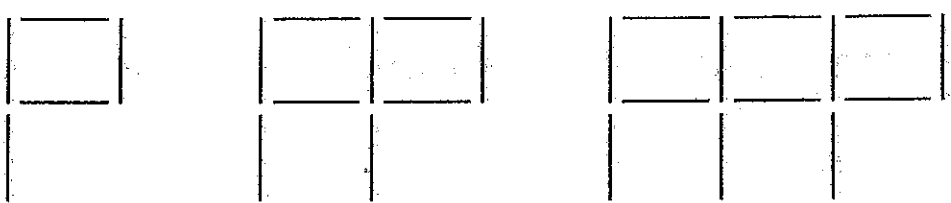
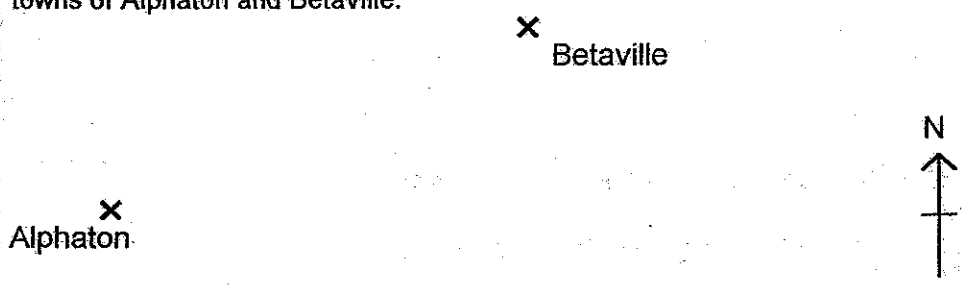
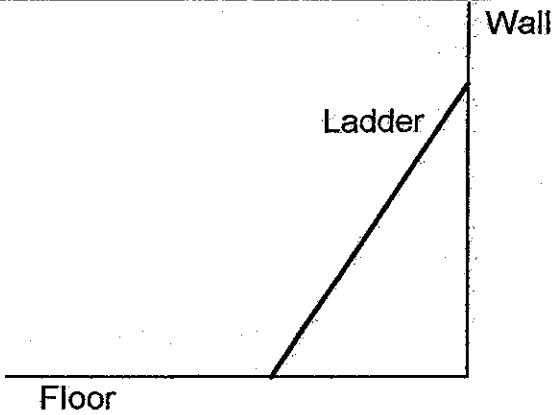


MONMOUTH SCHOOL**14+ Entry Exam : MATHEMATICS****Specimen****1¼ Hours****NAME :** _____

**Answer all the questions, taking care to show your working.
Write your answers in the spaces provided.**

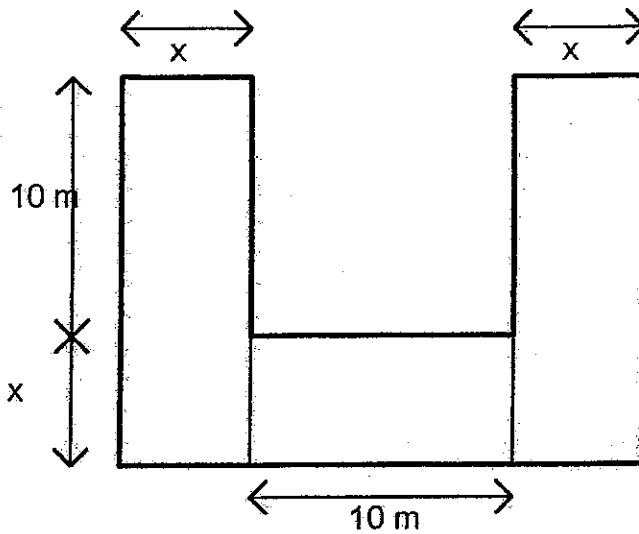
1)	A recipe for "Knotty Flip" for 5 people requires 400 grams of Porridge Oats 200 grams of Margarine 200 grams of soft brown sugar. What quantities of each of these ingredients are required if Ian wishes to make "Knotty Flip" for 8 people ?	[2]
2)	Use your calculator to evaluate $\frac{(3.12 + 8.97)^2}{5.82 - 4.92}$ giving your answer correct to three decimal places.	[3]
3)	Find the next three numbers in the sequence 4, 10, 18, 28, 40,	[3]
4)	Solve the simultaneous equations $2x - y = 9$ $x + 3y = 8$	[4]

