

Mathematics

PMA

23 Oct. 2007 9.00 a.m - 11.00 a.m

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 2007

MATHEMATICS

Duration : Two hours

Marks :

/100

Instructions

Write your index number in full as written on your registration form.
Answer all questions in section A.

Answer only 5 questions in section B.

Read each question carefully before answering it.

Show the necessary working clearly in the space provided.

Rough work must be done in the space provided on the question paper.

Do not use calculators or any other calculating device.

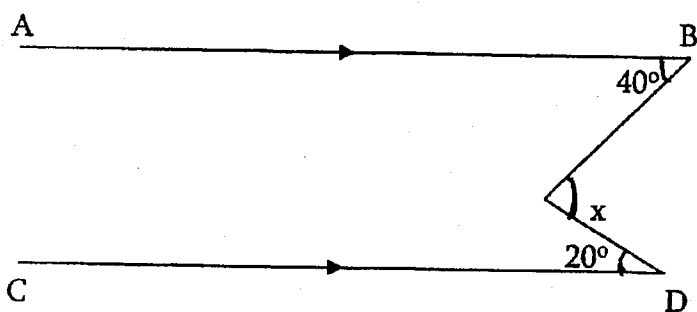
SECTION A (65 marks)

<i>Do rough work in this column.</i>	<i>Show your working and answers in this column.</i>
1. Simplify completely: $\left(\frac{5}{6} \times 2\right) \div \frac{1}{9}$ (2)	
2. Calculate $\frac{2}{3}$ of 900 g and express the answer in kg. (2)	
3. Express 858 as a product of its prime factors. (2)	

4. Solve : $3m + 4 = 5m - 2$. (2)	
5. Write 1960 in Roman Numerals. (2)	
6. Find the lowest common multiple of 21, 45 and 50. (2)	
7. Calculate the volume of a cube whose total surface area is 150 cm^2 . (2)	

8. Simplify the algebraic express: $5(2y + x) + 2(x - 4y)$. (2)

9. In the figure below, line AB is parallel to line CD. Find angle x . (2)



10. Complete the table below. (2)

2		8	12
5	17	65	

11. The sum of 3 consecutive odd numbers is 57. Find the 3 numbers.	(3)
12. Simplify completely: $\frac{3.2 \times 2.8}{0.7 \times 8}$	(2)
13. What number when increased by 15% becomes 3450?	(2)

14. Complete: (2) 1 hour 3 minutes 2 seconds = ... seconds.	
15. A book costing 2 400 frw is sold for 2 640 frw. (2) Find the percentage profit.	
16. Show that 70470 is divisible by 9 without using long (2) division method.	
17. Find the value of $m^2 + 2ab - n$ (2) if $m = 2$, $b = -1$, $a = 3$ and $n = -4$.	

18. Share 28 000 frw between John and Peter in the ratio 2:3 respectively. (2)	
19. One interior angle of a regular polygon is 120°. How many sides does the polygon have? (2)	
20. The volume of a substance is 60 m^3 and its density is 1.26 kg/m^3. Find the mass of the substance. (2)	

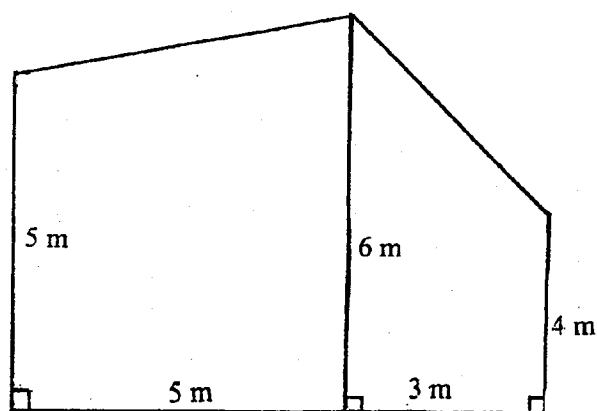
21. The speed of a moving car is 60 km/hr. The car maintains this speed for 1 hour 20 minutes. What is the distance travelled by the car? (2)	
22. A chapter in a mathematics text book is printed on pages 141 to 212 of the book. How many papers is this chapter printed on? (2)	
23. Calculate the area of a triangle whose base is 7 cm and height 16 cm. (2)	

24. 5 men take 4 days to paint a house. How many days will 8 men take to paint the same house? Assume all men work at the same rate. (2)	
25. Write the next two numbers in the following sequence: 2, 4, 12, 48, ..., ..., ... (2)	
26. A car travels 35 km on 2.5 litres of petrol. How much does it cost to travel 280 km if the cost of 1 litre of petrol is 600 frw? (2)	

