Hoërskool Johan Jurgens
Mathematical Literacy
Grade 11
Term 1

Cycle Test

Examiner: N van Rensburg **Time: 60 minutes**
Moderator: M Botha **Total: 50 marks**

Name and Surname: _____

Grade: 11_____ **Date: _____**

Instructions:

1. Please write your name, surname, grade and date in the space provided on the question paper.
2. Please write your name, surname, grade and date on the folio paper.
3. Read all the questions carefully and think before you answer.
4. Write down all your calculations where applicable.
5. Non-programmable calculator may be used.
6. Round off two decimal places, unless stated otherwise.
7. Write with a blue pen and cross it out with a pencil if you make a mistake.
8. Please write neatly and legibly. (If I can't read it, I can't mark it!)
9. Take a deep breath, you got this.
10. Good luck!!!!
11. This test is a closed-book test.

This test consists of 4 pages.

QUESTION 1:

1.1. Nicki is organising the transport of equipment for a new business. She plans to use one wooden crate that can hold a maximum mass of 0.5 tons. Nicki wants to load the following appliances into the crate:

- Desk and chair: 80 000 g
- Bookshelf: 70 000 000 mg
- Fridge: 0.25 tons
- Cabinets: 63 kg

1.1.1 Convert all the masses to tonnes (4)

1.1.2 Determine whether the wooden crate will be able to hold all the appliances. (2)

1.2 After transporting the furniture, Nicki also needs to set up an aquarium display in the store. The required water temperature for the fish tank is 72°F.
Nicki sets the heater to 22.2°C, claiming this is equivalent to the required temperature.

1.2.1 Give the formula for converting °F to °C. (1)

1.2.2 Convert 72°F to °C. (1)

1.2.3 Is she correct? (1)

1.3 Nicki decides to get a cat for her workspace. She wants to choose a breed that would be better suited to a smaller space, so she compares the typical adult sizes of two cats. An adult Ocelot can grow up to 39 inches in length, while an adult Bengal can reach 45 cm. Determine which cat would be better suited for the smaller space (give your answer in cm). Show all calculations and justify your answer. (3)

[12]

QUESTION 2:

2.1 *A cell phone contract charges a fixed monthly fee of R120, plus R0.85 per minute.*

2.1.1 Write down a formula to calculate the total monthly cost, C, if m minutes are used. (2)

2.1.2 Calculate the total cost if 200 minutes are used. (2)

2.1.3 Complete the table below: (3)

Minutes (m)	0	(a)	300
Cost (C)	(b)	205	(c)

2.1.4 Is this an example of direct proportion? Give a reason. (2)

2.2 *The following table represents the number of T-shirts a factory makes in a certain amount of time:*

Time (hours)	2	4	6
T-shirts made	120	240	360

2.2.1 Determine the number of T-shirts produced per hour. (2)

2.2.2 How many T-shirts will be produced in 9 hours? (2)

2.2.3 What is the rule? (1)

2.2.4 If another factory produces 55 T-shirts an hour, do they produce T-shirts faster or slower than this factory? (1)

2.3 *The following table shows the values of the length and breadth of a rectangle in cm:*

Length (l)	1	2	4	8
Breadth (b)	32	16	8	4

2.3.1 What type of relationship is represented in this table? (1)

2.3.2 Is the graph increasing or decreasing? Give a reason. (2)

2.3.3 Draw a graph of the data represented in the table. (6)

2.3.4 Using the graph, estimate the length of the rectangle if the breadth is 6cm. (1)

[25]

QUESTION 3:

3.3 *A water tank has a capacity of 2500 litres.*

3.3.1 How many 500ml bottles can be filled from the tank? (2)

3.3.2 If the tank is ¾ full, how many litres of water does it contain? (2)

3.3.3 Convert your answer in 3.3.2 into UK gallons. (1)

[5]

QUESTION 4:

4.1 *A learner studies from 16:40 to 18:55.*

4.1.1 Calculate the total study time. (2)

4.1.2 If the student must go to sleep at 20:00, how much time do they have left after they finish studying? (2)

4.2 *A train departs at 07:25 and arrives at 12:10.*

4.2.1 Calculate the duration of the journey. (2)

4.2.2 The train is delayed by 35 minutes. What is the new arrival time? (2)

[8]

Total marks: 50