Western Cape Government

Western Cape Education Department
Directorate: Curriculum FET

MATHEMATICAL LITERACY

RESOURCE PACK
2025 TERM 1

Grade 10

This resource pack is designed to support you in engaging with the essential content and skills that will be covered during the upcoming term. Its purpose is to help you grasp key concepts, establish the required standards, and apply the knowledge necessary to succeed in your work and assessments.

The resource pack covers the following topics:

- NUMBER FORMATS
- ROUNDING & RATIO
- RATE
- PERCENTAGE
- PATTERNS & RELATIONSHIPS
- DATA HANDLING

Number Formats & Basic Calculations :

- *These basic concepts are important to understand as it can form part of questions in any of the 5 main topics studied in Mathematical Literacy.*
- *Make sure that you continuously practice these skills.*

Write the following values in word format:

1.1) The population of South Africa in 2020 was 59.31 million.

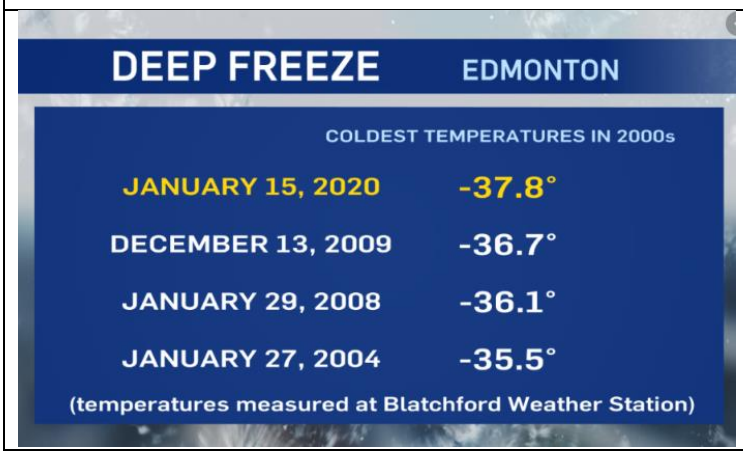
1.2) The population of Johannesburg in 2021 was 5,926,668.

1.3) Number of students at UCT in 2021: 28,703 thousand.

1.4) Two movies grossed the following income at the box office: $224 million and $198 million. Write down the total amount earned in dollars.

2. Briefly explain the meaning of the values in the following scenarios:

2.1



2.2

Extract from: Cheque Account Statement	
Salary	R15 000
EFT: Rent	R 5 6 00 -

Other basic skills you need to master:

Calculating & estimating without a calculator

Understand numbering conventions in context.

Converting between fractions, decimals & percentage.

Find square root, cube root, square & cube values.

Performing calculations with brackets and using the correct order of operations.

Rounding:

- *Without realizing it you have been using these concepts of rounding and ratio regularly in your daily life.*
- *This includes rounding off the prices of items when you want to check if you have enough money.*
- *Using ratio's when mixing your Oros (or other diluted cool drinks).*
- *We need to always look at the context in which the rounding / ratio calculation must take place.*
- *It is therefore important to read carefully and then apply your mathematical knowledge correctly to the given context.*

1. Let's look at some examples of rounding off:

Round 4 862,749 off to…

a) The nearest whole number
b) The nearest hundred
c) The nearest fifty
d) Two decimal places

ROUNDING

Underline the digit look next door.

If it's 5 or greater add one more.

If it's less than 5 leave it for sure.

Everything after is a zero, not more.

2. Let's look at some examples of rounding off in context:

a) Susan must wrap presents. Each present requires 70 cm of wrapping paper. She has a 5 m roll. Determine the number of presents she can wrap with one roll.
b) For a picnic Mbali wants to give each attendee 3 slices of pizza. There are 15 people attending and each pizza can be cut into 8 slices. Calculate how many pizzas she will need to buy.

Rounding off in context requires you to think PRACTICALLY.

3. Let's look at some examples of cash rounding:

a) Sam wants to buy the following top from Mr Price. Determine the amount due, if paying cash.

b) Use the extract from a till slip to calculate the missing values a & b

Tye Dye T-shirt

Red

R119.99

Total:	R92,62
Cash Rounding:	a
Cash:	R100
Change:	b

Ratio:

1.
a) Determine the ratio of purple sweets to pink sweets.
b) Determine the total number of sweets.
c) Write an equivalent ratio of the number of pink to purple sweets.
d) Write the unit ratio of pink to purple sweets.

