KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

CURRICULUM GRADE 10 – 12 DIRECTORATE

LEARNER SUPPORT DOCUMENT

GRADE 11

MATHEMATICAL LITERACY

2024

This support document was developed and collated by the KZN Provincial Mathematical Literacy Subject Advisors and Top Teachers

The document will cover the following:

	TOPICS	
A	Finance	
B	Maps and Plans	
C	Measurement	
D	Data Handling	
E	Probability	

Topics in this Learner Support Document are arranged according to the 2024 Grade 11 ATP

Taxation - VAT and UIF

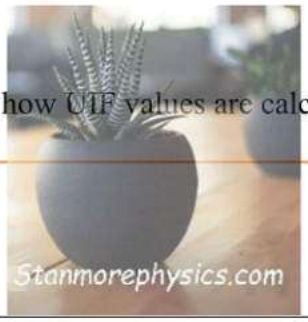
Develop an understanding of the difference between a "VAT inclusive" value and a value "excluding VAT".

Investigate through calculation how a final price has been determined by adding 15% VAT to a price excluding VAT.

Investigate through calculation the amount of VAT that has been added to a "VAT inclusive" price.

Develop an understanding of why UIF is deducted, the benefits to the employee and the responsibility of the employer.

Investigate through calculation how UIF values are calculated as a percentage of gross income.



QUESTION 1

1.1 Pongola Gospel Wagon is an music group, they organise the concert at Pongola town hall, they needed new equipment. They went to Zef Side Records and they bought the following equipment. The attached invoice was issued by Zef Records.

Zef Side Records **INVOICE**

15 Bushwhack Road
Cape Town, Brits 3400

Bill To	Ship To		
Vivian Fender 1401 Roger Street Blouberg, Limpopo 4800	Vivian Fender 202 Mandela Drive Benoni, Gauteng 7681	Invoice #	ZA-001
		Invoice Date	29/01/2019
		P.O.#	1830/2019
		Due Date	26/04/2019

QTY	DESCRIPTION	UNIT PRICE	AMOUNT
1	Limited edition solid gold record	1,700.00	1,700.00
2	Protective vinyl record sleeve	95.00	190.00
3	Custom left handed guitar	35.00	105.00
		Subtotal	1,995.00
		VAT 15.0%	299.25
		TOTAL	**R2,294.25**

K. Andrews

Terms & Conditions
Payment is due within 15 days

Capitec Bank
Sort Code: 12-34-56
Account Number: 12345678

Use the above information to answer the following questions.

1.1.1 What does VAT stand for ? (2)

1.1.2 Give the invoice number. (2)

1.1.3 Calculate the number of protective vinyl record sleeve. (3)

1.1.4 If the VAT is 15%, show by calculation how the VAT amount of R299,25 was calculated (3)

1.1.5 Why do shops suggest you keep the invoice ? (2)

1.2 Mr Kubheka is a technician at ABM wireless, he receives his salary monthly, below is his salary advice for the month of October. Study the payslip below and answer the following questions.

MR K. KUBHEKA'S PAYSLIP

ABM'S WIRELESS			
9 Suikerbekke Street Vryheid 3100	ABM's Wireless Email:admin@abmwireless.co.za	Tel nr: 034 931 4200 Fax nr: 034 931 5224	
Name of Employee		Employee ID	Tax Ref Number
Edgar van Wyk		8507115428187	1692399018
Appointment Date: 01 January 2009			
Employee Designation	Number	Department	Salary Period
Area Bestuurder	H11015	Stock	01/10/2023-31/10/2023
Deductions		Earnings	
Basic Salary	R25 000	P.A.Y.E.	R2 540,52
Travel Allowance	R 4 700	UIF	B
Housing Allowance	R 1 200	Pension Fund	7,5% of basic salary
		Medical Aid	R3 876,59
Gross Income	A	Total Deductions	C
Nett Salary			D

1.2.1 Define UIF (2)

1.2.2 What is the period of this payslip (2)

1.2.3 Calculate the value of A and B (4)

1.2.4 Hence, calculate the value of C and D (6)

Exchange rate

Work with exchange rates presented in foreign exchange tables found in newspapers for different currencies.

In order to:

Estimate+ the value of a currency in relation to other currencies.

Recognise the meaning of the terms "strong" and "weak" with regard to the relationship between different currencies.

