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KENYA JUNIOR SCHOOL EDUCATION ASSESSMENT

TERM 1 2025 MID-TERM EXAM

GRADE 9 – MATHEMATICS - 903

Time: 2 hours

NAME: _____

SCHOOL: _____

STREAM: _____ DATE: _____

INSTRUCTIONS

a) Write your name, school, stream and date in the spaces provided above.
b) Answer **ALL** questions in this booklet.
c) All answers must be given as per the guidelines of the questions.
d) This question paper consists of **TWO** sections: **A** and **B**.
e) Answer **ALL** the questions in section A in the table below.
f) Answer **ALL** the questions in section B by working out in the spaces provided after each question.
g) Show all the workings in section B in the spaces provided.
h) Non-programmable calculators may be used, except where stated otherwise.
i) Give non-exact numerical answers, correct to 3 significant figures and one decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
j) For π, use either the calculator value or 3.142.

ANSWER SHEET - SECTION A

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20

LEARNER'S SCORE

SCORES		TOTAL
A (Out of 20)		
B (Out of 80)		

This paper consists of 12 printed pages. Candidates should check the question paper to confirm that all pages are printed as indicated and that no questions are missing.

SECTION A (20 marks)

Write your answers in the table provided on the first page

1. Kabu wrote down the following numbers when measuring the lengths of different fields in his school.
   19, 51, 61, 89
   Which of the numbers is **NOT** a prime number?
   A. 19 B. 51 C. 61 D. 89

2. Work out:
   (+31) + (-22) =
   A. 53 B. –9 C. –53 D. 9

3. The temperature of water was recorded as 18°C. After putting it in the freezer, the temperature dropped by 23°C. Find its final temperature?
   A. –5 B. 5 C. 41 D. 40

4. Evaluate:
   –124 ÷ –4
   A. 31 B. 30 C. –31 D. 44

5. Kericho is a town along Kisumu-Nakuru Highway. The distance between Kisumu and Kericho is 84 km, while that between Kericho and Nakuru is 108 km. What is the distance between Nakuru and Kisumu?
   A. 24km B. –192km C. –24km D. 192km

6. A mango farmer in Kathonzweni harvested 947,361 pieces of mangoes in December 2024. What is the number rounded off to the nearest hundred thousand?
   A. 900,000 C. 947,000
   B. 940,000 D. 947,300

7. The value of the Kenyan shilling per US dollar was Ksh.129.88. Anabelle wrote the value to 2 significant figures. Which of the following is the price to 2 significant figures?
   A. 130 B. 129 C. 120 D. 12

8. Evaluate the value of: 4.1^3
   A. 16.8 B. 12.3 C. 16.81 D. 68.921

9. Using the four figure mathematical tables, find out the value of: 9.73^3
   A. 921.16 C. 921.167
   B. 921.17 D. 921.167317

10. The volume of a Rubrik's cube is $216cm^3$. Calculate the length of one side of the cube.
A. 6 B. 15 C. 6cm D. 15cm

11. Using your calculator, find the cube of 0.056 and write your answer in five decimal places.
A. 0.00017 C. 0.00313
B. 0.00018 D. 0.00314

12. The total population of learners in Tusome Junior school is 243. Express the population of the learners in index form with a base of 3.
A. 3^2 B. 3^3 C. 3^4 D. 3^5

13. Simplify the equation below leaving your answer in index form:
$3^3 \times 3^3 \times 3^3$
A. 3^{333} B. 3^9 C. $3^3 3^3 3^3$ D. 9^3

14. Convert 0.75 into a fraction in its simplest form.
A. $\frac{75}{100}$ B. $\frac{3}{4}$ C. $\frac{15}{20}$ D. $\frac{4}{5}$

15. Use the properties of indices to evaluate:
$27^{\frac{1}{3}}$
A. 3 B. 9 C. 3^3 D. 81

16. The distance between planet Earth and Pluto is proximately 10,000,000,000 km. Write the number as an algorithm.
A. 10^9 B. 10^{10} C. 1^9 D. 1^{10}

17. The volume of a cuboid box is $256cm^3$. If the area of the base is $32cm^2$, calculate its height in index form.
A. 2^1 B. 2^2 C. 2^3 D. 2^4

18. Maria made a circular hat. The diameter of the hat was 42 cm. She binded the edge of the hat with a ribbon. What was the length of the ribbon used?
A. 33cm B. 132cm C. 66cm D. 108cm

19. Find the value of x
$4x - 3 = 9$
A. 3 B. 4 C. 5 D. 6

20. What is the largest fraction between: $\frac{4}{5}; \frac{2}{3}; \frac{1}{4}; \frac{1}{2}$
A. $\frac{4}{5}$ B. $\frac{2}{3}$ C. $\frac{1}{4}$ D. $\frac{1}{2}$

SECTION B (80 marks)