2. Quinton wants to divide R 1750 between him and his two colleagues Peter and Sam in the ratio 1:2:4.

Calculate how much each person will receive.

3. Magalies makes a concentrated juice blend. It is sold in a 5 ℓ bottle.

The concentrate must be mixed as followed "one part concentrate to five parts water."

a) Write the ratio of concentrate to water.
b) Calculate how many litres of water will be needed to make the entire bottle of concentrate into a juice mix.
c) Determine the number of litres of mixed juice can you make with 3 bottles of concentrate.

4. Inakho owns an ice cream store. The general ice cream sales trend for Strawberry: Chocolate and vanilla can be summarized as 3:5:2.

a) If on average 44 Vanilla ice-creams is sold a day, determine the number of Strawberry and Chocolate ice creams that will be sold.
b) Calculate how many Vanilla ice creams will be sold if the total sales for the day was 550.

Rate:

- *A rate is a ratio that compares two quantities with different units of measure.*
- *Without noticing it you have been exposed to several rates in your daily life*
- *We often use different rates to perform cost calculations as well as to compare different options to find the most cost-effective option in a specific scenario.*
- *We get many different types of rates such as:*
  - *Cost rates (e.g the price of cheese in Rand/kg)*
  - *Consumption rates (e.g the petrol consumption of a car in litres / km)*
  - *Speed. Distance, time (e.g average speed of a car in km/h)*
  - *More complex rates. (e.g the running speed of an athlete running a marathon in min/km*

1. Sereen buys 1 kg of peanuts for R130.

a) Calculate the cost of 500g of peanuts.
b) Calculate the price per gram of peanuts.
c) If Sereen wants to make 150 g packets from the 1 kg bag, calculate the number of bags she can fill.

2. Michele did a 5 km parkrun in 42 min. Calculate her average speed per minute.

3. Sam has a local bakery where she sells freshly baked bread.

She found the following options of cake wheat flour online:

10 kg bag for R 129 or R33,99 for a 2,5 kg bag.

a) Calculate the price per kg of each option.
b) Each loaf Sam makes uses 300g of flour. Calculate the most cost-effective option for her if she has to bake 75 loaves of bread for an order and she cannot mix options.

4. 6 Chocolate cupcakes is sold for R39,99.

a) Calculate the price per cupcake.
b) If you want to buy cupcakes for 32 people, and give each person 1 cupcake, calculate the total price you will pay for the cupcakes.

Percentage:

- *Percentages are something we find around us in real life every day.*
- *Shops normally have a percentage profit mark up on items to ensure that they sell their products, while making money.*
- *Sometimes when grocery items are about to expire, or at the end of a season, you also see percentages on clothing items, when there is a sale.*
- *One of the most common examples of percentages in your life is when you get back test results and you calculate the percentage you obtained for a specific test/ assessment.*

1. A class has 35 learners in it.

a) 40 % of the class are boys. Calculate the number of boys in the class.

b) If there are 6 left-handed learners in the class, calculate the percentage of learners that are right-handed.

2. Kyle buys mugs for R12,50 that he plans to sell.

a) Calculate the selling price if he adds 45% profit per mug.

b) He finds out if he buys more than 30 mugs, he qualifies for a 12,5% discount on each mug. Calculate the discounted price per mug.

3. Elaine decides to do some research on the price of bread.

She found out that the average price per loaf went from R11,24 in 2020 to R12,37 in 2021.

a) Calculate the percentage increase in the price of bread from 2020 to 2021.

b) If the bread is sold for a reduced price of R7, 42 because it is about to expire, calculate the percentage decrease in the price.

4. A clock is on sale for R96. It was marked down 20%.

Calculate the original price of the clock.

