

# YEAR 2002

## PUPIL'S COMPLETE INDEX NUMBER

Province/City

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District

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Sector

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School

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Pupil

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## PUPIL'S FULL NAME

SUR NAME: \_\_\_\_\_

OTHER NAMES: \_\_\_\_\_

## REVISION OF EXTRACTED QUESTIONS FROM PRIMARY LEAVING EXAMINATION 2002 MATHEMATICS

Duration: 2 hours

### SECTION A (65 MARKS)

1	Complete $0.2 \text{ ha} = \text{_____ m}^2$ (2 marks)	2	Write in words 2041 (2 marks)
3	Compare 2.5km and 25000dm using the following symbols: $<$ , $>$ or $=$ (2 marks)	4	What is $\frac{2}{8}$ of 0.488? (2 marks)
5	Convert 500 United States dollars into Rwanda francs if 5 United States dollars = 2250frw. (2 marks)	6	Two eggs take 5 minutes to boil in 2 litres of water. How long do three eggs take to boil in the same 2 litres of water? (heat supply is the same) (2 marks)

7. Which of these numbers are not prime numbers? 2, 3, 7, 9, 11, 15? (2 marks)

8. Write 21 in Roman numerals (2 marks)

9. Calculate:  $0.0135 \times 0.03$  (2 marks)

10. Solve the equation:  $3(x - 1) = x + 9$  (2 marks)

11. A man buys 100kg of beans and 90kg of peas. He pays a total sum of 12 200frw. Calculate the cost of 1kg of peas if 1kg of beans costs 50frw. (2 marks)

12. The sum of two consecutive even numbers is 18.

(a). Find the two numbers (1 mark)

(b). Find the product of the two numbers (1 mark)

13. Fill in the missing numbers (2 marks)

2	4	5	8	_____
5	_____	26	65	101

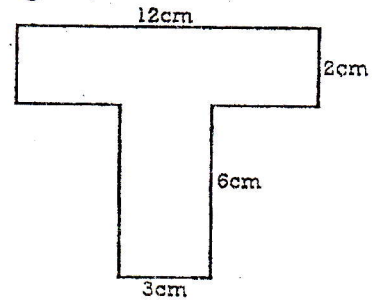
14. Simplify completely:  $\frac{\sqrt{81} + \sqrt{144}}{7}$  (2 marks)



15	A number is increased by 8%. If the new number is 1296, find the original number. (2 marks)	16	The cost price of a cow is 75 000frw and the selling price is 90 000frw. Calculate the percentage profit. (2 marks)
17	Arrange the following fractions in ascending order: $\frac{7}{10}$ , $\frac{6}{12}$ , $\frac{3}{5}$ (2 marks)	18	Three men working at the same rate complete some work in ten days. In how many days do five men complete the same work if they all work at the same rate? (2 marks)
19	A car travels 40km in 30 minutes without stopping. What distance does the car travel in $1\frac{1}{4}$ hours? (2 marks)	20	A man banks 30 000frw at 5% interest rate per year. After how long is the interest 4500frw? (2 marks)
21	A sum of money was divided between 3 boys so that their shares are 1500frw, 6000frw and 2000frw. In what ratio is the money divided? (2 marks)	22	Calculate 24kg + 200g + 150mg. Write your answer in g. (2 marks)
23	If a minute hand of a clock makes 2 revolutions, how many revolutions does a second hand make? (2 marks)	24	Simplify completely: $\left(2\frac{1}{2} \div \frac{7}{9}\right) \times \frac{1}{12}$ (2 marks)

25 The density of aluminium is  $2700\text{kg/m}^3$  and the density of water is  $1000\text{kg/m}^3$ . Calculate the relative density of aluminium. (2 marks)

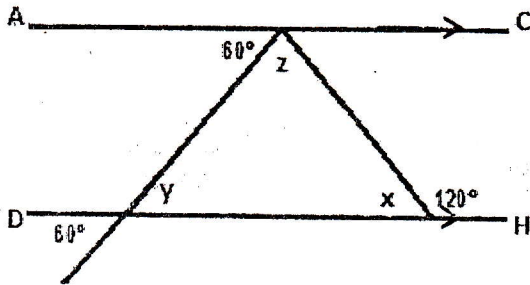
26 From the figure, calculate:



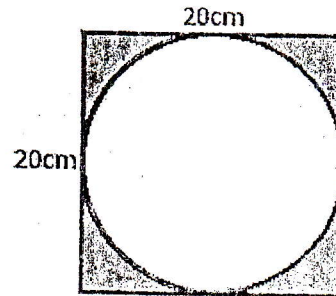
(a). The perimeter (1.5 marks)

(b) The area (1.5 marks)

27 In the figure below, line AC is parallel to line DH. Determine the size of angles x, y and z (3 marks)



28 ABCD is a square whose sides are each 20cm long. Determine the area of the shaded part. ( $\pi = 3.14$ ) (3 marks)



29 The length of a cubical container is 20cm. How many litres of water does the container hold? (3 marks)

30 The following are the ages of 10 pupils in primary six class.

11, 12, 13, 11, 12, 14, 11, 12, 13, 11.

