

LEVEL 6

Demonstrate Numeracy Skills

March/April 2025



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

WRITTEN ASSESSMENT

Time: 3 HOURS

INSTRUCTIONS TO CANDIDATE

1. This paper consists of **TWO** sections: **A** and **B**.
2. Answer **ALL** questions in section A and **ANY THREE** (3) questions in section B.
3. Marks for each question are indicated in the brackets.
4. Candidates are provided with a separate answer booklet
5. Do not write on the question paper.

This paper consists of FOUR (4) 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 (40 MARKS)*Answer ALL the questions in this section.*

1. In a farm, three men working for six hours a day take 10 days to complete a task. How long will six men working two hours a day take to complete the same task assuming the rate of work remains constant? (3 Marks)
2. Kimani is a businessman dealing with electronics. He sold a computer whose marked price was Ksh. 5,000 to his loyal customer at Ksh. 4,500 offering a discount. Calculate the percentage discount given to his customer. (4 Marks)
3. Mutiso has a farm where he rears chicken, turkey and ducks. The ratio of chicken to turkey is 2:5 while the ratio of turkey to ducks is 2:3. Find the ratio of chicken to turkey to ducks. (4 Marks)
4. The area of a trapezium is 32cm^2 . Given that its height is 8cm and one of its parallel sides is 3cm, determine the length of the other parallel side. (4 Marks)
5. The age distribution of five children in a family is: 13,17,9, X and 10. If the mean of their age is 14 years, calculate
 - i. The value of X. (3 Marks)
 - ii. The median age. (2 Marks)
6. Lesley has a cow which produces 3500 milliliters of milk in the morning and 2500 milliliters of milk in the evening. If one litre of milk costs Kshs. 50, how much money did he receive in the month of February 2024 after selling all his milk? (4 Marks)
7. The cost of seven pens and two books is Ksh. 185 while the cost of three pens and four books is Kshs.205. What will be the cost of one pen and one book? (4 Marks)
8. 15 students sat for a numeracy skills test and scored as follows;
3,0,15,15,2,8,13,10,6,9,17,11,7,8,7 Using the information given above, construct a frequency table with a class limit of 5. (4 Marks)
9. Terry works a saleslady for T company earning a monthly basic salary of Kshs. 15,000 and a commission of 7% on monthly sales above Kshs. 400,000. In the month of December, she received a total of Kshs 27,000. Determine by how much she exceed her monthly sales target. (4 Marks)
10. Without using a calculator, find the value of; (4 Marks)

$$\sqrt{36 \times 49} \div 5 \sqrt{2}$$

Section B**Answer ANY THREE questions in this section.**

11.

- a. Simplify the expression;

$$\frac{4x^2 - 9y^2}{2x^2 + 5xy + 3y^2}$$

(4 Marks)

- b. Using a ruler and a pair of compasses only, construct a rhombus ABCD such that AB=5cm and angle ABC =45°.

i. Measure diagonal AC and $\angle CAB$. (8 Marks)

ii. Calculate the area of the rhombus ABCD. (2 Marks)

- c. Tap A and tap B can individually fill the same tank in 10 minutes and 15 minutes respectively. Tap C can empty the same tank in 24 minutes. The three taps were opened simultaneously and then closed after 6 minutes. What percentage of the tank was filled after 6 minutes (6 Marks)

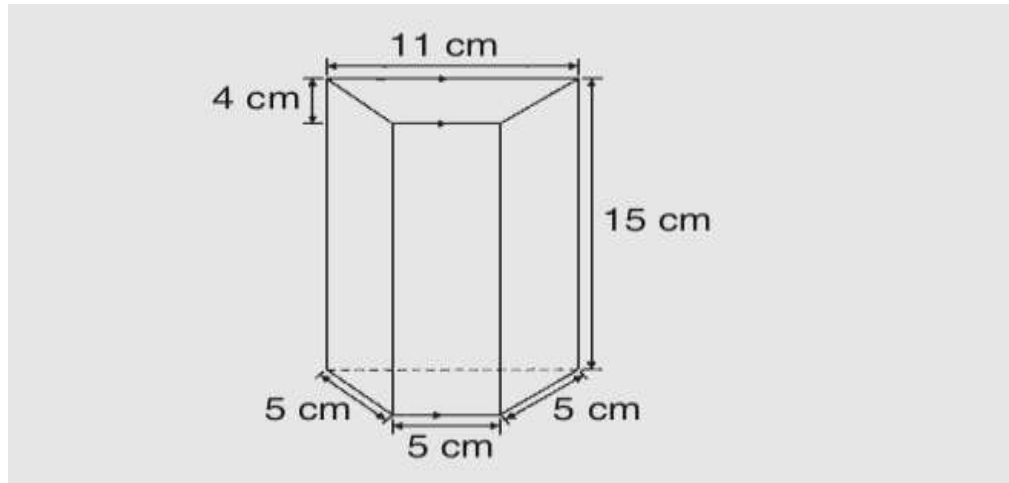
12. The weight of 80 piglets in a slaughter house was as follows, determine the;

Weight (kgs)	0-9	10-19	20-29	30-39	40-49	50-59
Number of piglets	6	14	24	14	X	10

- i. Value of X (1 Marks)
- ii. Mean weight (6 Marks)
- iii. Quartile deviation (7 Marks)
- iv. Standard deviation. (6 Marks)

13.

- a) The figure below represents a rectangular prism. Use the diagram given to calculate:



- i. The volume of the prism in m^3 (4 Marks)
 - ii. The surface area of the prism in m^2 (6 Marks)
- b) A cylindrical rod of radius 10.5cm and height 30 cm was melted and remolded into a sphere. Calculate the radius of the sphere (5 Marks)
- c) A man spends 30% of his salary on food, 15% on bills, $\frac{2}{5}$ of the remainder on travel expenses and the rest on investment. If he spends ksh. 22,500 on food, determine the difference in expenditure between investment and travel expenses (5Marks)
- 14.
- a) Peter took two hours to fly from town A to town B a distance of 300 kilometers away. Upon arriving he took a nap for 30 minutes and then drove back by bus. Given that the speed of the plane is four times the speed of the bus, calculate:
 - i. Time taken to cover the whole journey. (4 Marks)
 - ii. Time, he completed his journey if he had started at 1018hrs. (Give your answer in a.m./p.m.) (2Marks)
 - b) The equation of straight line is $10x + 3y - 6 = 0$. determine
 - i. The gradient (2 marks)
 - ii. The X intercept (2 Marks)
 - c) Prepare a table for the equation $Y = x^2 - 6x + 9$ and graphically determine the roots of the equation. Use ranges of x from $x=0$ to $x=5$ (10 Marks)