

# Mathematics

## PM

13 Nov. 2017 09: 00-11: 00 AM



Rwanda Education Board

### Pupil's complete index number

Province/City District Sector School Pupil

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### Pupil's names

Surname: .....

Other names: .....

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

## PRIMARY LEAVING NATIONAL EXAMINATIONS, 2017

# MATHEMATICS

Duration: Two hours

Marks:

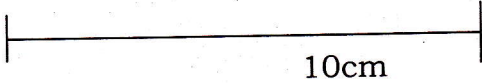
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### INSTRUCTIONS

- 1) Do not open this question paper until you are told to do so.
- 2) ***This paper consists of 12 pages and 35 questions. Before starting, check 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) Calculate: $146,391 + 43,609$ (2marks)	
2) Use a scale of 1:1,500,000 to find the actual length of the line below: (2marks) 	
3) Complete the following sentences with even, frequency, odd, or ratio. (a) ..... number can be divided exactly by 2. (1mark) (b) ..... is the number of times that something appears. (1mark)	
4) Calculate the volume of a rectangular tank measuring 6m long, 5m wide and 4m high. (Give the answer in litres) (2marks)	

5) A bus left Huye on Tuesday at 8:00pm and arrived in Rubavu on next day at 2:00am. What time did the journey take? <b>(2marks)</b>	
6) Two complementary angles are $t^\circ$ and $43^\circ$ . What is the value of angle $t^\circ$ ? <b>(2marks)</b>	
7) Calculate: $246 \times 99$ <b>(2marks)</b>	
8) Calculate the average of numbers 61, 52, 48, 21, and 58. <b>(2marks)</b>	
9) Write: seven million, seven hundred thousand and seven in figures. <b>(2marks)</b>	



10) Calculate: $8 \times 10^3 + 5 \times 10^5$ <b>(2marks)</b>	
11) What are the next two numbers in this sequence? <b>(2marks)</b>  -23; -17; -11; .....; .....	
12) Increase 850 Frw by 20%. <b>(2marks)</b>	
13) Calculate: $(250 + 45 \times 4) - 15 \div 3$ <b>(2marks)</b>	
14) Solve: $3x - (5x - 2) = 0$ <b>(2marks)</b>	

<p>15) Write the first four prime numbers. <b>(2marks)</b></p>	
<p>16) Express 0.25 hectares into ares. <b>(2marks)</b></p>	
<p>17) Add and leave the answer in base two (binary): <math>11_{\text{two}} + 11_{\text{two}}</math> <b>(2marks)</b></p>	
<p>18) Calculate the number of sides of a regular polygon whose exterior angle is <math>20^\circ</math>. <b>(2marks)</b></p>	
<p>19) Fill in the missing figures. <b>(2marks)</b> <math>3720\text{seconds} = \dots\dots\dots\text{hour} \dots\dots\dots\text{minutes}</math></p>	



20) Set A = {3, 7, 9, 11, 15, 17, 27, 37}.

Set B = {3, 11, 27 }

(a) List the members of  $A \cap B$ . **(1mark)**

(b) Describe the relationship between set A and set B. **(1mark)**

21) A child sold a hen at 4,200Frw. How much did he/she buy it if he made a loss of 16%? **(2marks)**

22) Write in words: 75.27 **(2marks)**

23) Find the Lowest Common Multiple (LCM) of 624 and 208. **(2marks)**

24) Find the area of a square garden whose perimeter is 164m. **(2marks)**

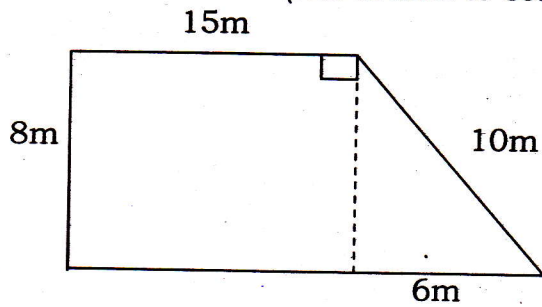
25) Work out  $6 - 2.174$  **(2marks)**

26) Calculate  $\frac{12}{16} \times \frac{6}{9} + \frac{25}{50}$  **(2marks)**



27) Find the area of the figure below. **(3marks)**

*(Not drawn to scale)*



28) There are 235 guests at a wedding. What is the least number of circular tables needed to seat all the guests if each table seats exactly 8 people? **(3marks)**

29) The distance from the first to the last pole in a line is 5,540 metres. If the interval between two consecutive poles is 20m,  
(a) how many intervals are there? **(2marks)**



<p>(b) how many poles are there? <b>(1mark)</b></p>	
<p>30) Fifteen pupils were to pay a sum of 4,500Frw. Some of them were unable to pay their shares and each pupil of the rest must pay 75Frw more. How many pupils were unable to pay? <b>(4marks)</b></p>	
<p>31) A radius of a cone is 6cm and its slanting side (g) is 10 cm. Using <math>\pi=3.14</math>, calculate: (a) the total surface area. <b>(5marks)</b></p> <p>(b) the volume of the cone. <b>(2marks)</b></p>	

<p>32) Tap A takes 3 minutes to fill a tank and tap B takes 4 minutes to draw water from the tank. How many minutes will it take to fill the tank if both taps are left open? <b>(7marks)</b></p>	
<p>33) A businessman sold 9kg of two types of mixed beans at 500Frw per kg but 4kg of one type cost 300Frw per kg. What is the cost of each kg of the second type? <b>(7marks)</b></p>	
<p>34) At a speed of 60km/hr a car covered a journey from town A to town B in 3 hours and it took 2 hours to return to town A. (a) Calculate the distance from town A to town B. <b>(3marks)</b></p>	



(b) Calculate the average speed of the whole journey. **(4marks)**

35) A business woman got a loan of 180,000Frw from a bank at 10% per annum compound interest.

(a) How much interest did the business woman pay after 2 years? **(5marks)**

(b) What was the total amount that she returned to the bank? **(2marks)**