Patterns & Relationships :

- *Can be represented in the form of:*
  - *Equations*
  - *Tables*
  - *Graphs*
- *We will work with relationships that are constant, direct proportion and indirect proportion.*
- *We need to be able to identify:*
  - *Dependent & independent values*
  - *Zero. minimum & maximum values*
  - *As well as missing values (input & output values)*

Question 1:

Shaun sells cupcakes at R10 each for pocket

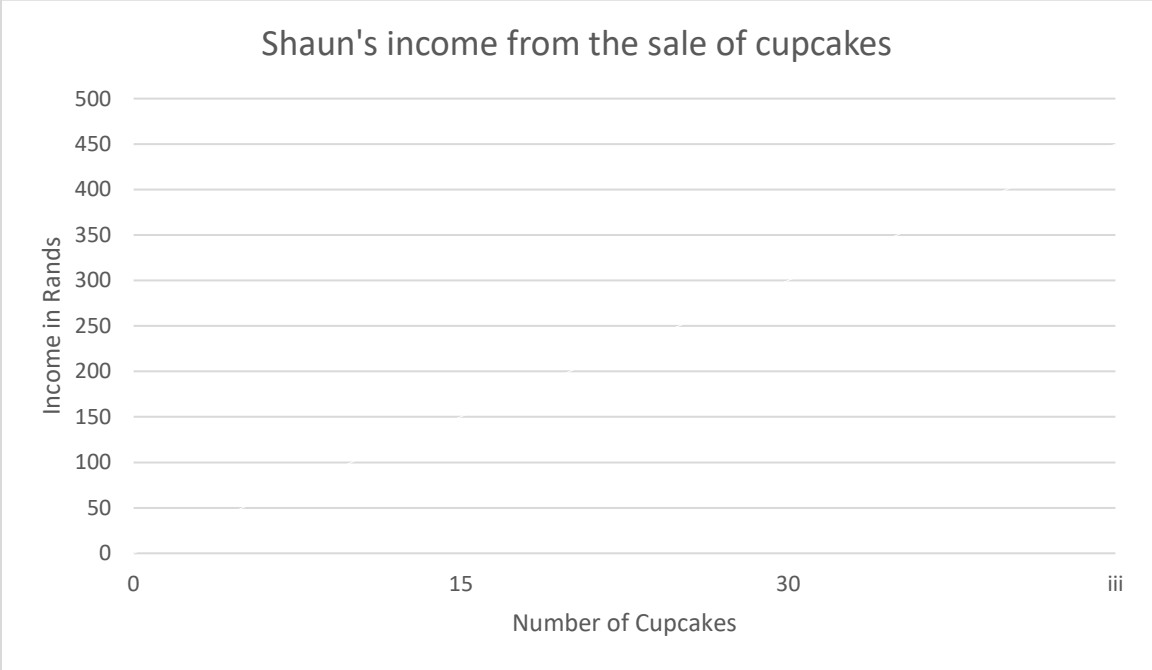
1.1) Write an equation in the form of:

Income = … using "c" for the number of cupcakes.

1.2) Complete the table below using the information provided in the question:

No of cupcakes	0	15	30	iii)
Income (R)	i)	150	ii)	450

1.3) Use the information in the table above to complete the graph for his sales of cupcakes:



Question 2:

A school is planning on travelling to South Africa for a sports tour. The educators find information for hiring a coach bus online. The Mathematical Literacy Educator drew the graph below to indicate the information:

2.1) From the graph above identify:

a) The type of relationship represented by the graph.