<p>5)</p>	<p>The diagram shows a simple pattern of P shapes made out of match sticks.</p>  <p>1P shape 2P shape 3P shape</p> <p>a) How many matches would there be in the 5P shape ?</p> <p>b) How many matches would there be in the 72P shape ?</p> <p>c) Find a rule that gives the number of matches used in the n^{th} shape of this pattern.</p>	<p>[5]</p>
<p>6)</p>	<p>The diagram drawn below is drawn on a scale of 1 cm : 2 km and shows the towns of Alphaton and Betaville.</p>  <p>a) What is the real-life distance of Betaville from Alphaton ?</p> <p>b) What is the bearing of Alphaton from Betaville ?</p> <p>c) Gaphamton is 8.4 km due East of Alphaton. What is the bearing of Betaville from Gaphamton ?</p>	<p>[4]</p>

<p>7)</p>	 <p>A ladder stands against the wall. The foot of the ladder is 54 cm away from the wall. The top of the ladder is 2.12 m high.</p> <p>a) Calculate the length of the ladder.</p> <p>The foot of the ladder is now moved a further 20 cm away from the wall.</p> <p>b) How high is the top of the ladder now ?</p> <p>c) How far down the wall has the top of the ladder moved ?</p>	<p>[6]</p>
<p>8)</p>	<p>A certain disease afflicts 3% of the population. If a person is picked at random what is the probability that the person chosen does not have the disease ?</p>	<p>[2]</p>

<p>9)</p>	<p>The table below shows the number of visits to the cinema made by pupils of a class during the last three months:</p> <table style="margin-left: 20px;"> <tr> <td>Number of visits</td> <td>0</td> <td>1</td> <td>2</td> <td>3</td> <td>4</td> <td>5</td> </tr> <tr> <td>Number of pupils</td> <td>5</td> <td>8</td> <td>7</td> <td>5</td> <td>4</td> <td>1</td> </tr> </table> <p>a) How many pupils are there in the class ?</p> <p>b) What is the modal number of visits to the cinema during this period ?</p> <p>c) What is the median number of visits to the cinema during this period ?</p> <p>d) What is the mean number of visits to the cinema during this period ?</p> <p>e) If a pupil is picked at random from this class what is the probability that she went to the cinema at least 3 times during this period ?</p>	Number of visits	0	1	2	3	4	5	Number of pupils	5	8	7	5	4	1	<p>[9]</p>
Number of visits	0	1	2	3	4	5										
Number of pupils	5	8	7	5	4	1										
<p>10)</p>	<p>A train travels at a speed of 25 m/s, correct to the nearest metre per second. Fill in the spaces in the following sentence:</p> <p>The speed of the train is at least _____ m/s and is less than _____ m/s.</p> <p>A passenger on the train records the time of the train between two signals. He notices that the time is 30 seconds, correct to the nearest second.</p> <p>Fill in the spaces in the following sentence:</p> <p>The time that the train takes to travel between the two signals is at least _____ s and is less than _____.</p> <p>What conclusions can you draw about the distance between the signals ?</p>	<p>[6]</p>														

- 13) Sam wishes to plan a vegetable patch for his garden.
 He want it to be **U** shaped with arms of length 10 metres and width x metres as shown in the diagram :



- a) Explain why the area of the vegetable patch is given by the formula

$$A = 30x + 2x^2.$$

- b) Use this formula to calculate the area of the vegetable patch in the cases when

i) $x = 4$

ii) $x = 5.$

Sam wants the vegetable patch to have an area of 185 m^2 .

- c) Use a trial and improvement method to find the value of x that Sam should use.

- 16) A simple fairground game consists of throwing a dart at the board shown in the diagram below:

RED 1	RED 1	RED 1
RED 2	BLUE 2	BLUE 3
GREEN 3	GREEN 4	GREEN 5

Alan is accurate enough with his darts to ensure that his dart will hit the board but inaccurate enough that the dart will hit any part of the board with equal likelihood.

Find the probability that his dart lands

- in a square marked "RED";
- in a square marked with a number greater than 2;
- in a square which is marked "GREEN" and marked with a number 3;
- in a square which is marked "GREEN" or marked with a number 3;
- in a square which is marked "RED" or marked with a number greater than 1.

MONMOUTH SCHOOL

14+ Examination

ENGLISH

Specimen

Time Allowed: One Hour and Thirty Minutes

ATTEMPT BOTH SECTIONS - BOTH SECTIONS CARRY EQUAL MARKS.

Use a pen and write as neatly as you can. Allow yourself time to check your work before handing it in.

SECTION A

The passage below is taken from a humorous book called *Augustus Carp Esq. by Himself*. Read the passage carefully and then answer the questions that follow as fully as you can in your own words, using quotations to illustrate your answers where appropriate. The number of marks given after each question is an indication of how much you should write.

