

Mathematics**PMA****23 Sept 2004****9h00 – 11h00****B.P.O.BOX 3817 KIGALI - TEL/FAX : 586871****Pupil's complete index number***Province*

--	--

District

--	--

School

--	--

Student

--	--	--	--

**PRIMARY LEAVING NATIONAL EXAMINATION
2003-2004**

September 2004**MATHEMATICS****Duration: Two hours****Marks:****/100****Instructions**

Write your index number in full.

Answer all questions in section A.

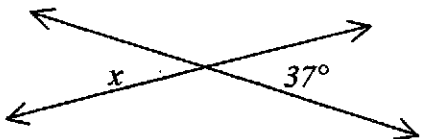
In section B don't choose more than five questions.

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.

SECTION A (65 marks)

<i>Do rough work in this column</i>	<i>Show your working and answers in this column</i>
1. Write the number 1994 in words. (1)	
2. What is the value of x in the figure below? (1) 	
3. Which is the place value of 3 in the number 40301? (1)	
4. Round off 2567 to the nearest a hundred. (1)	
5. Calculate: $5 \text{ kg} + 200 \text{ dg} = \dots\dots\dots \text{ g}$. (1)	
6. Find the next two numbers in the following sequence : 25; 48; 72; 97;; (1)	
7. Draw all lines of symmetry for the rectangle below. (1) 	

8. Write 90 in Roman numbers.	(1)	
9. Hundred bank notes of Rwanda francs paid to the Headmaster are numbered from AA7591510 to AA7592000. How much money is this?	(2)	
10. A number divided by $\frac{1}{5}$ is 50. Find the number.	(1)	
11. Which of the following numbers is divisible by 3 completely 172, 259 and 501?	(1)	
12. What is the sum of prime numbers between 0 and 10?	(1)	
13. How many cups of tea, each measuring 250 cm ³ can be obtained from 2.5 litres of tea?	(1.5)	

14. Calculate : 8400×0.75 .
--

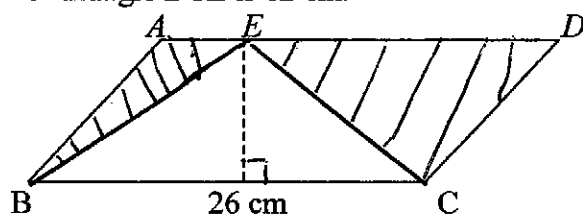
19. On a map, a line of 4 cm represents 2 km on land. (2) Find the area of a square land whose sides are each 10 cm long on the map.	
20. Arrange the following fractions in ascending (1.5) order: $\frac{31}{84}$, $\frac{2}{7}$, $\frac{8}{21}$.	
21. The average age of 15 students is 16 years and (3) the average age of 5 other students is 6 years. Calculate the average age of the whole group.	
22. Find the simple interest on 40 000 frw for 4 years (2) at 11 % interest rate per year.	

23. Calculate $\frac{2}{5}$ of 105 000 cm ² and express the answer in square metres. (1.5)	
24. The area of a square is 81 cm ² . Calculate the perimeter of the square. (2)	
25. Simplify completely $1\frac{5}{6} \div \left(\frac{2}{3} + \frac{1}{4}\right)$. (2)	
26. Find the L.C.M.of 39 and 52. (1.5)	
27. In shop A a dozen of pencils costs 600 frw while in shop B a packet of 20 dozens of he same pencils costs 10800 frw. Which of the two shops would you go to buy a pen? (1.5)	

28. Given that $m = 4$, $n = -2$ and $y = 5$, calculate the value of $my - 4n$. (2)	
29. Find the sum of interior angles of a regular polygon which has 6 sides. (2)	
30. The density of a solid is 0.765 g/cm^3 and its volume is $2\,000 \text{ cm}^3$. Calculate the mass of the solid. (1)	
31. John and Mary shared 200 000 frw among themselves. Mary received 4 times as much as John received. How much money does each person receive? (3)	

32. Musa bought 3 000 kg of beans at 300 000 frw. (3)
He sold all the beans at 115 frw per kilogram.
Calculate Musa's percentage profit.

