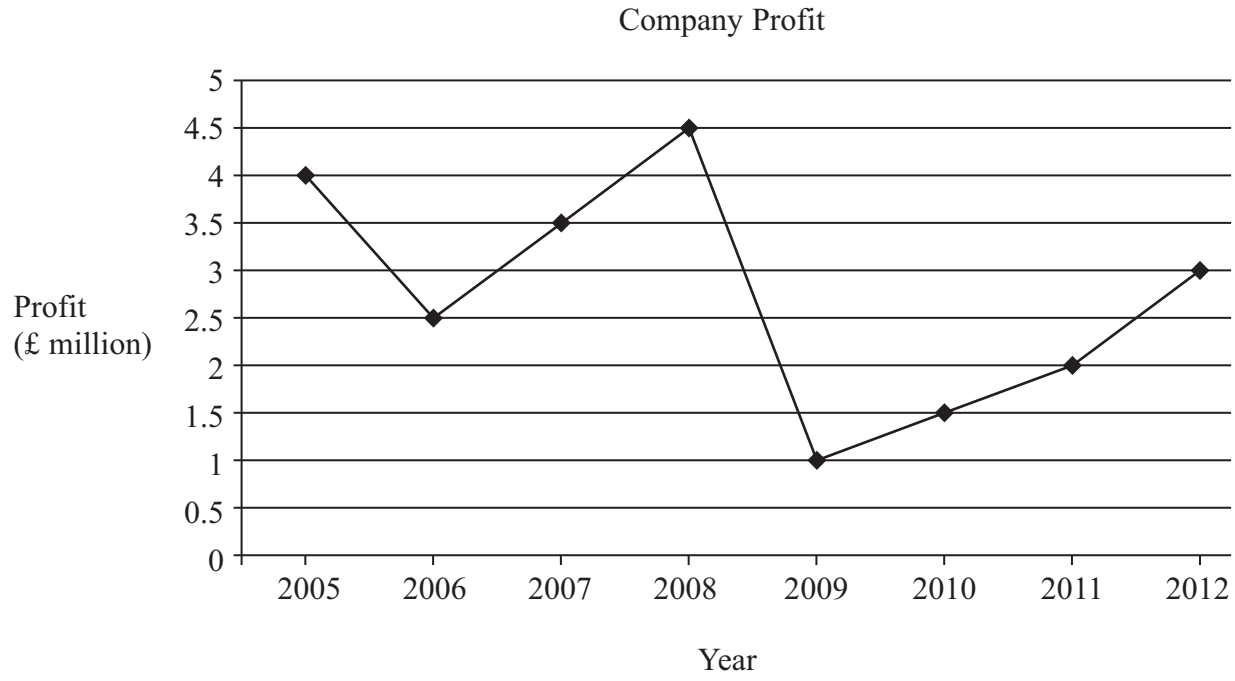
12p each
or 12 pencils in a box at £1.65 per box.

Oliver buys 36 pencils.
He spends the least amount of money.

How much does he spend?
You must show your working.

(Total for Question 8 is 3 marks)

9 The graph shows information about the profit a company made each year from 2005 to 2012



(a) What was the profit in 2006?

£ ..... million

(1)

(b) In which year did the company make the most profit?

.....

(1)

(c) Describe the change in profit from 2009 to 2012

.....

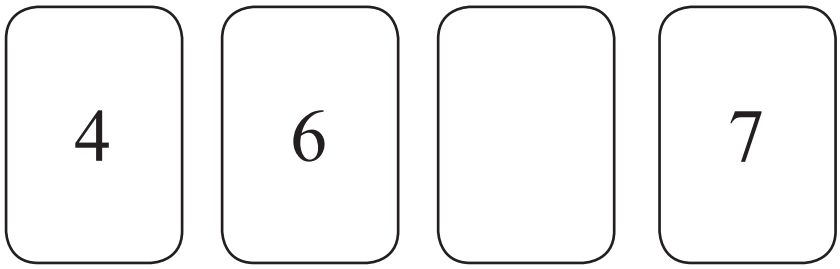
.....

(1)

(Total for Question 9 is 3 marks)

10 Here are four number cards.

One of the cards is turned over so you cannot see the number on it.



The mean of the four numbers is 6

Work out the number you **cannot** see.

.....

(Total for Question 10 is 3 marks)

11 Jessica goes to an activity centre.
She can choose to do one of the three morning activities and one of the three afternoon activities.

Morning activities	Afternoon activities
Cookery (C)	Hockey (H)
Painting (P)	Acting (A)
Football (F)	Swimming (S)

List all the possible combinations of activities she can choose to do.
The first combination has been done for you.

(C, H).....

