Mathematics

PM

03/11/2015 9AM -11AM

REB
Rwanda Education Board

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Pupil's complete index number

Province/City		District		Sector		School		Pupil		

Pupil's names

Surname: .....

Other names: .....

NB: PUPIL'S INDEX NUMBER AND NAMES MUST BE WRITTEN AS THEY APPEAR ON THE REGISTRATION FORM.

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PRIMARY LEAVING NATIONAL EXAMINATIONS, 2015

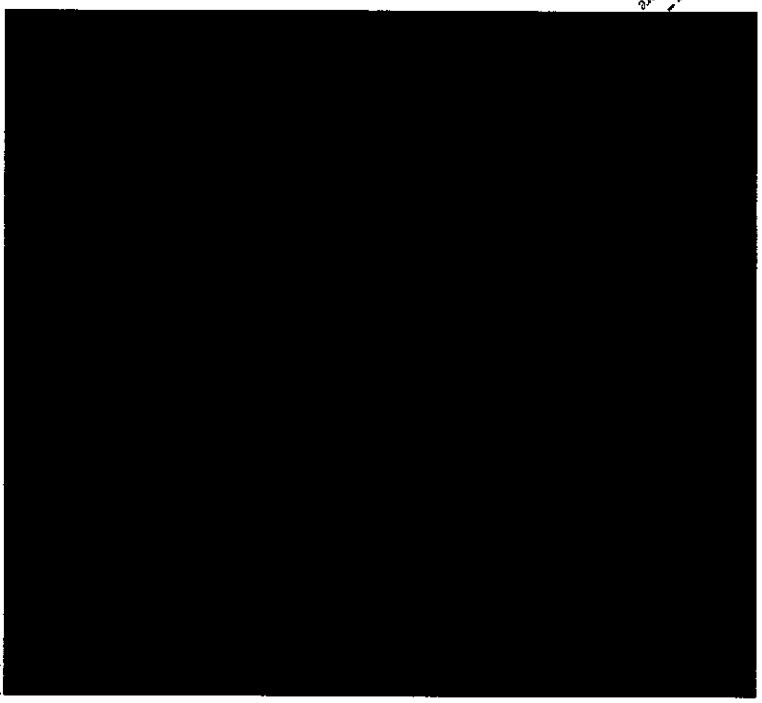
MATHEMATICS

Duration : Two hours

Marks : /100

INSTRUCTIONS

1) Do not open this question paper until you are told to do so.
2) ***This paper consists of 30 questions written on 12 pages. Before starting, verify if all pages and all questions are there and are arranged in ascending order.***
3) Answer **ALL** questions in this paper.
4) Read each question carefully before answering it.
5) Answer the questions in the space provided on this question paper.
6) Show your working clearly. Marks will be given for showing steps. All rough work must be done in the space under each question.
7) You must use a blue or black pen.
8) You are allowed to use a ruler, and a protractor.
9) **You are NOT allowed to use a calculator.**



ANSWER ALL QUESTIONS IN THIS PAPER. **(100 MARKS)**

YOU MAY DO ROUGH WORK IN THE SPACE PROVIDED BELOW EACH QUESTION.	***GIVE YOUR ANSWERS IN THE SPACE PROVIDED IN THIS COLUMN. SHOW THE WORKING STEPS.***
1) Write the following number in the figures: Seven hundred and seventy million, eight hundred and eighteen thousand, five hundred and fifty five. **(1mark)**	
2) Evaluate: $9^3 + 4^5 =$ **(1mark)**	
3) Find the value of: $a^3 + 3b^2$; when $a = 2$ and $b = -2$. **(2marks)**	
4) Workout 16h15sec - 8h25min55sec= **(2marks)**	
5) What are the place values of 3 and 6 in the number 235.6? **(2marks)**	

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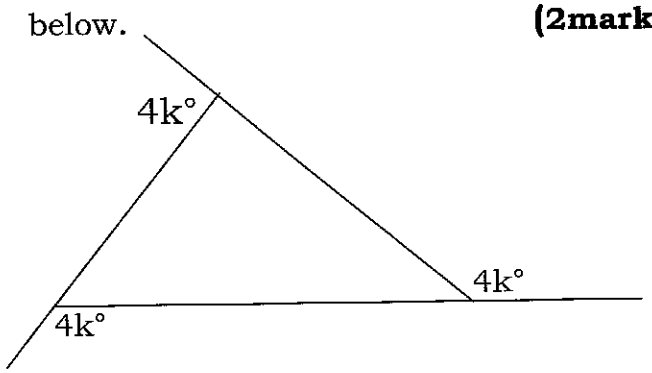
6) Find the next two terms in this progression: **(2marks)** 1, 6, 36, --------, ----------	
7) The difference of two numbers is 6 and their sum is 20. Find the two numbers. **(2marks)**	
8) Find the value of k degrees in the figure below. **(2marks)** 	
9) How many decasteres of wood can be obtained in a stack of firewood measuring 10m by 4m by 2m? **(2marks)**	

