

ELGIN ACADEMY

Prelim Examination 2007 / 2008

MATHEMATICS Standard Grade - Foundation Level

Paper 2

Time Allowed - 40 minutes

First name and initials

Surname

Class

Teacher

Date:

Read Carefully

1. Answer as many questions as you can.
2. Write your answers in the spaces provided .
3. Full credit will be given only where the solution contains appropriate working.
4. **You may use a calculator**

1. Michael buys all his music as downloads from the internet. Here is the number of tracks that he downloaded in the first 6 months of this year.

January	33	February	42
March	36	April	42
May	50	June	61

(a) Calculate the mean number of tracks Michael downloaded over these 6 months.

(3)

(b) In the next four months he downloaded the following number of tracks.

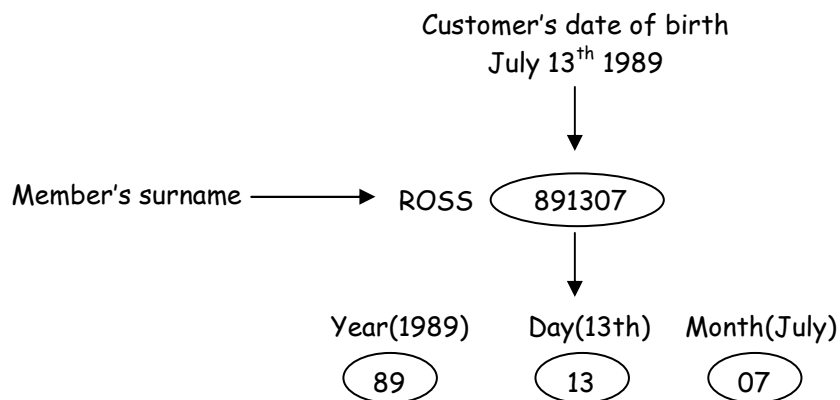
July	37	August	42
September	40	October	36

Write down the **modal** number of tracks downloaded over the 10 months.

(1)

2. In a health club each member is issued with an identity number.

Here is one person's identity number.

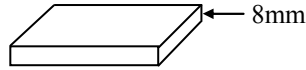


Write down the identity number for a member named JONES who was born on 23rd August 1991.

(2)

3. Alan is making a collection of DVDs and buys **two every month**.

The case for each DVD is 8mm thick.



He has 120 DVDs stacked on top of each other.

(a) Calculate the height of the pile of DVDs.

(2)

(b) For how many years has Alan been collecting his DVDs?

(2)

4. Jayne has a large jar of fruit-flavoured sweets. There are 240 sweets in it.

75 of them are orange flavoured, $\frac{1}{6}$ of them are lime and 15% are lemon flavoured.

The rest are strawberry flavoured.

How many strawberry sweets are in the jar?

(4)

5. In an office block some of the levels are underground.

The car park is at level -2.



In the morning Nasir parks his car and walks upstairs to his office on the 7th floor.

How many floors does he have to climb?

(2)

6. In a box there are 8 chocolates each weighing 38g. The empty box weighs 65g.

(a) What is the total weight of the box and the chocolates?

(2)

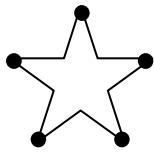
For a larger box of the same 38g chocolates, the total weight is 531g.

The weight of the empty box is 75g.

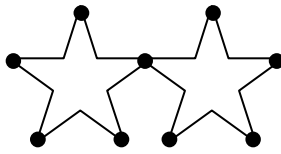
(b) How many chocolates are in this box?

(3)

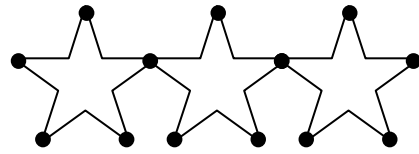
7.



Pattern 1
1 Star
5 Dots



Pattern 2
2 Stars
9 Dots



Pattern 3
3 Stars
13 Dots

The design for a Christmas border is shown above.

(a) Complete this table.

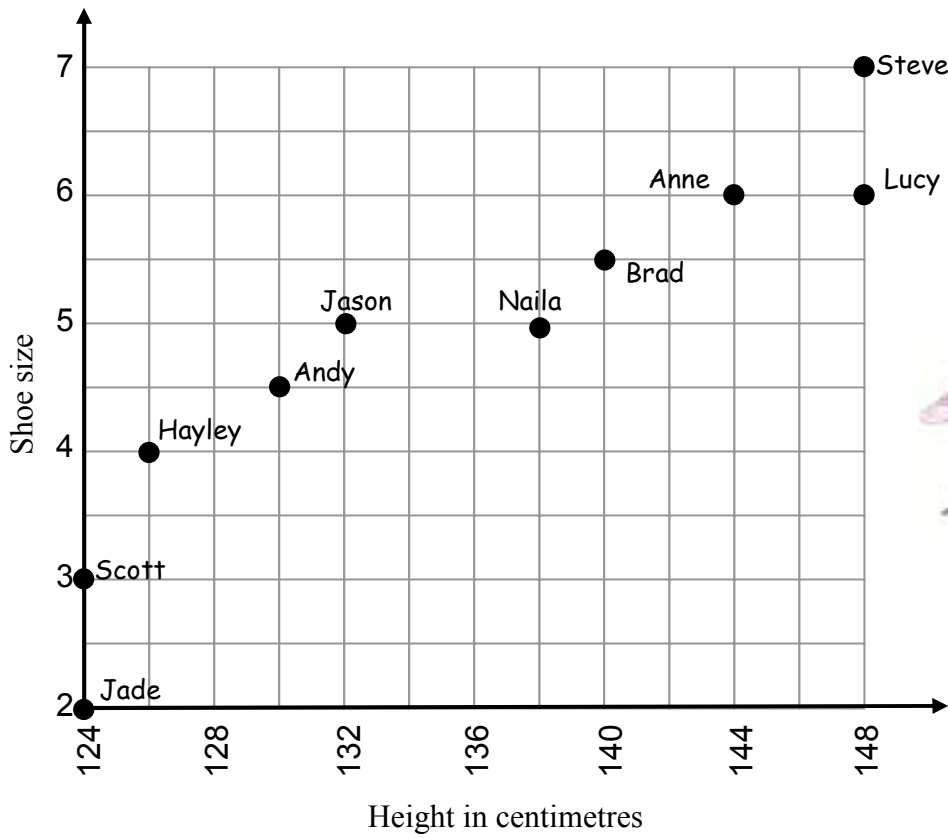
Pattern Number	1	2	3	4	5	6		12
Number of Dots	5	9	13					