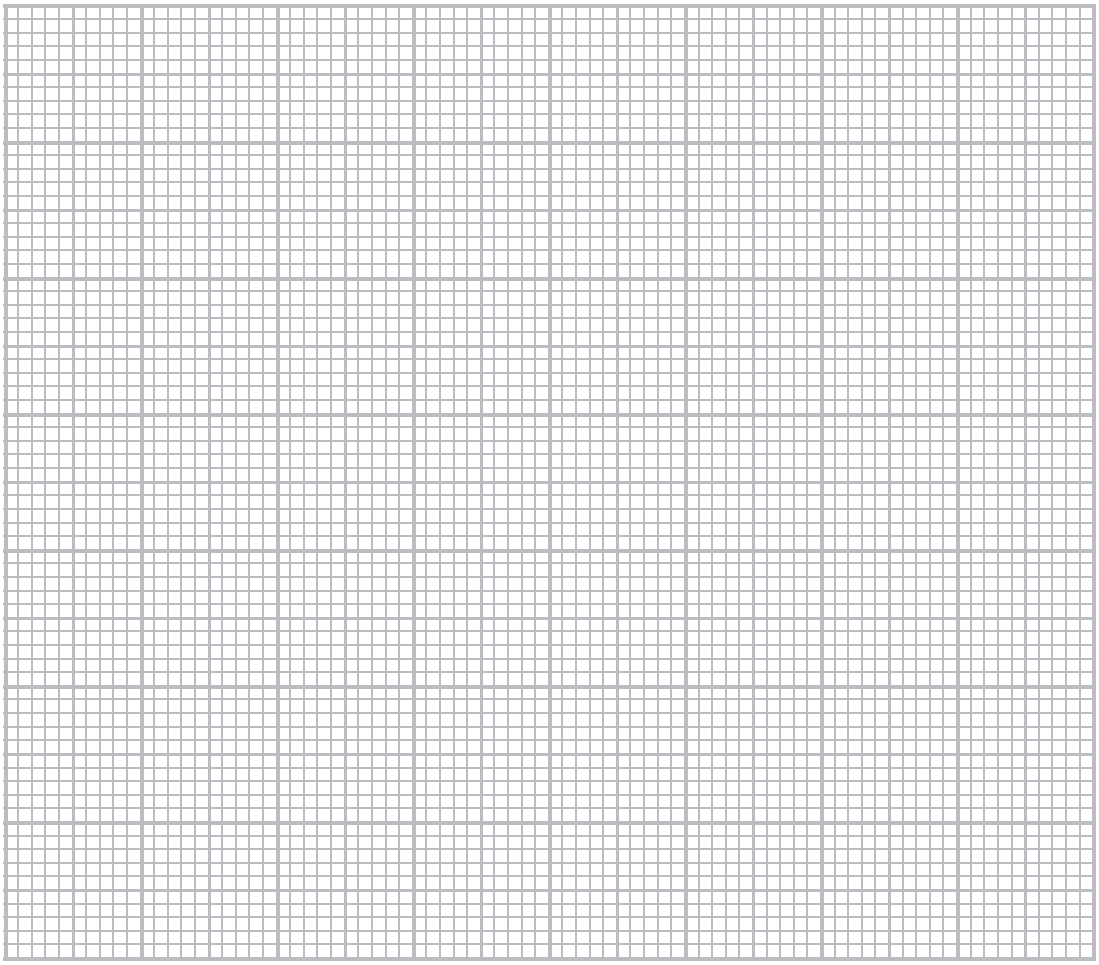
.....

(Total for Question 11 is 2 marks)

***12** The table shows some information about the minimum and maximum temperatures in Paris each month from January to May.
The temperatures are in °C.

	Jan	**Feb**	**Mar**	**Apr**	**May**
Minimum temperature	2	3	5	7	10
Maximum temperature	7	8	12	15	19

Show this information in a suitable diagram.



(Total for Question 12 is 4 marks)

13 There are 700 students in a college.
All of the students are 16 years old, 17 years old or 18 years old.

$\frac{1}{10}$ of the students are 16 years old.

$\frac{1}{5}$ of the students are 18 years old.

Work out how many of the students are 17 years old.

.....

(Total for Question 13 is 4 marks)

14 Katie has x pets.
Agatha has twice as many pets as Katie.
Isabel has 3 more pets than Katie.

Write an expression, in terms of x, for the total number of pets that Katie, Agatha and Isabel have.

.....

(Total for Question 14 is 2 marks)

***15** Mr and Mrs Jennings are planning a holiday to Italy.

They will go on holiday with their 11 year old daughter.

The table below shows some information about the prices of flights.

Flight to Italy		**Flight back from Italy**	
Date	**Price per adult (£)**	**Date**	**Price per adult (£)**
28th October	282	4th November	305
29th October	283	5th November	303
30th October	282	6th November	285
31st October	272	7th November	283
Child fares			
0 to 2 years old		No charge	
Over 2 to 12 years old		75% of the adult fare	

Mr and Mrs Jennings and their daughter want to fly to Italy on 29th October.
They want to fly back from Italy on 6th November.

They have £1600 to spend on flights.
Do they have enough money for the flights?

You must show all your working.

(Total for Question 15 is 6 marks)

16 There are 40 children in a ski club.
Each child has one pair of skis.

The skis are

twin tipped skis
or downhill skis
or slalom skis.

There are 23 boys in the ski club.
7 of the boys have twin tipped skis.
8 of the girls have downhill skis.
5 of the 9 children with slalom skis are girls.

Work out the number of children with twin tipped skis.

.....

(Total for Question 16 is 4 marks)

17 The manager of a sports centre is planning a new cycle track.
The manager wants to know if many people will use the cycle track.

The manager uses this question on a questionnaire.

How often would you use the cycle track?

☐ A lot ☐ Quite a lot ☐ Not very often

(a) Write down **two** things wrong with this question.

1 .....

.....

2 .....

.....

(2)

(b) Design a better question to find out how often people would use the cycle track.

(2)

The manager plans to give the questionnaire to the first 20 people who get to the sports centre on Tuesday morning.

(c) Give two reasons why this may **not** be a suitable sample.

Reason 1 .....

.....

Reason 2 .....

.....

(2)

(Total for Question 17 is 6 marks)

TOTAL FOR PAPER IS 60 MARKS

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