Develop an understanding of the "buying power" of a currency in a particular country (that is, the value of the currency in relation to the cost of living in that country).

2 The 2024 ICC Men's T20 World Cup is scheduled to be co-hosted by the West Indies and the United States. Mr Dlamini is a businessman from South Africa. He is planning to travel to USA to watch the World Cup matches. He downloaded the following table of exchange rates to help him understand the prices that he will have to pay while travelling.

Foreign Currency	Amount of Rands needed for 1unit of foreign currency	Foreign Currency	Amount of Rands needed for 1unit of foreign currency
US DOLLAR	18,721412	INDIAN RUPEE	0,226212
EURO	20,481616	JAMAICAN DOLLAR	0,12060205
BRITISH POUND	24,068298	JAPANESE YEN	0,127303

www.xrates.com March 09, 2024

Use the above information to answer the following questions

2.1 Define the term *exchange rate.* (2)

2.2 How many South African Rands are needed to purchase one US Dollar? (2)

2.3 From the table above, state the currencies that are weaker than the South African Rand. (3)

2.4 Using the currencies listed above, state which the strongest currency against the South African Rand was on 9 March 2024. (2)

2.5 Mr Dlamini saw the approximate ticket prices for the matches on the internet.

Group stage (per match)	**$ 6**
Super eight and semi finals	**$ 25**

2.5.1 Calculate the difference, in Rands, between the cost of a ticket for a group stage match and a semi final match. Round off your final answer to two decimal places. (4)

2.5.2 Mr Dlamini and his business partners, Philani and Xolani want to attend **THREE** group stage matches , **ONE** super eight match and **ONE** semi-final match. They have a budget of R3800 to purchase these tickets. Verify, showing all calculations whether they have enough money to purchase the above tickets. (6)

2.6 Mr Dlamini and his two friends would like to watch the final match that will be held in Barbados, West Indies on 29 June 2024.

They found the following accommodation advertised on the internet:

(5)

www.booking.com

Calculate the total cost (in Jamaican Dollars) of their accommodation if they book for 2 nights.

Tariffs

Work with the following tariff systems:

• municipal tariffs (e.g. *electricity; water; sewage*)

• telephone tariffs (e.g. *cell phone and fixed line*)

• transport tariffs (e.g. *bus, taxi and train tariffs*)

• bank fees.

In order to:

Calculate costs using given tariffs and/or formulae.

Draw and interpret graphs of various tariffs systems.

Compare two (Grade 11) or more tariff system to determine the most appropriate option for individuals with particular needs (e.g. *comparing pre-paid versus contract cell phone costs*) by:

• performing calculations

QUESTION 2

2.1. Umsunduzi Municipality has the following tariff structure for water. Table 1 below indicates the tariffs for Umsunduzi Municipality for 2023/24:

Table 1: Umsunduzi Municipality-Tariff Structure

	Usage (kl)	Charge per kl
Block 1	0 - 6 kl	Free
Block 2	7 - 10 kl	R5,50
Block 3	11 - 15 kl	R8,20
Block 4	16 - 20 kl	R10,10
Block 5	21 - 30 kl	R12,50
Block 6	31 - 40 kl	R15,37
Block 7	More than 40 kl	R17,23

*All tariffs are VAT inclusive www.Umsunduzimunicipality.co.za

Use the table above table to answer the questions that follow.

2.1.1. Explain the term VAT inclusive according to the context. (2)

2.1.2 Determine the maximum number of kl that can be used in block 2. (2)

2.1.3. If Bobo from Mafakatini used 32kl of water during March 2024. Calculate the total cost using the table above. (3)

2.2. Bobo uses prepaid electricity. The table below shows the domestic prepaid electricity charges by Umsunduzi Municipality.

Umsunduzi Municipality-Tariff Structure:

	Units (kWh)	Rate c/kWh (excluding VAT)
Block 1	0 - 50	89,32
Block 2	51 - 350	116,42
Block 3	351 - 600	139,65
Block 4	> 600	145,70

www.umsunduzimunicipality.co.za

Use the table above to answer the questions that follow.

