

KANYAMEDHA JUNIOR SCHOOL
GRADE 9
MATHEMATICS
TIME: 1HR 40 MIN

GRADE NINE END TERM ONE (2025)
SCHOOL BASED ASSESSMENT
903- MATHEMATICS

LEARNER'S NAME: _____

ASSESSMENT NO: _____ **ADM NO:** _____

DATE: _____ **SIGN:** _____

Instructions to the Learners

- a) Write your name, stream and admission number in the spaces provided.
- b) Sign and write date of examination.
- c) Answer all the questions in this paper in the spaces provided
- d) Show all your workings where necessary.
- e) Only non-programmable calculators are allowed.

FOR EXAMINERS USE ONLY

SECTION	SECTION I	SECTION II	TOTAL
MAX SCORE	10	50	60
LEARNER'S SCORE			
PERCENTAGE (%)			

SCORE RANGE	PERFORMANCE LEVEL	TICK
80-100	EXCEEDING EXPECTATION	
60-79	MEETING EXPECTATION	
40 -59	APPROACHING EXPECTATION	
0-39	BELOW EXPECTATION	

SECTION II (10 MARKS)

Answer ALL the Questions in this section

1. Which of the following is 2401 expressed in index form using base 7
 - A. 7^3
 - B. 7^4
 - C. 5^7
 - D. 7^3
2. Given that $\log \log d_{10} = -2$. Which of the following is the value of d
 - A. 0.02
 - B. 0.001
 - C. 100
 - D. 0.01
3. Grade 9 learners worked out the volume of a cylinder with radius 7cm and height 35cm. What was the correct answer?
 - A. 10780cm^3
 - B. 5390cm^2
 - C. 1540cm^3
 - D. 5390cm^3
4. Sarah recorded the following numbers in a field book $5\frac{1}{2}$, -8, 0.6, $\frac{1}{2}$. Which of the numbers is an integer?
 - A. $5\frac{1}{2}$
 - B. -8
 - C. 0.6
 - D. $\frac{1}{2}$
5. What is the simplest form of Algebraic expression

$$\frac{x-1}{4} + \frac{2+x}{3}$$

- A. $\frac{7x+5}{12}$
- B. $\frac{7x-5}{12}$
- C. $\frac{7x+11}{12}$
- D. $\frac{7x-11}{12}$

SECTION II (50 MARKS)

Answer ALL the Questions in this section

6. A county Government gave its Sub- Counties 1006500 indigenous trees to plant during an environmental day. Write the number of seedlings in words. **(2 marks)**

7. Use a number line to work out $(-7) - (+4)$ **(2marks)**

8. Evaluate

a) $\frac{48 - -24}{6 \times -4}$

(2 marks)

b) $14 \div \frac{1}{3} \text{ of } 5\frac{1}{4} - 3\frac{3}{4} \times 1\frac{1}{3}$

(3 marks)

9. a) Express 12 in terms of its prime factors **(1 mark)**

- b) Find the smallest number that can be multiplied by 12 to make it a perfect cube **(1 marks)**

- 10.** Mary bought 3 packets of milk and 4 loaves of bread for ksh 570 from a shop. Jane bought 5 packets of milk and a loaf of bread for ksh 440 from the same shop. Determine the cost of a loaf of bread and the cost of a packet of milk. **(3 marks)**

11. If $A = \begin{pmatrix} -1 & 3 \\ -3 & 4 \end{pmatrix}$, $B = \begin{pmatrix} 1 & -3 \\ -2 & 4 \end{pmatrix}$ and $C = \begin{pmatrix} 1 & -1 \\ 4 & 3 \end{pmatrix}$, Find the value of $A - B + C$ **(3 marks)**

12. a) Simplify $27^{\frac{2}{3}} \times \left(\frac{81}{16}\right)^{-\frac{1}{4}}$ **(3 marks)**

- 13.** A mixture of sand and cement has a mass of 560kg. If the ratio of sand to cement is 5:2 respectively, find the mass of sand and cement in the mixture. **(3 marks)**

14. A regular polygon has interior angle of $(2x-10)^\circ$ and exterior angle of $(x+40)^\circ$. Find the value of x . **(2 marks)**

