| Mathematics

PME

27 Oct. 2009 9.00 am – 11.00 am | RWANDA NATIONAL EXAMINATIONS COUNCIL

P.O. BOX 3817 KIGALI-TEL/FAX : 586871 |

Pupil's complete index number

Province/City	District	Sector	School	Pupil

PRIMARY LEAVING NATIONAL EXAMINATION

October 2009

MATHEMATICS

Time: Two hours

Marks : /100

Instructions

This paper has two sections **A** and **B**.
SECTION A: Answer **all** questions. **(65 marks)**
SECTION B: Answer only **five** questions. **(35 marks)**
Write your index number in the space provided on your question paper.
Read each question carefully before answering it.
All rough work should be done in the space provided on your question paper.
Show neatly your work in the space provided on your question paper.
Do not use calculators or any other calculating device.

SECTION A: Answer all questions. (65 marks)

Do rough work in this column		Write your answers in this column
1. Calculate: 246 + 309 + 254 – 209.	(2)	
2. Find one fifth of 300 g of sugar.	(2)	
3. Divide 0.04 by 5.	(2)	
4. Work out: 3hrs 10min - 1hr 40min = min.	(2)	

5. Which of these statements are true: **(2)** $-2 < -5, \quad 0 > -1, \quad -6 > -4, \quad -5 < -1?$	
6. (a) What is the complement of 27°? **(1)** (b) What is the supplementary of 135°? **(1)**	
7. In a school hall there are 43 rows each containing **(2)** 14 chairs. How many people can fit in the hall?	
8. Work out $-159 - (-467)$ **(2)**	

9. Express $\dfrac{5}{6}$ of 24 as a fraction of 40. **(2)**	
10. What is the sum of the first six prime numbers? **(2)**	
11. Work out: 3.2 km + 67 dm + 234 cm = m. **(2)**	
12. Increase 800 in the ratio 11 : 5. **(2)**	

13. Express $\dfrac{7}{16}$ as a percentage. **(2)**

14. Simplify: $x^3y^5 \div xy^3$. **(2)**

15. Sketch a square and draw all the lines of symmetry it has. **(2)**

16. On a map a distance of 5 cm represents 1.5 km. **(2)** Find the scale of the map.	
17. Find the circumference of a circle whose radius is **(2)** 42cm. $\pi = \dfrac{22}{7}$.	
18. Solve the following equation: $3x + 7 = 5x + 13$. **(2)**	

19. The simple interest on a loan of 170000 frw after 9 months is 30600 frw . Find the interest rate per annum. **(2)**

20. Calculate the area of a triangle with height 6 cm and base 8 cm. **(2)**

21. The radius of the base of a cylinder is 7 cm and its height is 10 cm.

Find the volume of the cylinder. $\pi = \dfrac{22}{7}$. **(2)**

22. Calculate: $\frac{2}{7} \div (\frac{2}{3} + \frac{4}{7})$. **(2)**

23. The lights flash at intervals of 4 s, 6 s and 10 s respectively. They are started together. How soon after will they next flash together again? **(2)**

24.	A square has the same area as a rectangle with sides of 9 cm by 16 cm. What is the length of the side of the square?	(2)	
25.	The ages of 4 children are 12 years, 13 years, 15 years and x years. Find x if the average age of the 4 children is 12.5 years.	(2)	

26.	The selling price of 8 kg of sugar is 4320 frw. Find the cost price if the loss is 10%.	(3)	
27.	The angles of a quadrilateral are $x°$, $(x + 10°)$, $2x°$ and $3x°$. Find each angle.	(3)	
28.	90000 frw is invested at 12% p.a. compound interest. Find the amount after 2 years.	(3)	

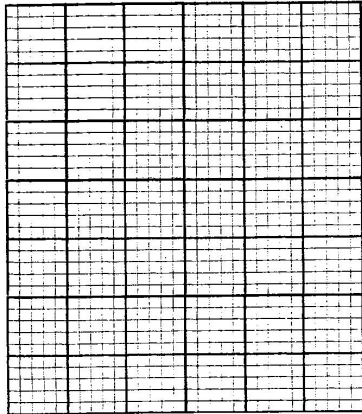| 29.	100 kg of beans costing 200 frw per kilogram is mixed with 80 kg of beans costing 245 frw per kilogram. Find the cost of one kilogram of the mixture.	**(3)**	
30.	Three children share 60 sweets in the ratio 11 : 10 : 9. How many sweets does each child get?	**(3)**	

31. In a school, there are 180 school boys, (7)
     160 school girls and 20 teachers.
     Represent this information on a pie chart.

32. (a) If the mass of a metal is 12 g when the volume is 8 cm^3, find the mass of the metal when the volume is 9 cm^3. **(3)**

(b) If p varies inversely as q and p = 4 when q = 6, find p when q = 8. **(4)**

33. (a) Solve: $\dfrac{2x-4}{3} = \dfrac{x+9}{7}$. **(4)**

(b) Find the value of : m^3 - mn^2 + ny^2, if m = - 2, n = 3 and y = -5 **(3)**

34.	Using a ruler, a pair of compasses and a protractor, construct, accurately, triangle ABC given lines AB = 6 cm, BC = 7 cm and angle ABC = 65°	**(4)**	
	Measure and state (a) the length of line AC.	**(1)**	
	(b) the angle BAC.	**(1)**	
	(c) the angle ACB	**(1)**	
35.	Simplify completely:	**(7)**	
	$$\frac{(3\frac{1}{2} \times 1\frac{1}{4}) \div (2\frac{1}{2} - 1\frac{3}{4})}{2.3 \div 4.6}$$		

36.	Plot the following points on a graph paper and join them with a line : a(0,2) ; b(1,3) ; c(2,4) ; d (3,4) and e(3,0). Shade the area under the graph and calculate it.	(7)	
37.	Karimba's age is 3 times Rukundo's age. If the total age of Karimba and Rukundo is 20 years, find how many times Karimba will be as old as Rukundo in 5 years time.	(7)	