2.2.1. Distiguish between the terms prepaid and post-paid tariff. (4)

2.2.2. Determine the rate in Rands for block 2. (2)

2.2.3. Bobo stated that he paid R386,07 (including VAT) for 300 kWh of electricity. Show with calculations, that his statement is correct. (5)

2.3 Bobo wants to buy a new cell phone. He got the following two quotations from cell phone companies:

Option 1: Prepaid package	**Option 2: Contract package**
Call cost: R1,20 per minute	**R250 per month** **The first 100 minutes are free** **Thereafter:** **Call cost: R0,95 per minute**

www.singleshortnetphonetariffs.co.za

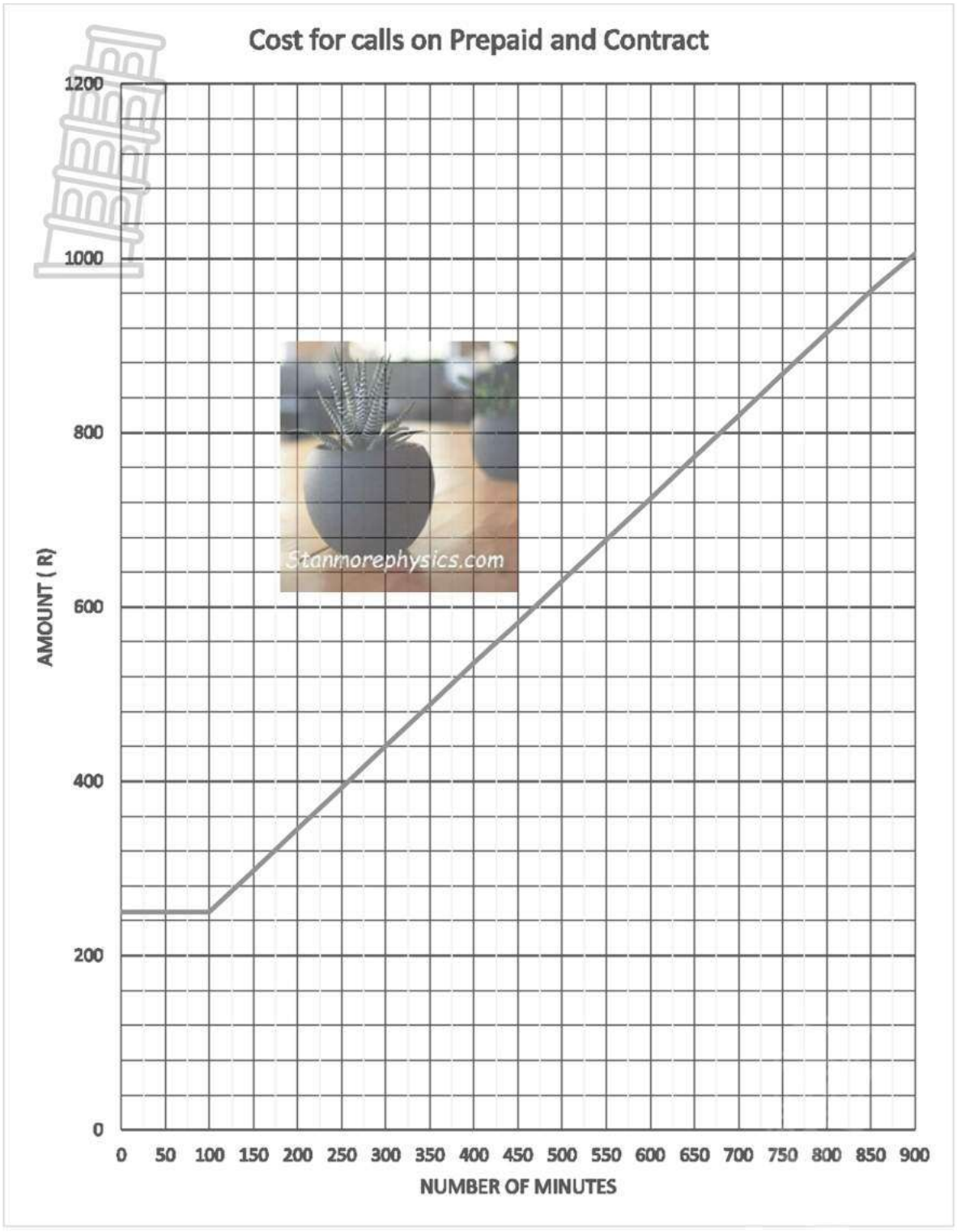
Use the table above to answer the questions that follow.

