

**Demonstrate Numeracy Skills Level 4**

**2 Hours**

**March/April 2023**



**THE KENYA NATIONAL EXAMINATIONS COUNCIL**

**WRITTEN ASSESSMENT**

**Time: 2 hours**

**INSTRUCTIONS TO CANDIDATE**

*This paper consists of TWO sections A and B.*

*Answer ALL questions in sections A and B in the answer booklet provided.*

*Marks for each question are indicated in brackets.*

*You should have a non-programmable calculator.*

*Do not write on this question paper.*

*Answer the questions in **English**.*

**This paper consists of SIX (6) printed pages.**

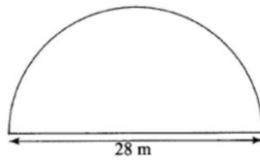
**Candidate should check the question paper to ascertain that all the pages are printed as indicated and that no questions are missing.**

**SECTION A (10 MARKS)**

Answer **ALL** the questions in this section

1. Which one of the following set of fractions forms a sequence? (1Mark)
  - A.  $\frac{3}{4}, \frac{19}{24}, \frac{5}{6}$
  - B.  $\frac{3}{4}, \frac{19}{24}, \frac{7}{8}$
  - C.  $\frac{4}{5}, \frac{5}{6}, \frac{7}{8},$
  - D.  $\frac{1}{4}, \frac{3}{4}, \frac{7}{8}$
  
2. On a real number line, find the midpoint of  $-4$  and  $18$  (1Mark)
  - A. 7
  - B. 11
  - C. 22
  - D. 14
  
3. Convert  $\frac{6}{8}$  into decimal form (1 Mark)
  - A. 0.68
  - B. 0.75
  - C. 1.33
  - D. 0.86
  
4. A cubic water storage tank has its sides  $1\text{M}$ . Find the quantity of water it holds when  $\frac{3}{4}$  full. (1 Mark)
  - A. 7.5 litres
  - B. 75 litres
  - C. 0.75 litres
  - D. 750 litres
  
5. The age of six patients in a ward are 25, 23, 27, 22, 23 and 24. Find the mean age. (1 Mark)
  - A. 23.5
  - B. 23
  - C. 27
  - D. 24

6. Which of the following shows the direction of a town in a map? (1 Mark)
- A. Title of the map
  - B. Compass
  - C. Scale
  - D. Axis
7. The perimeter of a triangle is 32cm. Two sides of the triangle measures 10cm and 12cm. find the area of the triangle. (1 Mark)
- A. 24
  - B. 40
  - C. 48
  - D. 50
8. A plot of land is in the shape of a semicircle of diameter 28 metres as shown in figure 1. The plot was fenced by erecting posts 4 metres apart. Find the number of posts needed for the fence. Take  $\pi = \frac{22}{7}$ . (1 Mark)



**Figure 1**

- A. 12
- B. 17
- C. 18
- D. 19

9. Table 1 shows prices of food in Zaire hotel.

**Table 1**

	Ugali	Rice	Chips
Nyama	150	180	200
Samaki	160	170	210
Kuku	240	180	250

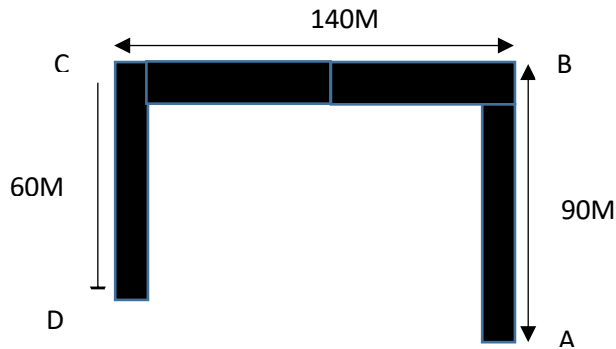
A team of eleven people took lunch in the hotel as follows: 4 people took Rice and Nyama; 3 people took chips and kuku; 2 people took Ugali and Samaki; and the rest took Ugali and Kuku. Find the total amount paid. (1 Mark)

- A. 1790
  - B. 1950
  - C. 2270
  - D. 2250
10. A man started painting a wall at 7.48 am. He had a lunch break of one hour forty minutes. If he finished the work at 3.28pm and was paid kshs.400 per hour for actual working hours, find how much he earned. (1 Mark)
- A. 2,800
  - B. 2,400
  - C. 3,200
  - D. 2,666

**SECTION B (40 MARKS)**

Answer *all* the questions in this section.

11. Draw the graph of a line  $y = 2x - 3$  given that  $-3 \leq x \leq 3$ . (4Marks)
12. A patient is supposed to walk a distance of 2km in a mid-morning therapy session. He uses the hospitals corridors as the walking paths. The hospital corridors he uses are of the shape shown in figure 2 and the distance he walks in each corridor is indicated.



**Figure 2**

He starts at point A and covers the entire corridors to and from until he covers the required distance. How many times will he come back to point A before covering the required distance? (4 Marks)

13. A particular map shows a scale of 1:5000. Find the distance in metres of the road if it measures 8cm on the map. (3 Marks)
14. A section of a walking path is 2m wide and 12m long. It is made from concrete 6cm thick. Find the volume of concrete, giving your answer in  $cm^3$ . (4 Marks)
15. Table 2 shows height of girls in a class.

**Table 2**

Height in cm	Numbers of Girls
135-139	4
140-144	7
145-149	18
150-154	11
155-159	6
160-164	5

- a) Find the average height of the girls whose heights are 155 cm and above; (3 Marks)
- b) Find the number of girls whose heights are below 150 cm. (1 Mark)

16. Work out  $\frac{(18 \div 3) + \frac{1}{2}(-20 + 4)}{-4 - 6 \div 2}$  (3 Marks)

17. A rectangle measures 20cm by 15cm. If each of the dimensions is increased by 2.5cm, find the percentage increase in area. (4Marks)

18. Using a ruler and a pair of compasses only,

- a) Construct triangle ABC in which AB=5cm, BC=6cm and angle ABC=120° ; (3Marks)
- b) Measure angle ACB. (1 Mark)

19. Table 3 shows the number of items produced in a factory over a duration of two weeks.

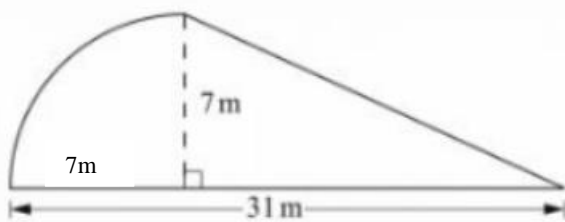
**Table 3**

Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Week 1	18	21	21	24	29	20	21
Week 2	16	20	18	15	21	18	18

- a) Which week had higher production and by how much? (3 marks)
- b) Find the difference between the mean for the two weeks. (3 Marks)

20. Figure 3 represents a flower garden. Find the area of the flower garden. Take  $\pi = \frac{22}{7}$ .

(4Marks)



**Figure 3**

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