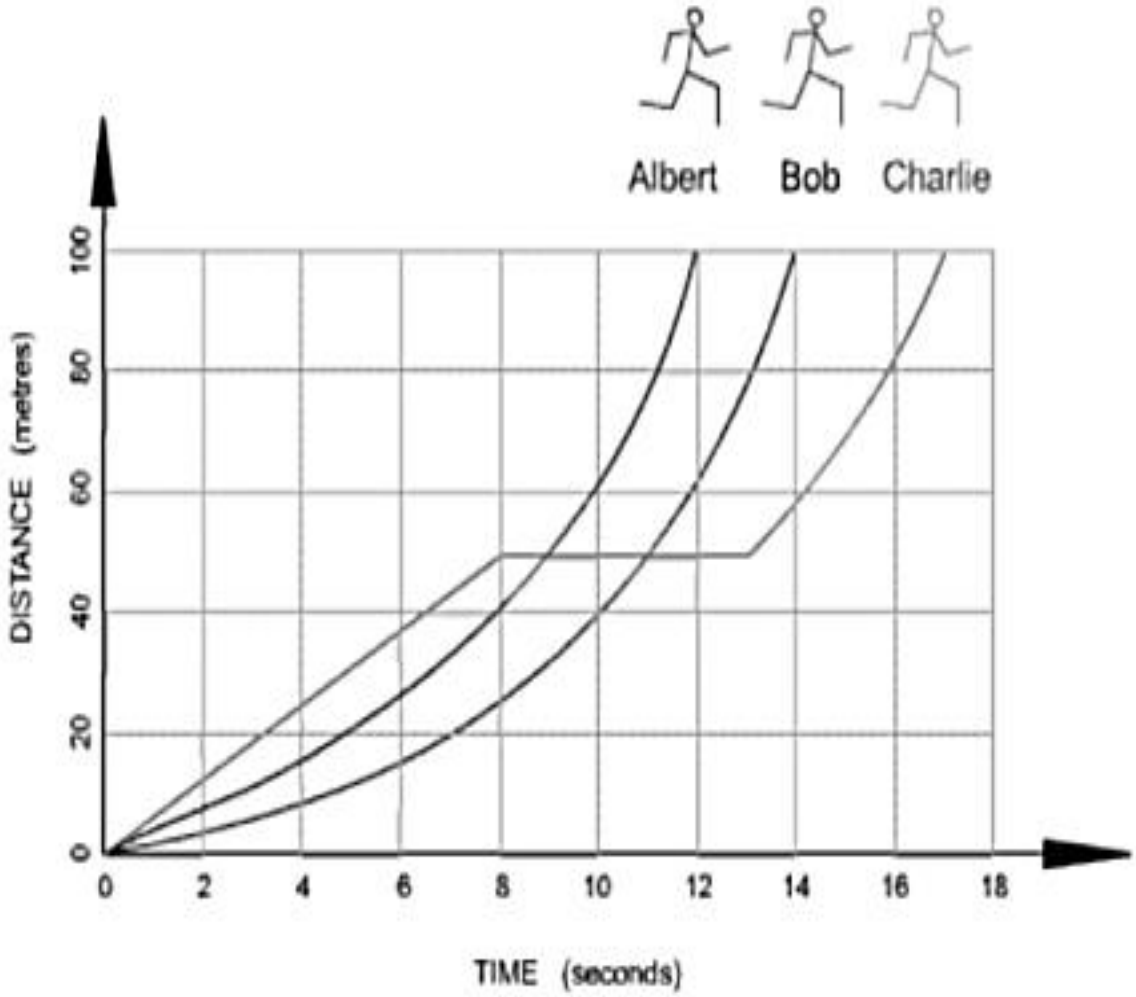
b) The independent variable.

c) The dependent variable.

2.2) If the Total cost for the bus is advertised online as R 9 152 write an equation for the cost per learner.

Question 3:

An athletics coach drew a graph of distance and time for three of his athletes running a time trial.



Use the graph to answer the questions that follow:

3.1) Determine which runner won the race.

3.2) Determine the time it took Charlie to complete the race.

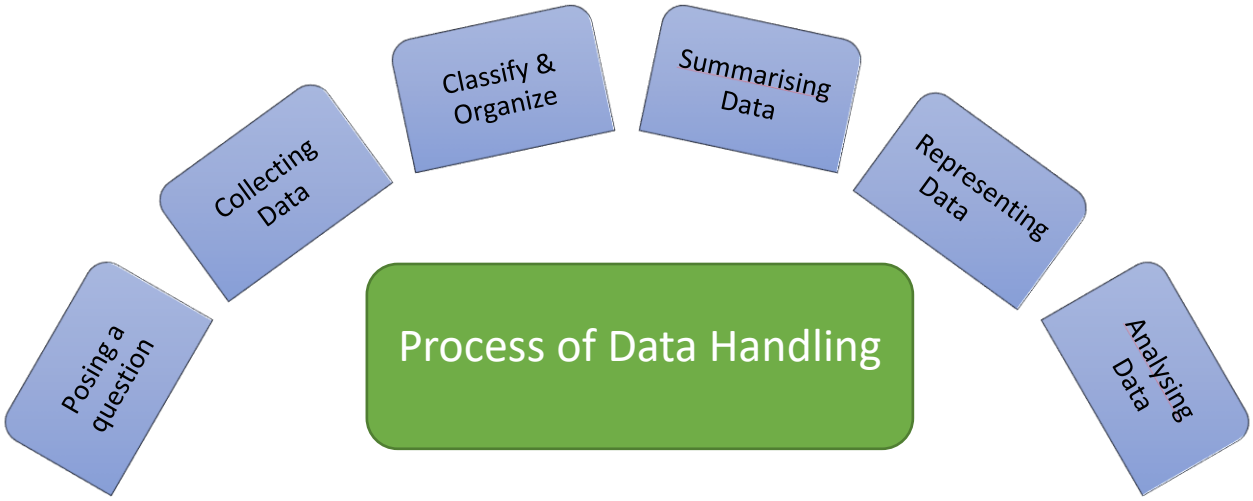
3.3) Write down the total distance of the race.