2.3.1. Determine a formula to calculate the monthly cost for Option 2 (contract package). (2)

2.3.2. Bobo makes 200 minutes of calls a month, determine which option would be cheaper for him? (5)

2.3.3 Below is a graph showing the cost for calls on Option 2 (Contract package). Draw the graph for Option 1 (Prepaid package) on the same set of axis. (4)

2.3.4 Explain the meaning of the point of intersection of the two graphs in **2.3.3**, according to the given context. (2)



QUESTION 3: Tariffs system: transport and banking fees

3.1 Mr Ntombela wants to hire a car for a trip from Vryheid to Durban. Car hire companies have different tariffs and benefits on offer, Mr Ntombela will compare these offers and choose the one that will give him the best value for his money.

Adapted from Avis and Budget car and van rental

AVIS CAR HIRE: R6,50 per kilometre

BUDGET CAR HIRE: R165 plus R3,50 per kilometre

Use the above information and answer the following questions.

Table 1 below shows the cost of the two options

Kilometre travelled	10	20	40	**C**
Cost for AVIS CAR HIRE	R65	**A**	R260	R455
Cost for BUDGET CAR HIRE	R200	R235	**B**	R410

Use the above information above to answer the following questions.

3.1.1. Explain the term *tariffs* in the given context (2)

3.1.2. Calculate the value of **A**, **B** and **C** in a table (5)

3.1.3. If Mr Ntombela paid R515 on budget car hire, calculate how many kilometre did Mr Ntombela travelled (3)

3.1.4. If Mr Ntombela will travel 400 km from Vryheid to Durban and come back. Which company will be cheaper and by how much? Show all calculation. (5)

3.2 Mr Thwala banks with ABC Bank. He wants to know the transaction fees of depositing cash at the bank

Table 2: Bank charges for transaction at ABC Bank

Transaction	Fees
Cash deposit (at the branch)	R2,00 + 0,90% of valve
Cash deposit (at ATM)	R0,95 per R100 (or part thereof)

Use the information provided to answer the following questions.

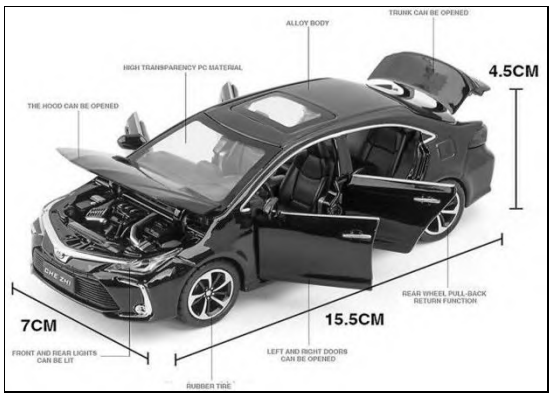
3.2.1. What is the minimum fee paid if Mr Thwala deposited cash at the branch (2)

3.2.2. If Mr Thwala deposit R450 at the ATM how much fee will he pay (3)

3.2.3. If Mr Thwala deposit R1000 at ATM instead of at the branch how much would he save on transaction fees (5)

QUESTION 4

4. Below is a scale model of a Toyota Corolla sedan. The scale of the model car is 1:32 and the length is 15,5cm, breadth is 7 cm and the height is 4,5cm as indicated in the diagram.



Scale 1:32

Use the diagram above to answer the questions that follow.

4.1 Explain the meaning of the scale in the context above. (2)

4.2 Determine actual length, breadth and height of the Toyota Corolla in metres. (6)

4.3 If the image was enlarged to cover a full A4 size page, would the scale of 1:32 still be accurate? Explain your answer. (3)

4.4 One customer claims that if the dimensions of the sun roof are 1,2m x 0,6m then the dimensions on the scale model will be 3,75cm x 1,875cm. Verify with calculations if the claim is correct. (6)

Scale

Work with the following types of scales on maps, plans and in the construction of models:

• number scales expressed in the form 1:500

• bar scales expressed in the form

with an understanding of the advantages and disadvantages of each type of scale and the situations in which one type of scale is more appropriate than the other.