(a). Complete the table below (1 mark)

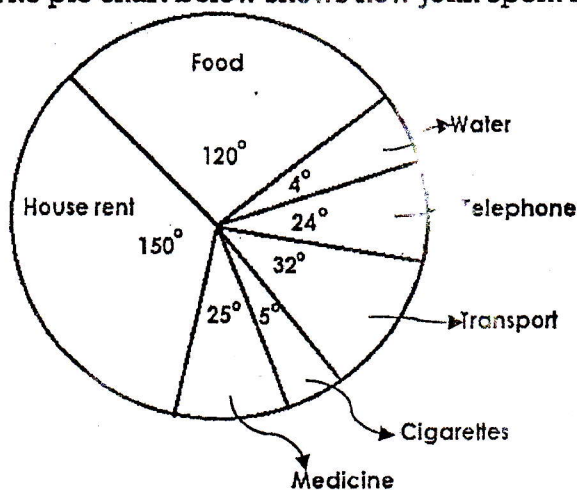
Age	Frequency
11	_____
12	_____
13	_____
14	_____

(b). What is the mode age? (1 mark)

(c). Calculate the average age (1 mark)

**SECTION B (Choose any 5 questions-35 marks)**

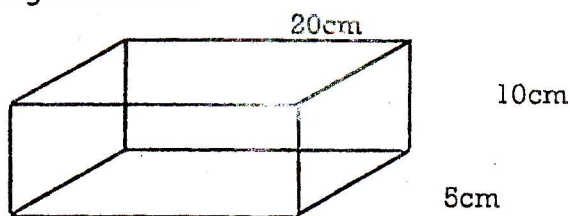
31 The pie chart below shows how John spent his monthly salary. He spent 1000Rwf on water.



(a). Calculate his monthly salary.

(b). How much did John spend on each item?

32 The figure below is of a rectangular block.



(a). Calculate it's:

(i). Total surface area (2 marks)

(ii). Volume (1 mark)

(b). Find the length of the side of a cube whose volume is the same as of this rectangular block. (2 marks)

(c). Calculate the total surface area of the cube. (2 marks)

33 Each interior angle of a regular polygon is  $150^\circ$ .

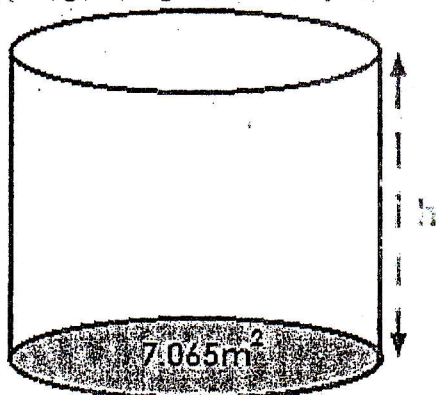
(a). What is the size of each exterior angle of the polygon? (2 marks)

(b). How many sides does the polygon have? (2 marks)

(c). If the perimeter of the polygon is 84cm, find the length of each side. (3 marks)



34 The figure represents a cylindrical tank whose cross section area is  $7.065\text{m}^2$ .



(a). Calculate the radius of the cross section area. ( $\pi = 3.14$ )  
(3 marks)

(b). Calculate the length of the tank if the volume is  $14130\text{ dm}^3$ .  
(4 marks)

35 In a certain primary school, there are 300 pupils. The number of boys is 2 times the number of girls. 16% of the boys play football and  $\frac{1}{5}$  of the girls play volleyball.