33. In the figure below, ABCD is a parallelogram. (3)
Calculate the area of the shaded part if the height
of triangle BCE is 12 cm.



34. 40 children eat 8 kg of rice per day. How many (2)
kilograms of rice do 10 children eat in 5 days?

35. $\frac{3}{8}$ of pupils in a class are girls. If there are 25 boys in a class, find the total number of girls in the class.

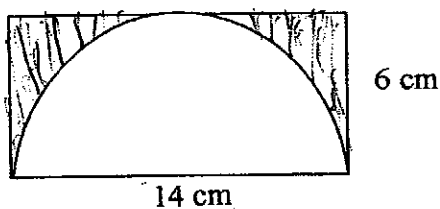
(2)

36. A car started a journey at 8.30 a.m. and ended at 2.30 p.m. the same day. If the car covered 300 km, calculate the speed of the car.

(2)

37. The figure shows a semi-circle enclosed in a rectangle. Calculate the perimeter around the shaded area. Take $\pi = \frac{22}{7}$

(2)



6 cm

14 cm

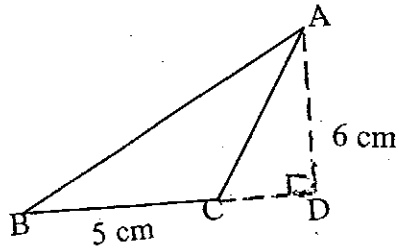
38. A government bought 20 cars from a car factory at 18 000 000 frw per car. There was a 10% discount (reduction). How much money was paid for the 20 cars? (2)	
39. A water tank is 1.5 m deep, 2 m wide and 3 m long. How many litres of water does the tank contain if it is completely full? Ignore the volume of the materials of which the tank is made. (2)	
40. An electric cable costs 2 000 frw per metre. Find the cost of an electric cable 65.5 m long if 6 % tax is added to the actual cost. (2)	

SECTION B (35 marks)

Answer only five questions in this section

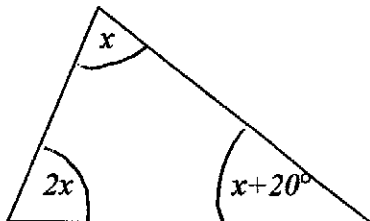
41. In the figure below, the area of triangle ABD is 24 cm^2 . Find the ratio of the area of triangle ACD to the area of triangle ABC.

(7)



42. a) Solve for x : $\frac{(2x-3)}{2} - \frac{(x+1)}{5} = \frac{7}{10}$. (3.5)

b) Find the size of each angle in the triangle. (3.5)

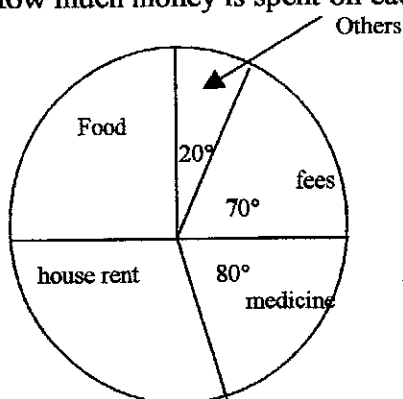


43. A sum of 100 000 frw is banked at compound interest rate of 10% per year for 4 years. Calculate the total amount of money in the bank after 4 years.

(7)

44. A man earns 90 000 frw per month. The pie chart below shows how the money is spent. How much money is spent on each item?