Work out in the spaces provided after each question

21. A diver on the surface of water saw a sardine at a depth of 8 m. He noticed a bird vertically above the sardine at a height of 15 m from the water surface. Using a number line, determine the distance between the sardine and the bird. (4 marks)

22. Use the symbols <, > or = to compare the following integers.
Example: 12 and -1 will be ***12 > -1***

a) 1 and -1 (2 marks)

b) -56 and 2 (2 marks)

c) -4 and -4 (2 marks)

d) 16 and -16 (2 marks)

e) +13 and 13 (2 marks)

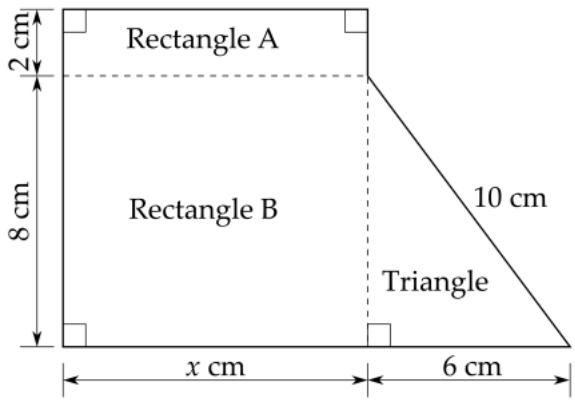
23. 19. If **x=-2, y=-6** and **z=4**. Find the values of:

a) x + y + z (3 marks)

b) $\frac{4xy}{z}$ (3 marks)

c) 4z + 2y – z (3 marks)

24. Sylvie cut a piece of paper to form the figure below.



a) Calculate the area of rectangle A. (3 marks)

b) Calculate the area of rectangle B. (2 marks)

c) Calculate the perimeter of the shape. (2 marks)

25. Milele Stationeries procured 30240 exercise books which were packed in cartons. Each carton contained 24 exercise books. The mass of an empty carton was 2kg and a full carton 12kg.

a) How many cartons did they procure? (2 marks)

b) Calculate the mass of the empty cartons. (2 marks)

c) What is the total mass of the books and the cartons? (2 marks)

d) If the price of the books was sh.14,400 for **every dozen of cartons** of the books. How much did Milele Stationeries spend to procure the books? (4 marks)

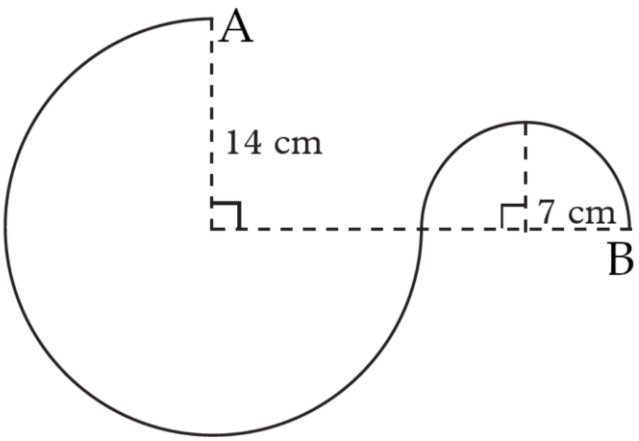
26. Shantelle bought 3 packets of milk and 4 loaves of bread for sh.570 from a shop. Jane bought 5 packets of milk and a loaf of bread for sh.440 from the same shop. Using x to represent milk and y to represent bread, determine the cost of a loaf of bread and the cost of a packet of milk. (10 marks)

27. Triangle XYZ is drawn such that XY=5cm, YZ = 6cm and ∠XYZ = 95°.

a) Construct a circle touching the sides of the triangle. (8 marks)

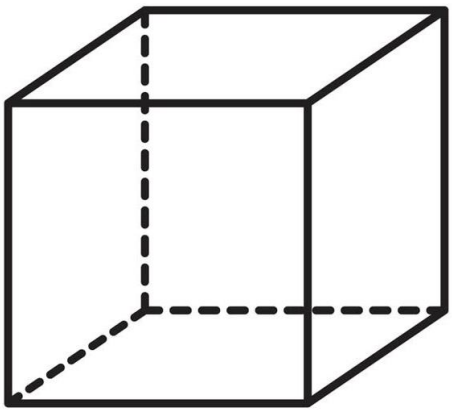
b) Measure the radius of the circle. (2 marks)

28. During a mathematics lesson, a grade 9 learner bent a wire AB to form the figure below.



Calculate the length of the wire. (4 marks)

29. Grade 9 learners were learning about the nets of solids. The teacher gave the learners a model of a cube of side 4 cm. The figure below shows the cube.



a) Draw the net of the cube. (4 marks)

b) Use the net to work out the surface area of the cube. (6 marks)

30. Draw a graph for the linear equation; **y = 3x + 5.** (6 marks)