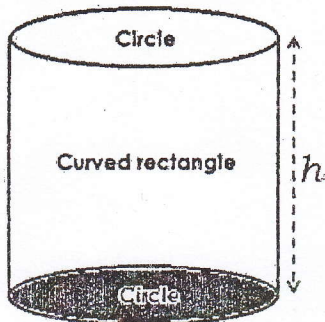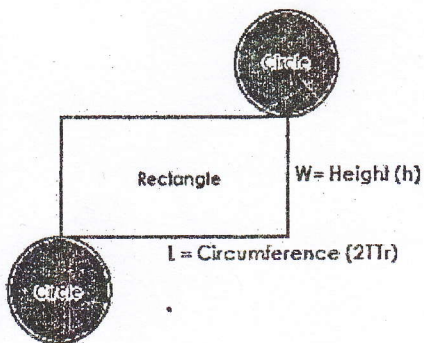# A WORKBOOK OF P.6 PAST PAPERS
MATHEMATICS
WORKING AND ANSWERS

A CYLINDER

$$\begin{aligned}
\text{Volume} \;&= \text{Base area} \times \text{height}\\
&= (\text{Area of circle}) \times \text{height}\\
&= \pi r^2 \times h\\
&= \pi r^2 h
\end{aligned}$$

$$\begin{aligned}
\text{Curved Area} \;&= \text{Area of a rectangle}\\
&= L \times W\\
&= L\,(\text{circumference}) \times W\,(\text{height})\\
&= 2\pi r \times h\\
&= 2\pi r h
\end{aligned}$$

$$\begin{aligned}
\text{TSA} \;&= \text{Area of 2 circles} + \text{curved area}\\
&= 2\pi r^2 + 2\pi r h
\end{aligned}$$

NAME: _____

SCHOOL: _____

INDEX NUMBER:	PROVINCE	DISTRICT	SECTOR	SCHOOL	PUPIL
	☐☐	☐☐	☐☐	☐☐	☐☐☐

PARENT'S CONTACT: _____

"Teacher's or parental guidance is needed"

YEAR 2015

PUPIL'S COMPLETE INDEX NUMBER

Province/City	District	Sector	School	Pupil

PUPIL'S FULL NAME

SUR NAME: _____

OTHER NAMES: _____

REVISION OF EXTRACTED QUESTIONS FROM PRIMARY LEAVING EXAMINATION 2015
MATHEMATICS

Duration: 2 hours

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1 Write the following number in figures:
Seven hundred and seventy million, eight hundred and eighteen thousand, five hundred and fifty five. (1 mark)

2 Evaluate: $9^3 + 4^5$ (1 mark)

3 Find the value of: $a^3 + 3b^2$ when $a = 2$ and $b = {}^-2$. (2 marks)

4 Workout: 16 h 15 sec − 8 h 25 min 55 sec (2 marks)

5 What are the place values of 3 and 6 in the number 235.6? (2 marks)

6 Find the next two numbers in this progression:
1, 6, 36, _____, _____ (2 marks)

7	The difference between two numbers is 6 and their sum is 20. Find the two numbers. (2 marks)	8	Find the value of k in degrees in the figure below. (2 marks)
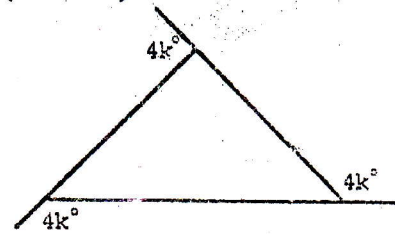
9	How many decasteres of wood can be obtained in a stack of firewood measuring 10m by 4m by 2m? (2 marks)	10	Alice will be 17 years in 4 years. (a). How old was she 3 years ago? (2 marks) (b). How old will she be 6 years from now? (1 mark)

11	100 pupils have enough food for 36 days. How long would this food last if the number of pupils was 80? (3 marks)	12	(a). Calculate 60% of 200. (1 mark) (b). Write 0.36 as a fraction. Give your answer in the lowest terms. (2 marks)

13	A circle has a diameter of 100cm. (a). Calculate the area of the circle in cm^2. (use $\pi = 3.14$) (2 marks) (b). Write your answer in part (a) above in m^2 (1 mark)	14	Simplify: $\frac{4}{6} \times \left(\frac{6}{8} \div \frac{2}{6} \right)$ (2 marks)

15	The distance between two towns is 8km. A map on which these towns are shown has a scale of 1:50 000. Calculate the distance between the two towns on the map. Give your answer in centimetres (cm). (3 marks)
16	The ratio of boys to girls in a school is 2:7. If the total number of pupils in this school is 720. How many boys and girls are there? (3 marks)

17	(a). Change 8_{ten} to base five. (2 marks) (b). Add: $110_{two} + 11_{two} =$ _____ two (2 marks)
18	A car covered a journey from town A to town B at a speed of 30km/hr in 6 hours and it took 4 hours to return through the same distance. (a). Calculate the distance from town A to town B. (1 mark) (b). Calculate the average speed of the whole journey. (2 marks)