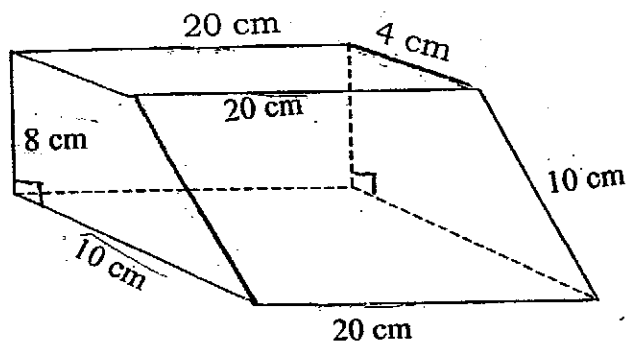
(7)



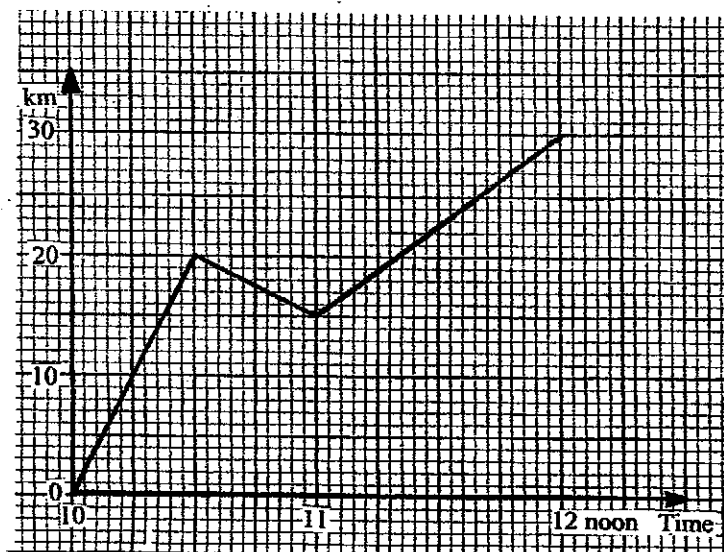
- | | |
|--|--|
| <p>45. 10 men complete some work in 20 days. All men work at the same rate.</p> <ul style="list-style-type: none">a) How many men complete the same work in 5 days? (2)b) How long does it take 8 men to complete the same work? (2)c) If the cost of the completed work is a fixed amount of 200 000 frw, how much money does each man in question 45(a) take home each day if he eats 200 frw every day? (3) | |
|--|--|

46. Below is a prism with a pair of opposite trapezium cross section area ends. Calculate

- a) the volume of the prism (2)
- b) the total surface area of the prism. (5)



47. The graph below shows a journey of a person who visited a friend in another village.



- How far did the person travel after 15 minutes? (1)
- At what time did the person turn back towards his home? (1)
- What distance does the person travel towards his home after turning back? (1)
- How far was the person from his home 1 hour after starting the journey? (1)
- Find the average speed for the whole journey? (3)

48. Below are the results from the voting of constitution in a certain country.

Number of people registered for voting = 4 000 000

Number of people who voted **yes** = 3 332 000

Number of people who voted **no** = 392 000

Number of spoilt votes = ...?

Percentage of people who were absent = 2 %

- a) How many people (i) were absent? (1)
(ii) voted altogether? (1)
- b) How many votes were spoilt? (1)
- c) Express (1)
(i) **yes** votes as percentage of all the people who voted (1)
(ii) **no** votes as percentage of all the people who voted (1)
(iii) spoilt votes as percentage of all the people who voted. (2)

49. Town M and Town N are 120 km apart. A car starts from Town M and drives to Town N at an average speed of 60 km/hr. At the same time a cyclist leaves Town N for Town M at an average speed of 30 km/hr.

- a) How far from Town M does the car meet the cyclist? (4)
- b) What time does the car take before it meets the cyclist? (1)
- c) The car takes 20 minutes to reach Town N after meeting the cyclist. Calculate the average speed of the car from Town M to Town N . (2).

50. A shopkeeper buys 200 kg of beans at 100 frw per kilogram and maize at 80 frw per kilogram. A shopkeeper finds that the cost of the mixture is 92.5 frw per kilogram.

a) How many kilograms of maize does the shopkeeper buy? (5.5)

b) The shopkeeper wants a profit of 20 %. (1.5)
What is the selling price of 1 kg of the mixture?

BLANK PAGE