27. How many revolutions does a bicycle wheel of 70 cm diameter make to cover a distance of 8.8 km? (3)

$$\pi = \frac{22}{7}$$

28. Calculate the area of the figure below. (3)



29. The cost of 3 kg of potatoes and 4 kg of beans is 840 frw. The cost of 1 kg of beans is 70 frw more than the cost of 1 kg of potatoes.
Find the cost of 1 kg of beans. (3)

30. The simple interest on a capital of 800 000 frw after 3 months is 12 000 frw. (3)
Find the interest rate per year.

SECTION B (35 marks)
Answer only 5 questions.

31. The diagonals of a rhombus are 10 cm and 24 cm.

Calculate

- a) the area of the rhombus. (2)
b) the perimeter of the rhombus. (5)

32. Calculate completely: (7)

$$\frac{\frac{1}{5} \times (6\frac{3}{4} - 4.75) \times (3.875 - 2\frac{3}{8})}{(1.5 \times 1.5) \div 2\frac{1}{2}}$$

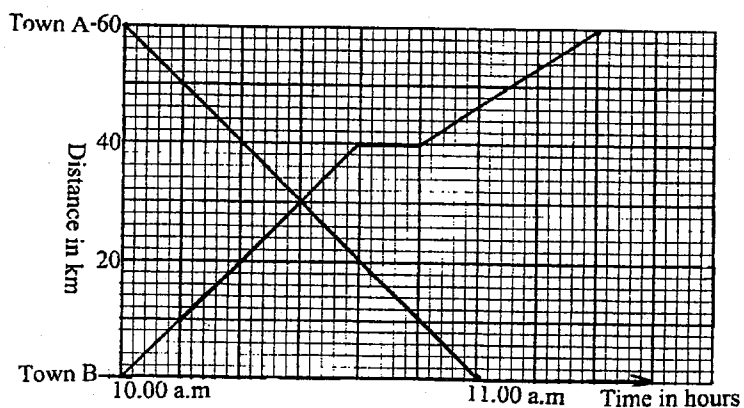
33. David sells cars worth 90 000 000 frw on behalf of the importer. He receives a commission of 10% on the first 50 000 000 frw and 3% on the remainder. How much money does the importer receive if he pays 5% tax? (7)

34. (a) Solve: (4)

$$\frac{2x-4}{x} - \frac{6x+2}{2x} = 0 \text{ if } x \text{ is not equal to } 0.$$

(b) Four times a number is the same as the number increased by six. Find the number. (3)

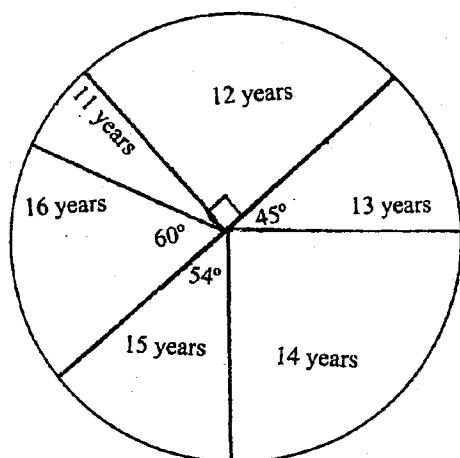
35. Town A is 60 km away from town B. A taxi left town A for town B at the same time when a lorry left town B for town A. The journey is represented by the graph below.



From the graph:

- a) At what time did the taxi meet the lorry? (1)
- b) For how long did the lorry stop on the way? (1)
- c) What was the average speed of the taxi? (2)
- d) At what time did the lorry reach town A? (1)
- e) Find the average speed of the lorry for the whole journey. (2)

36. The pie chart below shows the ages of primary school pupils. 10 pupils are 11 years old.



- (a) How many pupils does the pie chart represent? (2)
- (b) How many pupils are (1)
- (i) 12 years old? (1)
 - (ii) 13 years old? (1)
 - (iii) 14 years old? (1)
 - (iv) 15 years old? (1)
 - (v) 16 years old?

37. In the figure below find the size of angles

- (i) 1
- (ii) 2
- (iii) 3
- (iv) 4
- (v) 5
- (vi) 6
- (vii) 7

- (1)
- (1)
- (1)
- (1)
- (1)
- (1)
- (1)