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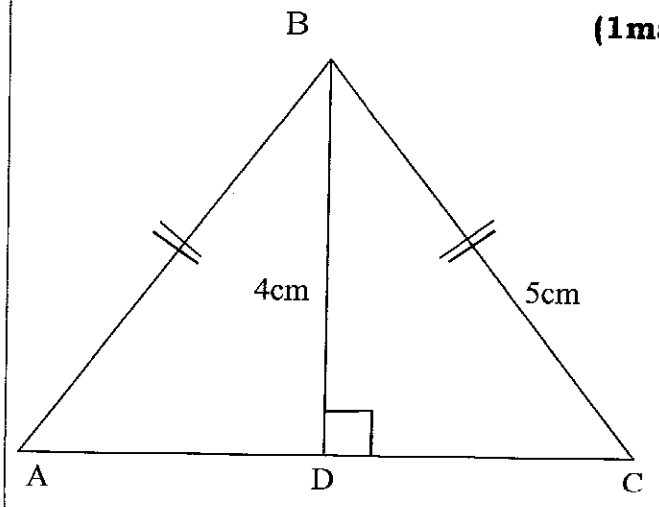
10) Alice will be 17 years in 4 years. (a) How old was she 3 years ago? **(2marks)** (b) How old will she be 6 years from now? **(1mark)**	
11) 100 pupils have enough food for 36days. How long would this food last if the number of pupils was 80? **(3marks)**	
12) (a) Calculate 60% of 200. **(1mark)** (b) Write 0.36 as a fraction. Give your answer in the lowest terms. **(2marks)**	

YOU MAY DO ROUGH WORK IN THE SPACE PROVIDED BELOW EACH QUESTION.	***GIVE YOUR ANSWERS IN THE SPACE PROVIDED IN THIS COLUMN. SHOW THE WORKING STEPS.***
13) A circle has a diameter of 100cm. (a) Calculate the area of the circle in cm^2. Use $\Pi=3.14$. **(2marks)** (b) Write your answer in part (a) above in m^2. **(1mark)**	
14) Simplify : $\frac{4}{6} \times \left(\frac{6}{8} \div \frac{2}{6}\right) =$ **(3marks)**	
15) The distance between two towns is 8km. A map on which these towns are shown has a scale of 1:50 000.Calculate the distance between the two towns on the map. Give your answer in centimeters (cm). **(3marks)**	

YOU MAY DO ROUGH WORK IN THE SPACE PROVIDED BELOW EACH QUESTION.	***GIVE YOUR ANSWERS IN THE SPACE PROVIDED IN THIS COLUMN. SHOW THE WORKING STEPS.***
16) The ratio of boys and girls in a school is 2:7. If the total number of pupils in this school is 720. How many boys and how many girls are there? **(3marks)**	
17) (a) Change: 8_{ten} to base five. **(2marks)** (b) Add: $110_{two}+11_{two}=$------$_{two}$ **(2marks)**	
18) In the figure below, find: (a) The length of AC. **(2marks)** (b) The perimeter of the triangle ABC. **(1mark)**  	

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19) A car covered a journey from town A to town B at a speed of 30km/hr in 6 hours and it took 4 hours to return through the same distance. (a) Calculate the distance from town A to town B. **(1mark)** (b) Calculate the average speed of the whole journey. **(2marks)**	
20) A man spent $\frac{1}{2}$ of his salary on school fees, $\frac{1}{3}$ of the remaining on food and saved the remainder which is equal to 100 000Frw. Calculate the man's salary. **(3marks)**	
21) The sum of two numbers is 18 and their quotient is 2. Find the two numbers. **(3marks)**	

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22) Mucuruzi mixed 40kg of beans which cost 300Frw per kg with 60kg of beans of a different type. Find the unit price of the second type if the mixture cost 180Frw per kg. **(3marks)**	
23) The mass of solid X is 20g and its volume is $25cm^3$. The mass of solid Y is 30g and its volume is $40cm^3$. Which solid has greater density? **(3marks)**	
24) The diagonals of a rhombus are 16cm and 30cm. Calculate the perimeter and the area of the rhombus. **(3marks)**	
25) A trader banked some money for 3 years at a simple interest rate of 10% per year. If the interest is 90,000Frw, how much money did he bank? **(3marks)**	