3.4) Write down:

i) the runner that stopped during the race.

ii) the total time the athlete stopped.

Data Handling:



Question 1:

A school in New Zealand monitored the number of days in a week that rain fell in Grey Lynn, Auckland, from Monday 2 January 2006 to Sunday 31 December 2006 and recorded it in the tally table below.

Number of days with rain	Number of weeks
0	II
1	卌
2	卌
3	卌
4	卌 卌 卌 IIII
5	卌 I
6	卌 I
7	IIII

Source: https://nzmaths.co.nz/

1.1) Write down the frequency of weeks with 6 days of rain.
1.2) Write down the modal number of days with rain.
1.3) Write down a possible data collection method used in this example.

Question 2:

Test marks of a group of learners was recorded in the table below:

Mark:	Number of learners:
4	2
5	2
6	4
7	16
8	10
9	4
10	2

2.1 Determine the total number of leaners in the group.

2.2 Calculate the mean mark obtained by learners in this group.

2.3 Determine the mode of the marks.

2.4 Calculate the range of the marks obtained.

Question 3:

The body mass (in kg) for each member of the under 16 Rugby team is recorded below:

45	53	51	56	49	53	56	44
53	42	53	43	60	45	50	

3.1) Arrange the data in ascending order.

3.2) Determine the following measures of central tendency:

i) mean (rounded to the nearest kg)

ii) mode

iii) median

3.3) Determine the range of the mass of the team.

Question 4:

The table below shows the maximum temperatures measured in one week:

Day:	***Max Temp (°C):***
Mo	20
Tue	30
Wed	25
Thu	33
Fri	18
Sat	22
Sun	25

4.1) Write down the maximum temperature for the week.

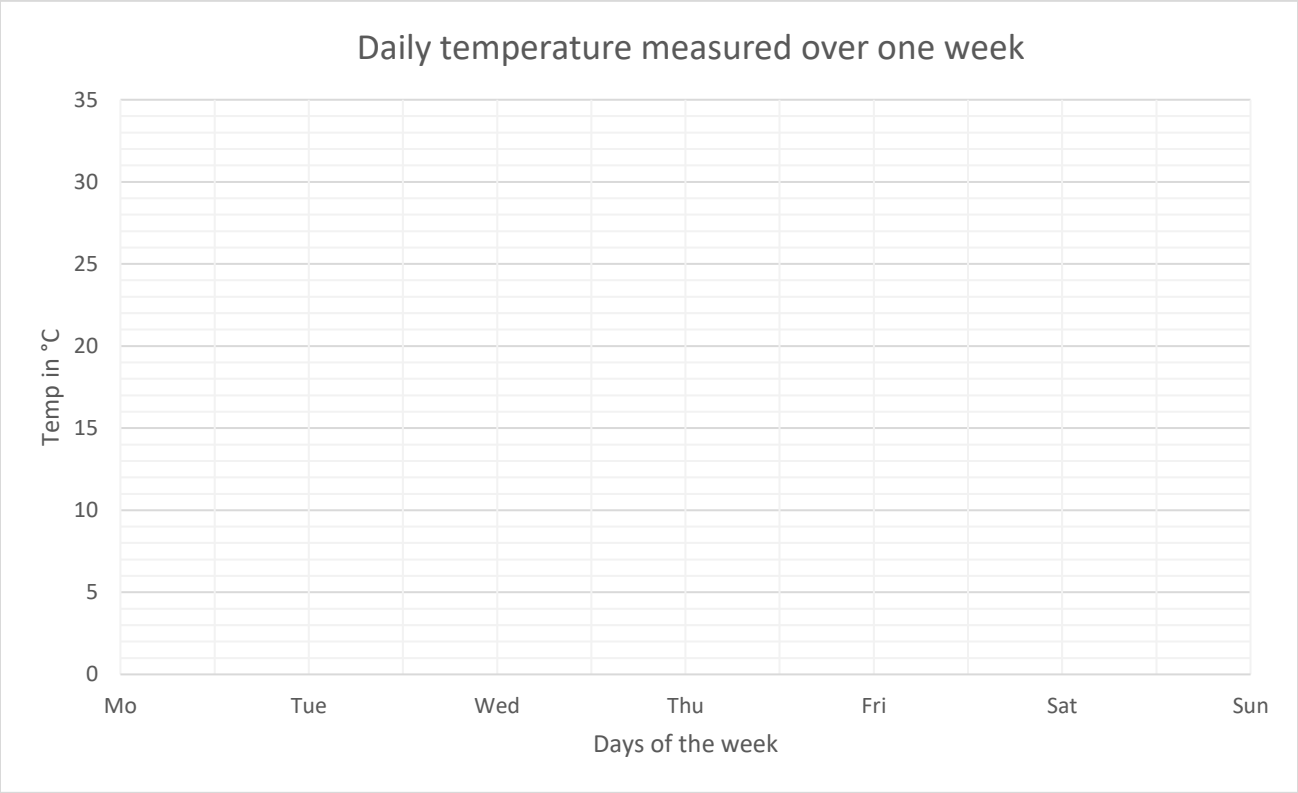
4.2) Determine the following:

i) mean temperature for the week

ii) modal temperature

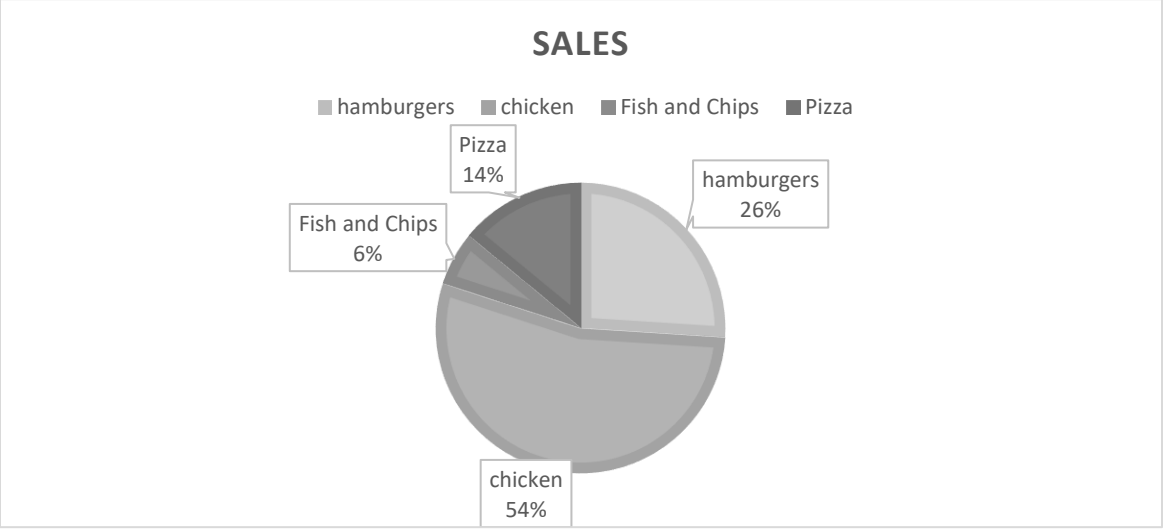
iii) median temperature.

4.3) Draw a line graph of the data represented in the table on the grid provided below:



Question 5:

The following diagram shows the results of high school learners' favourite take-aways.



5.1) Name one possible data collection instrument used.