15. Kioko has a metallic cube of sides 0.624m. Use table of cubes to find the volume of the metallic cube. **(2 marks)**

16. Use factor method to work out the value of $\sqrt[3]{2\frac{43}{343}}$ **(2 marks)**

17. A basketball team play 10 matches in a tournament. The following are scores in each match.

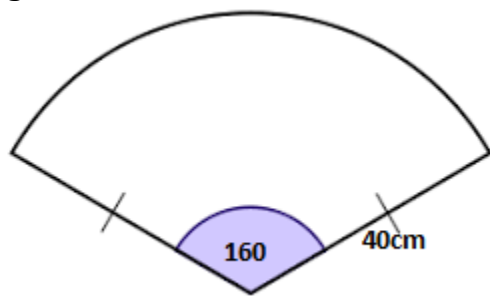
9, 15, 17, 16, 7, 20, 21, 15, 10, 12

Determine:

(a) The mode. **(1 mark)**

(b) The median. **(2 marks)**

- 18.** A sector of a circle of radius 40cm subtends 160° at the center of the circle as shown in the figure below.



Determine

- a) Length of the arc

(2 marks)

- b) Area of the sector

(2 marks)

- 19.** The table below shows the favorite sports chosen by Grade 7 learners at Kotetni School.

Sport	Football	Volleyball	Handball	Netball
Number of learners	20	14	4	10

Draw a pie chart to represent the information

(3 marks)

20. A straight line is given by the equation $3y - 9x + 12 = 0$

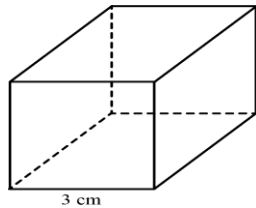
a) Write the equation in form of $y = mx + c$

(1 mark)

b) Find coordinate of the y -intercept of the line.

(2 marks)

21. Grade 8 learners were learning about the nets of solids. The teacher gave the learners a model of a cube of side 3 cm. The figure below shows the cube



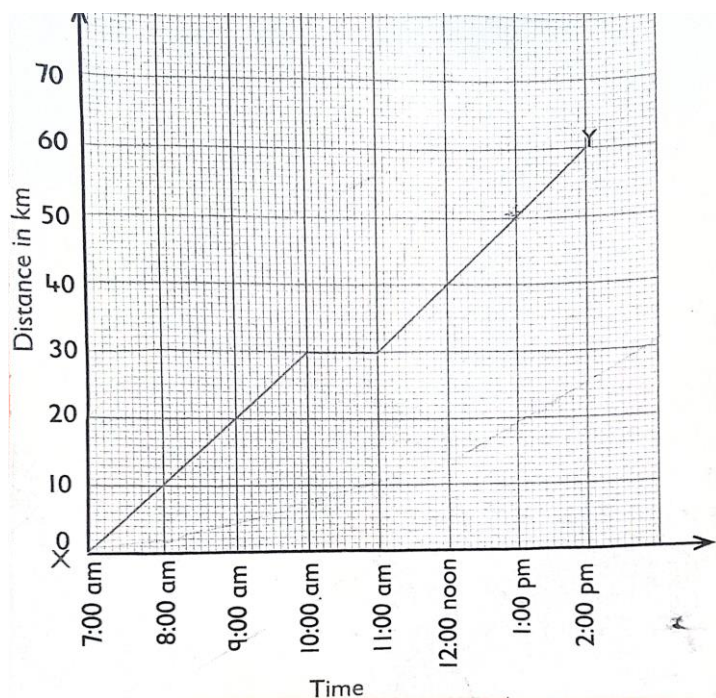
(a) Draw the net of the cube.

(2 marks)

(b) Use the net to work out the total surface area of the cube.

(2 marks)

22. The graph below shows the distance covered by a cyclist from town X to town Y. Between 10:00am and 11:00am, the cyclist stopped to rest. He then continued with the journey to Y as shown below.



Use the graph to answer the following questions

a) For how long did the cyclist rest?

(1 mark)

b) At what time had he covered 30km?

(1 marks)

c) Work out the average speed of the cyclist

(2 marks)