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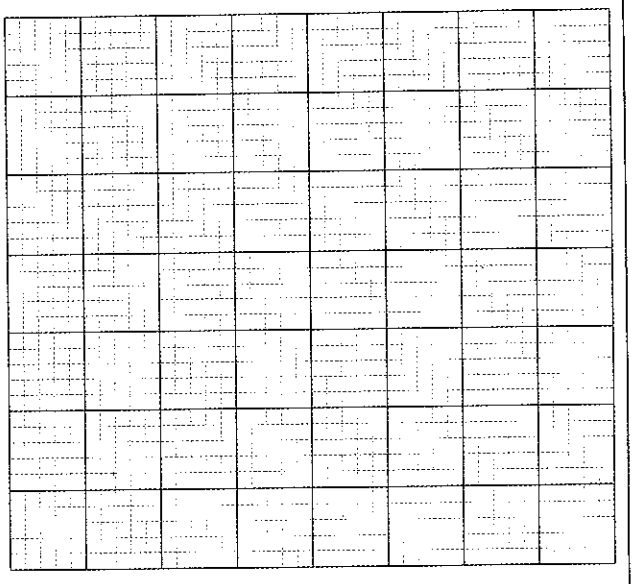
26) A wall separating two houses is 20m wide and 2.5m tall. One side of the wall is to be painted. The paint is applied at a rate of 0.095 litres per square metre. The cost of one litre of paint is 3,000Frw. Find the cost of the paint needed to complete the job if 5% of paint is wasted. **(7marks)**	
27) Given the following coordinates: (1, 0), (2,1), (3,2), (4,3); (a) Form the equation of the line passing through the points. **(2marks)** (b) Indicate the points and sketch the line passing through the points. **(5marks)**	(a) (b) 

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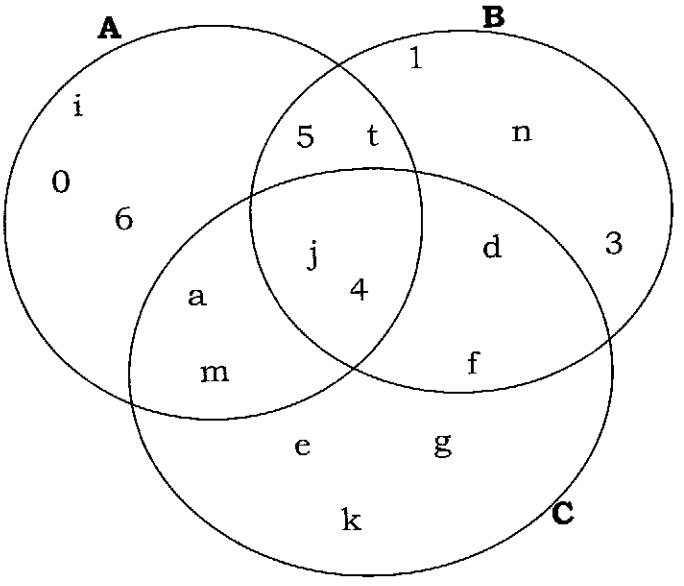
28) A woman invests 2,000,000Frw for 3 years at a compound interest rate of 4% per year. Calculate: a) Interest earned after 3 years. **(5marks)** b) Total amount of money after 3 years. **(2marks)**	
29) The list below shows the marks scored by 29 pupils in an English test marked out of 10 marks. 1 3 0 1 2 1 3 1 0 6 1 2 1 4 6 4 0 3 1 2 0 1 2 1 2 1 2 5 1 (a) Complete the frequency table across. **(4marks)** (b) Calculate the mean mark. **(2marks)** (c) Find the mode mark. **(1mark)**	(a) **Marks x** | **Frequency f** | $f \times x$ 0 | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | | Total f = | Total $f \times x$ = (b) The mean mark = (c) The mode mark =

YOU MAY DO ROUGH WORK IN THE SPACE PROVIDED BELOW EACH QUESTION.	***GIVE YOUR ANSWERS IN THE SPACE PROVIDED IN THIS COLUMN. SHOW THE WORKING STEPS.***
30) From the Venn diagram below, list the elements of the sets following: **(7marks)**  (a) Set A (b) Set C (c) Set A∩B (d) Set A∪B (e) Set B∩C (f) Set A∩(B∩C) (g) Set A∩(B∪C)	