(3)

(b) Write down a rule, in words, for finding the number of dots needed for any pattern number.

(2)

8. The scattergraph shows the height and shoe size of a group of students.



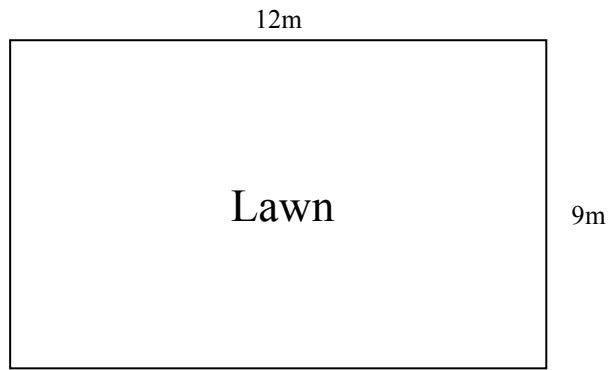
(a) Write down Anne's height and shoe size.

(2)

(b) Mark a cross (X) on the diagram to show that Fiona, who is 134cm tall, takes a size $4\frac{1}{2}$ shoe.

(2)

9. John is making a new lawn in his garden. It measures 12m wide and 9m long as shown in the diagram.



- (a) Calculate the area of the lawn.

(2)

The instructions on the box of grass seed state that 60g of grass seed are needed for each square metre of lawn.

- (b) How many grams of grass seed will John have to buy?

(2)

The seed is sold in boxes each containing 1 kilogram and costs £6.99 a box.

- (c) How much will it cost John for his grass seed?

(3)

10. Erin has moved into a new flat. Her first meter readings are shown here:

Meter Readings (units)	
Present	Previous
2380	2150

(a) How many units has Erin used?

(1)

A formula for calculating an electricity bill is:

$\text{Cost in pounds} = 0.17 \text{ multiplied by the number of units and add } 9.25$
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(b) Use the formula given to calculate Erin's electricity bill.

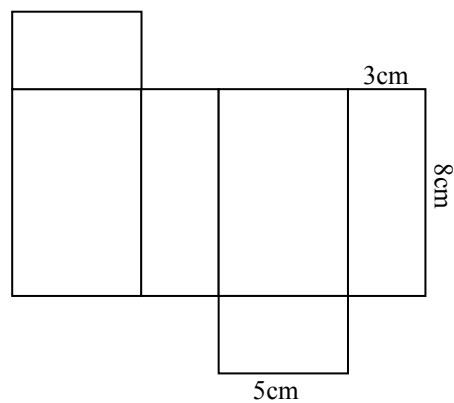
(2)

11. Darren has to cut out a net of a solid shape that will have a volume of **more than** 120cm^3 .

This is the net which he made.

Has Darren carried out the task correctly?

You must show all working and give a reason your answer.



(3)

12.



- (a) Measure the distance from London to Glasgow, shown on the map as a broken line. **Give your answer in centimetres.**

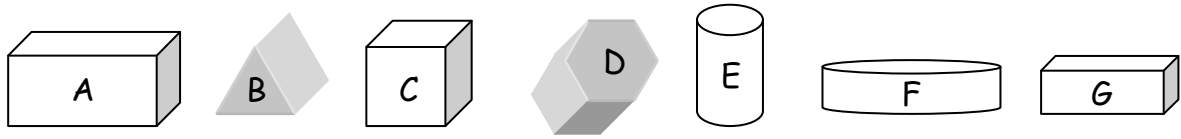
(1)

The scale of the map is: 1cm represents 75km.

- (b) Calculate the actual distance from Glasgow to London.

(2)

13. Here are 7 containers in various shapes.



(a) What type of shape is shape E?

(1)



Liquid from the seven containers above have to be emptied into **3 tanks**.

Each of the 3 tanks has to contain **exactly 500 litres**.

(b) Show a way in which this could be done.

Space for working

(3)

Answer

(place the container letters in the boxes below so that each tank contains exactly 500 litres)

Tank 1	Tank 2	Tank 3
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END OF QUESTION PAPER