

Level 4

Demonstrate Numeracy Skills

November/December 2023



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

WRITTEN ASSESSMENT

Time: 2 Hours

INSTRUCTIONS TO CANDIDATE

1. This paper has TWO sections A and B.
2. Attempt questions in each section as per instructions given in the section.
3. You are provided with a separate answer booklet.
4. Answer all questions in the answer booklet.
5. Marks for each question are indicated in the brackets.
6. Do not write on the question paper.

This paper consists of FIVE (5) printed pages.

Candidates should check the question paper to ascertain that

All pages are printed as indicated and that no questions are missing.

SECTION A (10 MARKS)

Answer **ALL** the questions in this section.

Each question carries **ONE** mark

- Which of the following operation of numbers is correct?
 - $27 - 7 - 3 = 27 - (7 - 3)$
 - $27 - 7 \times 3 = (27 - 7) \times 3$
 - $27 - 7 \div 3 = (27 - 7) \div 3$
 - $27 \div 7 - 3 = (27 \div 7) - 3$
- Find the longitude difference between the two towns, Komo ($30^{\circ}N, 60^{\circ}E$) and Boma ($30^{\circ}S, 40^{\circ}E$).
 - 70°
 - 60°
 - 100°
 - 20°
- A fraction whose numerator is greater than denominator is called.
 - Proper fraction
 - Improper fraction
 - Mixed fraction
 - Common fraction
- Find the perimeter of an isosceles triangle with equal sides $4.7cm$ and base $6.3cm$
 - $9.4cm$
 - $11cm$
 - $15.7cm$
 - $17.3cm$
- Determine the volume of a rectangular box measuring $1m$ by $1.5m$ by $0.8m$.
 - $1.2m^2$
 - $1.2m^3$
 - $1.5m^2$
 - $1.5m^3$
- Convert $25kg$ of meat into grams.
 - $0.25g$

- B. 250g
 - C. 2500g
 - D. 25000g
7. A bus left Lodwar at 9.30 A.M. and arrived at Nairobi at 10.25 P.M. Find the time taken for the whole journey.
- A. 12 hrs. 55min.
 - B. 10 hrs. 25min.
 - C. 19 hrs. 55min.
 - D. 9 hrs. 30min.
8. Find the size of the smallest angle of a triangle whose angles are $2x$, $(x + 10)$, $(3x - 50)$.
- A. 20°
 - B. 30°
 - C. 40°
 - D. 10°
9. The following are various ways of presenting data except.
- A. Pie-chart
 - B. Bar graph
 - C. Rank order
 - D. Pictogram
10. The interior angle of a regular polygon is six and a half times the exterior angle. Find the number of sides of the polygon.
- A. 20
 - B. 24
 - C. 15
 - D. 12

SECTION B (40 MARKS)*Answer ALL the questions in this section*

11. On a map whose scale is 1: 100000, a town occupies an area of 6cm^2 . Find the actual area in hectares. (4 Marks)
12. A water tank is $\frac{3}{4}$ full and after adding 52 *Litres*, it is $\frac{4}{5}$ full. Determine its total capacity metres cubed. (4 Marks)
13. Table 1 shows the amount payable to Kenya Power Company for various numbers of units of electricity used for the month of February 1918.

Table 1

Number of units in (Kw)	10	20	30	40	50	60
Amount in Kshs.	90	110	130	150	170	190

- a) Draw the graph of amount (*y-axis*) against the number of units (*x-axis*). (3 Marks)
- b) Use your graph to find the standing charge. (2 Marks)
14. For seven consecutive days, the meteorological department recorded the following amount of rainfall in *cm*: 0.5, 2.2, 0.9, 0.4, 1.6, 0.8 and 1.5. Find the mean amount of the rainfall for the week to the nearest *mm*. (3 Marks)
15. Construct a parallelogram of sides 6cm and 4cm with the angle between them being 48° . Measure its longer diagonal. (4 Marks)
16. A rectangular block is 50*cm* long and 15*cm* wide. Determine its height if its volume is 7.5 litres. (4 Marks)
17. A piece of wire is in form of an arc of a circle, radius 10.5*m*. Find the length of the wire given that the angle at the centre of the arc is 150° . Take $\pi = \frac{22}{7}$ (4 Marks)
18. Mr. Wangila saved *Shs.* 5 coins and *Shs.* 10 coins in a can. There are 14 coins in total and their value is *Shs.* 105. Find the number of each type of coin. (4 Marks)

19. Table 2 below shows the height of athletes in a college team.

Table 2

Height in cm	150-159	160-169	170-179	180-189	190-199	200-209
Frequency	2	9	12	16	7	4

Calculate the median height of the athletes.

(4 Marks)

20. Find the surface area of an open cylindrical tin of radius 6.3cm and height 22cm .

(4 Marks)

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