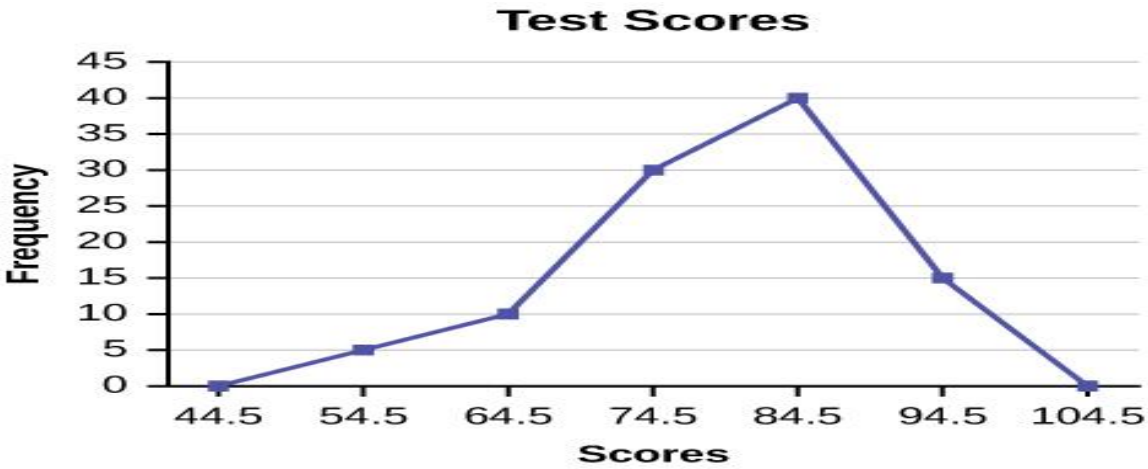
5.2) Arrange the meals in order of preference.

5.3) If 85 learners took part in the study, determine the number of learners that prefer hamburgers & fish & chips.

5.4) Briefly explain the difference between population and sample.

Question 6:

The following diagram shows the results of high school learners test results.



6.1) Write down the modal test score obtained.

6.2) Write down the number of learners that obtained 64,5

6.3) Calculate the range of the scores obtained.

Question from past NSC paper:

The Comrades Marathon Association (CMA) has issued its medical statistics for the race held on Sunday 4 June 2017.
Start of the race: 05:30
End of the race: 17:30

TABLE 2 shows the medical statistics on race day.

TABLE 2: MEDICAL STATISTICS

Athletes starting the race	17 031
Athletes finishing the race	13 852
Athletes treated in the medical tent	400
Hospital-treated athletes	90
Hospital-admitted athletes	40

[Adapted from http://www.runnersworld.co.za]

Use TABLE 2 above to answer the questions that follow.

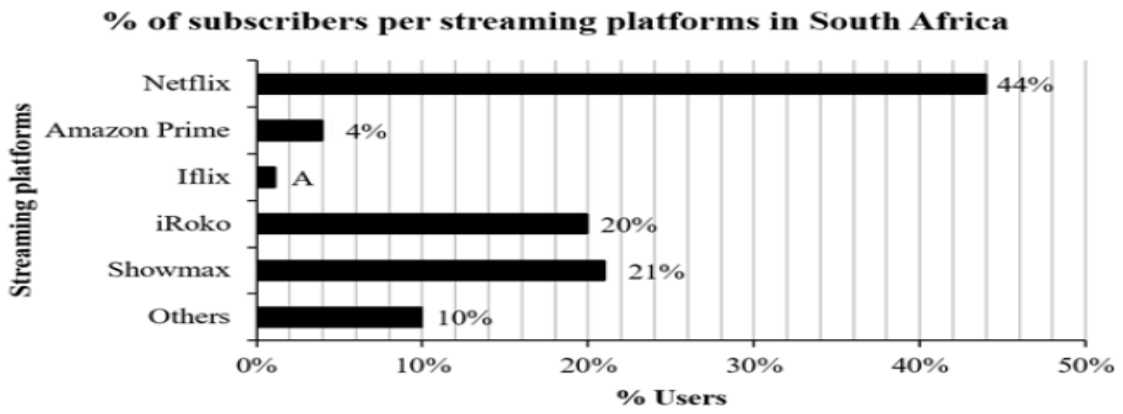
1.4.1 Write down the maximum time given to the athletes to complete the Comrades Marathon. (2)

1.4.2 State if the medical statistics data is discrete or continuous. (2)

1.4.3 Write down the ratio of athletes starting the race to the athletes finishing the race. (2)

With faster internet being easily accessible for the public in South Africa there has been a drastic increase in subscribers to streaming platforms.

The graph below shows the distribution of subscribers to streaming platforms in South Africa.



[Adapted from Source: Businesstech.co.za]

1.3.1 Write down the most popular streaming platform in South Africa? (2)

1.3.2 Calculate the percentage of people subscribing to Iflix as represented by A. (2)

1.3.3 Rank the streaming platform in descending order. (2)

1.3.4 What type of graph was used to illustrate the data? (2)