(a). Find the number of:

(i). Boys in the school. (2 marks)

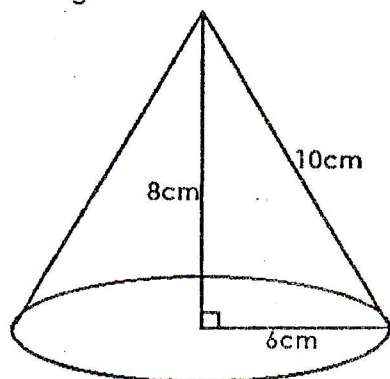
(ii). Girls in the school. (2 marks)

(b). The number of boys who play football. (1 mark)

(c). The number of girls who play volleyball. (1 mark)

(d). The percentage of pupils who play volleyball. (1 mark)

36 The figure below is of a cone.

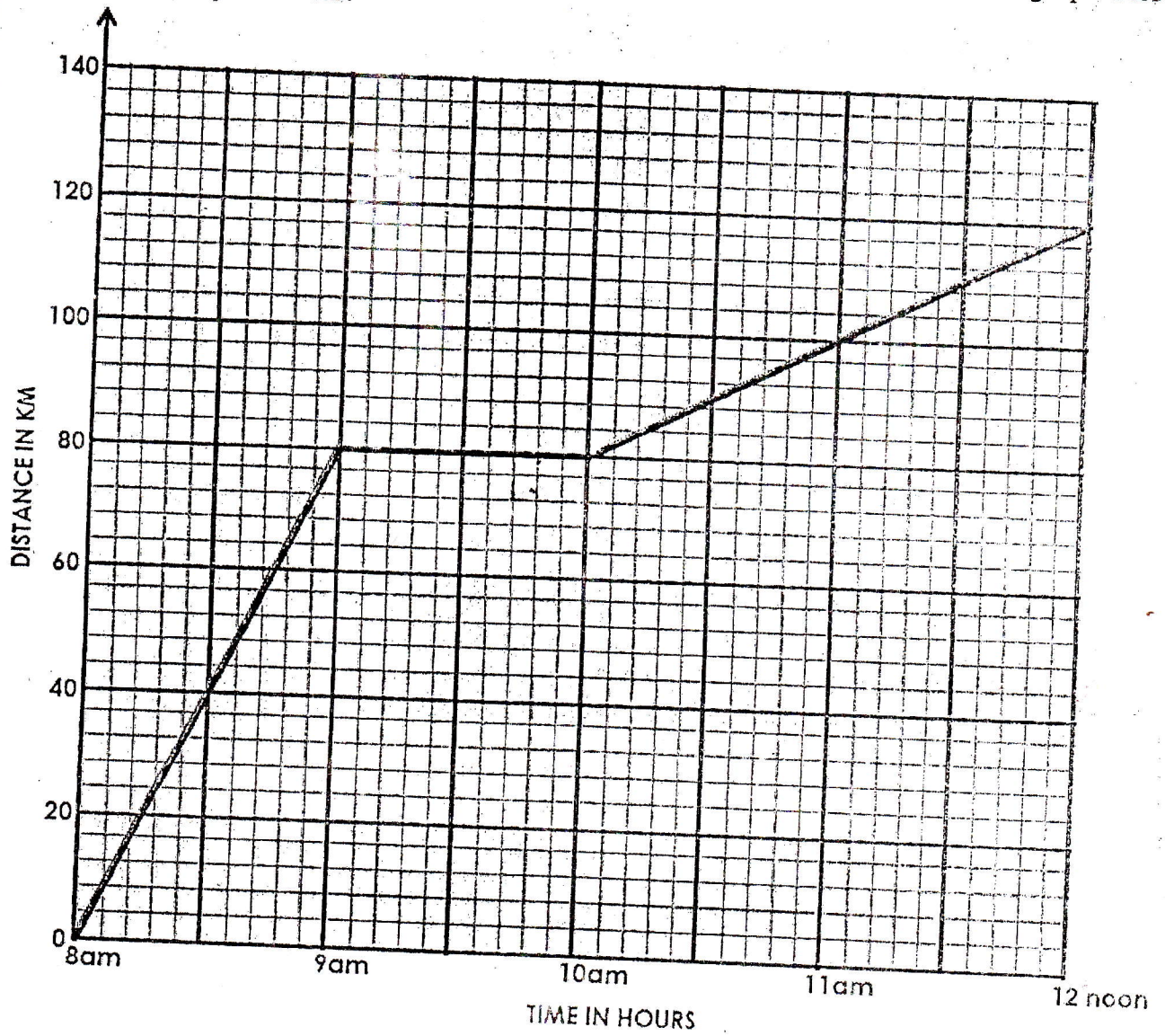


Calculate:

(a). The curved surface area of the cone. ( $\pi = 3.14$ ) (4 marks)

(b). The volume of the cone (3 marks)

51 A car travels 80km, gets a puncture and then travels another 40km more slowly. The graph below shows the journey of the car.



- What time does one small square represents on the time axis (x-axis)? (1 mark)
- What distance does one small square represent on the distance axis (y-axis)? (1 mark)
- What distance has the car travelled at 8:30am?(1 mark)
- At what time does the car have a puncture?(1 mark)
- For how long does the car stop? (1 mark)
- Calculate the car's average speed for the whole journey. (2 marks)