19	The sum of two numbers is 18 and their quotient is 2. Find the two numbers.(3 marks)
20	Mucuruzi mixed 40kg of beans which cost 300Frw per kg with 60kg of beans of a different type. Find the unit price of the second type if the mixture costs 180 Frw per kg. (2 marks)

| 21 | The mass of solid X is 20g and its volume is 25cm³. The mass of solid Y is 30g and its volume is 40cm³. Which solid has greater density? (3 marks) | 22 | A trader banked some money for 3 years at a simple interest rate of 10% per year. If the interest is 90,000Frw, how much did he bank? (3 marks) |

23 A man spent $\frac{1}{2}$ of his salary on school fees, $\frac{1}{3}$ of the remaining on food and saved the remainder which is equal to 100,000Frw. Calculate the man's salary. (3 marks)

24 Study the figure below:
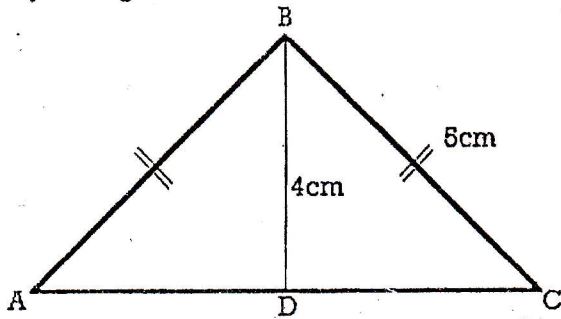
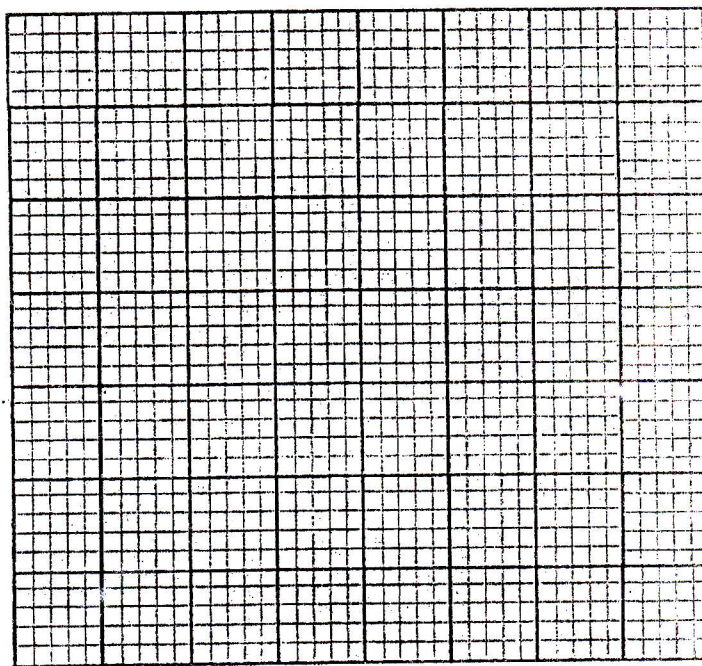(a). Find the length AC (2 marks)

(b). Find the perimeter of triangle ABC (1 mark)

25 The diagonals of a rhombus are 16cm and 30cm. Calculate the perimeter and area of the rhombus. (3 marks)

26	A wall separating two houses is 20m wide and 2.5m tall. One side of the wall is to be painted. The paint is applied at a rate of 0.095 litres per square metre. The cost of one litre of paint is 3,000Frw. Find the cost of the paint needed to complete the job if 5% of paint is wasted. (7 marks)
27	Given the following coordinates: (1, 0), (2, 1), (3, 2), (4, 3) (a). Form an equation of the line passing through the points. (2 marks) (b). Indicate the points and sketch the line passing through the points. (5 marks)
28	A woman invests 2,000,000Frw for 3 years at a compound interest rate of 4% per year. (a). Calculate the interest earned after 3 years. (5 marks) (b). Find the total amount of money after 3 years. (2 marks)

29 The list below shows the marks scored by 29 pupils in an English test marked out of 10 marks.

1 3 0 1 2 1 3 1 0 6

1 2 1 4 6 4 0 3 1 2

0 1 2 1 2 1 2 5 1

(a). Complete the frequency table below. (4 marks)

Marks (x)	Frequency (f)	fx
	Total f =	Total fx =

(b). Calculate the mean mark. (2 marks)   (c). Find the mode mark. (1 mark)

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30 From the Venn diagram below, list the elements of the sets following: (7 marks)

A   B

i   1

0   5   n

6   t

  j   d

a   4   3

m   f

e   g

k

C

(a). Set A   (b). Set C

(c). Set A∩B   (d). Set A∪B

(e). Set B∩C   (f). Set A∩(B∩C)

(g). Set A∩(B∪C)