

Centre No.						Paper Reference						Surname	Initial(s)		
Candidate No.						5	3	8	1	H	/	6	B	Signature	

Paper Reference(s)

**5381H/6B**

# Edexcel GCSE

**Mathematics (Modular) – 2381**

Paper 6 – Section B (Non-Calculator)

## Higher Tier

Unit 1 Test – Data Handling

Friday 13 November 2009 – Morning

Time for Section B: 20 minutes

Examiner's use only

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Team Leader's use only

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**Materials required for examination**

Ruler graduated in centimetres and millimetres, protractor, compasses, pen, HB pencil, eraser.  
Tracing paper may be used.

**Items included with question papers**

Nil

### **Instructions to Candidates**

In the boxes above, write your centre number, candidate number, your surname, initials and signature. Check that you have the correct question paper. Answer ALL the questions. Write your answers in the spaces provided in this question paper. If you need more space to complete your answer to any question, use additional answer sheets.

### **Information for Candidates**

The marks for individual questions and the parts of questions are shown in round brackets: e.g. (2). This section has 5 questions. The total mark for this section is 15. The total mark for this paper is 30. There are 8 pages in this question paper. Any blank pages are indicated.

**Calculators may be used for Section A only.**

### **Advice to Candidates**

Show all stages in any calculations.  
Work steadily through the paper. Do not spend too long on one question.  
If you cannot answer a question, leave it and attempt the next one.  
Return at the end to those you have left out.

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## SECTION B

Answer ALL FIVE questions.

Write your answers in the spaces provided.

You must write down all stages in your working.

You must NOT use a calculator in this section.

1. Katya wants to find out information about the numbers of men, women, boys and girls using a sports hall.

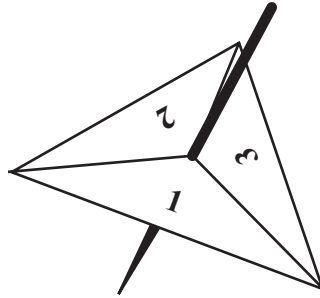
Design a suitable data collection sheet to collect the information.

Q1

(Total 2 marks)



2.



The diagram shows a fair spinner.  
The spinner can land on 1 or 2 or 3

Jim spins the spinner twice.

- (a) List the possible outcomes.  
One of the outcomes has been done for you.

(1,1) ..... (2)

Claire spins the spinner twice.  
The total score is the sum of the numbers it lands on.

The probability that the total score will be 4 is  $\frac{1}{3}$

- (b) Explain why.

.....  
.....  
.....

(2) Q2

(Total 4 marks)



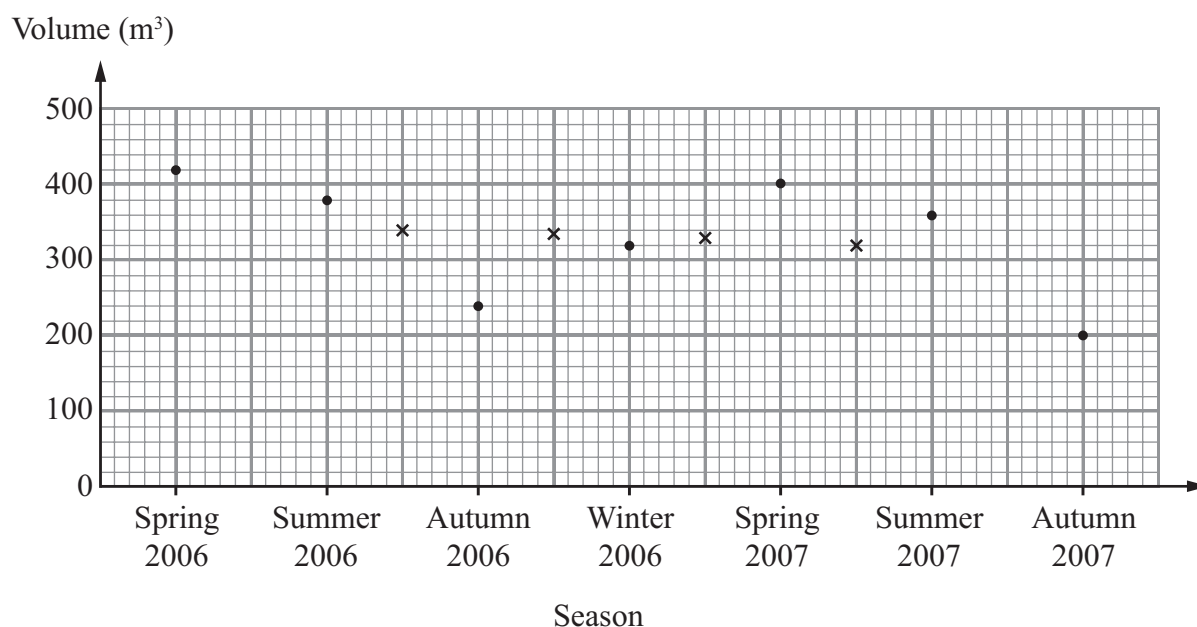
3. The table gives information about the volumes of rain in  $\text{m}^3$  falling on a field in each of 7 seasons.

Season	Volume ( $\text{m}^3$ )
Spring 2006	420
Summer 2006	380
Autumn 2006	240
Winter 2006	320
Spring 2007	400
Summer 2007	360
Autumn 2007	200

- (a) Show, by calculation, that the first 4-point moving average is  $340 \text{ m}^3$ .

(1)

The graph shows the volumes of rain falling on the field and the 4-point moving averages.



Key:   
 • volumes of rain each season   
 × 4-point moving average

- (b) Draw a trend line on the graph.

(1)



(c) Describe the trend.

.....  
 .....

(1)

(d) Describe the seasonality in the volumes of rain falling on the field.

.....  
 .....

(1)

(Total 4 marks)

Q3

4. Zahra is going to carry out a survey of 100 pictures in a newspaper. The table shows the number of pictures in each of 3 sections of the newspaper.

Section	Number
Sport	40
Business	22
Entertainment	38
<b>Total</b>	<b>100</b>

Zahra decides to use a sample of 30 pictures stratified by section.

Work out the number of pictures from the sports section she should have in the sample.

.....

(Total 2 marks)

Q4



5. Fred has a biased coin.

The probability of getting Heads on one throw of the coin is  $\frac{3}{4}$

He throws the biased coin 3 times.

Work out the probability that he gets at least two Heads.

.....

**(Total 3 marks)**

**Q5**

**TOTAL FOR SECTION B: 15 MARKS**  
**TOTAL FOR PAPER: 30 MARKS**

**END**



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