In this passage Augustus has recently entered a new school. He is shocked to discover that the other pupils call Mr. Beerthorpe, one of the teachers, by the nickname Beery behind his back. Augustus decides that he must tell Mr. Beerthorpe about this nickname as soon as possible. Unfortunately, Mr. Beerthorpe is refereeing a game of football in the school playground when Augustus tries to speak to him!

'Eh, what?' he said. 'Foul,' and he then blew a blast, I remember, on a small whistle. Taken unawares, I could not refrain from shuddering a little, and instinctively put my hands to my ears.

'Well, what is it?' he asked. 'What's the matter?'

'Perhaps we might withdraw', I replied, 'to some quieter place.'

'But what's the trouble?' he said. 'Look out,' and he abruptly leapt back to avoid the oncoming football. Not so fortunate, and left entirely unprotected by Mr. Beerthorpe's sudden retreat, I received the full impact of the hurtling projectile upon the upper part of my neck and my left ear, and for some moments I was entirely unable to proceed with the conversation. Indeed had the missile been of the egg-shaped variety frequently employed, I understand, in the same barbarous pursuit, the blow might well have had the most serious, if not fatal, consequences. Nor could I help feeling a trifle disheartened to perceive, when I had regained my powers of speech, that Mr. Beerthorpe was still callously blowing his whistle in a remote corner of the playground. Under such circumstances many another lad would have been deflected from his purpose. But in spite of what followed, I have always been glad to remember that I did not allow myself to be deterred. Approaching him a second time, I again touched his elbow.

'Good God,' he said, 'are you still there?'

Naturally flinching a little at the expletive, I reminded him that I had still something to communicate.

'Oh, all right,' he said. 'Come along then.'

We entered an empty schoolroom.

'Perhaps I may first', I said, 'ask you to accept this.'

It was a box of chocolates weighing half a pound and tastefully adorned with a lemon-coloured ribbon.

'It is merely a token,' I proceeded, 'albeit I hope an acceptable one, of a desire to inaugurate friendly relations.'

For a moment he stared at it with his mouth open and then made a rasping noise in the back of his throat.

'But look here,' he said, 'you don't mean to tell me that you've interrupted a game of football just to bring me in here and give me half a pound of chocolates?'

NB:

callously= without feeling

expletive = swear word

to inaugurate = to start formally

- 1.. What impression of Mr. Beerthorpe do we receive from the passage? (4)
2. What makes Augustus shudder a little just after he starts his conversation with Mr. Beerthorpe? (1)
3. Why does Augustus feel disheartened after he is hit by the football? (2)
4. What does Augustus mean by "the missile... of the egg-shaped variety frequently employed... in the same barbarous pursuit..." (2)
5. Why does Augustus present Mr. Beerthorpe with a box of chocolates? (2)
6. How does the author of the passage make it funny? (4)
7. What do you think that the other boys at the school would think of Augustus? Give as many reasons as you can from the passage to support your answer. (5)
8. Give the meaning of the following words as they appear in the passage:
 - a. deterred (1)
 - b. flinching (1)
9. Pick out one of each of the following from the passage:
 - a. A verb in the past tense (1)
 - b. An adverb (1)
 - c. An auxiliary verb (1)

SECTION B

Choose ONE of the following tasks and complete it as carefully as you can. Be sure to plan your writing first and to check it when it is completed. Marks will be awarded for imagination and originality as well as good use of language, sound structure, spelling and grammar.

1. Write another episode which might have happened during Augustus Carp's first few days at his new school. You must try to write in a similar style to that of the original extract in Section A and convey as much about the character of Augustus as possible.
2. The School Debating Society is to debate the motion *This House Believes that sport should no longer be played at school*. Write the speech that you would give FOR or AGAINST this motion. Remember that a speech is designed to be persuasive when spoken.
3. What advice would you give to new pupils to help them to settle in to your present school? Write a letter to a someone who will be entering your school in September. Try to remember how you felt before starting the school, and the things that you wish you had known.
4. An imaginative essay entitled *School - The Best Years of Your Life?*

[25 marks]

MONMOUTH SCHOOL



A School of the
Haberdashers' Company

14+ Examination

Specimen

FRENCH

Time allowed: 30 minutes

Instructions:

Write your name in the top right-hand corner

No dictionaries are allowed

Write a letter to a friend in France. Give him a few details about the town where you live. Tell him how you spent last weekend (mention at least three things you did) and say how you will spend the summer holiday.

CHECK YOUR WORK CAREFULLY WHEN YOU HAVE FINISHED.

THE UNIVERSITY OF CHICAGO
DEPARTMENT OF CHEMISTRY
5800 S. UNIVERSITY AVENUE
CHICAGO, ILLINOIS 60637

RECEIVED: [illegible]