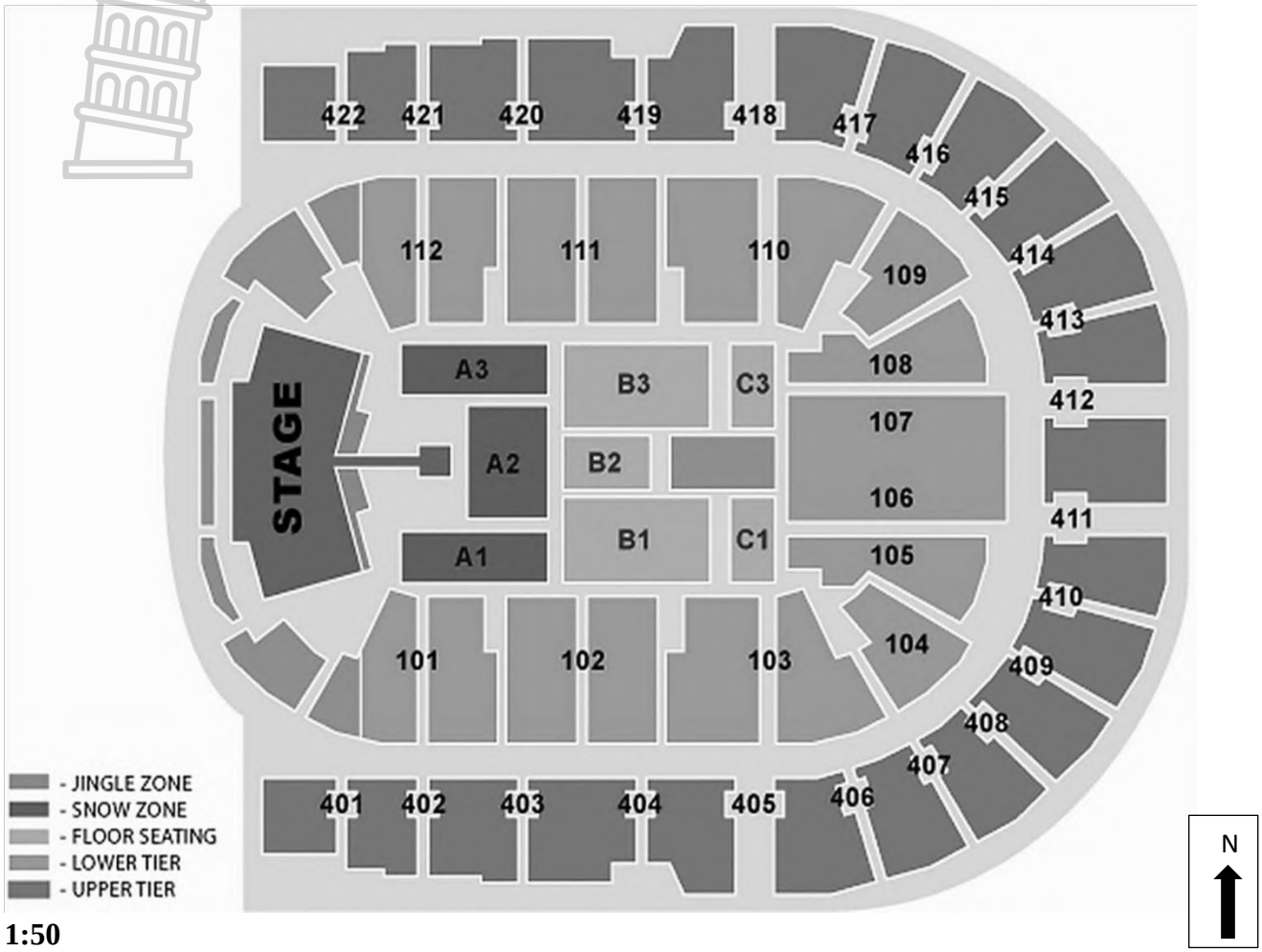
In order to:

Calculate actual length and distance when map and/or plan measurements are known.

Calculate map and/or plan measurements when actual lengths and distances are known

using a given scale to inform the drawing of 2-dimensional plans and pictures and the construction of 3-dimensional models.

KwaMsane Community Hall is hosting the Disabled Music Festival. The Hall is occupying 422 seats; the layout below is showing the seating and Stage of the hall. The entrance is on the right side of the Stage and the exit is on the left side of the Stage.



1:50

Use the information above to answer the following questions.

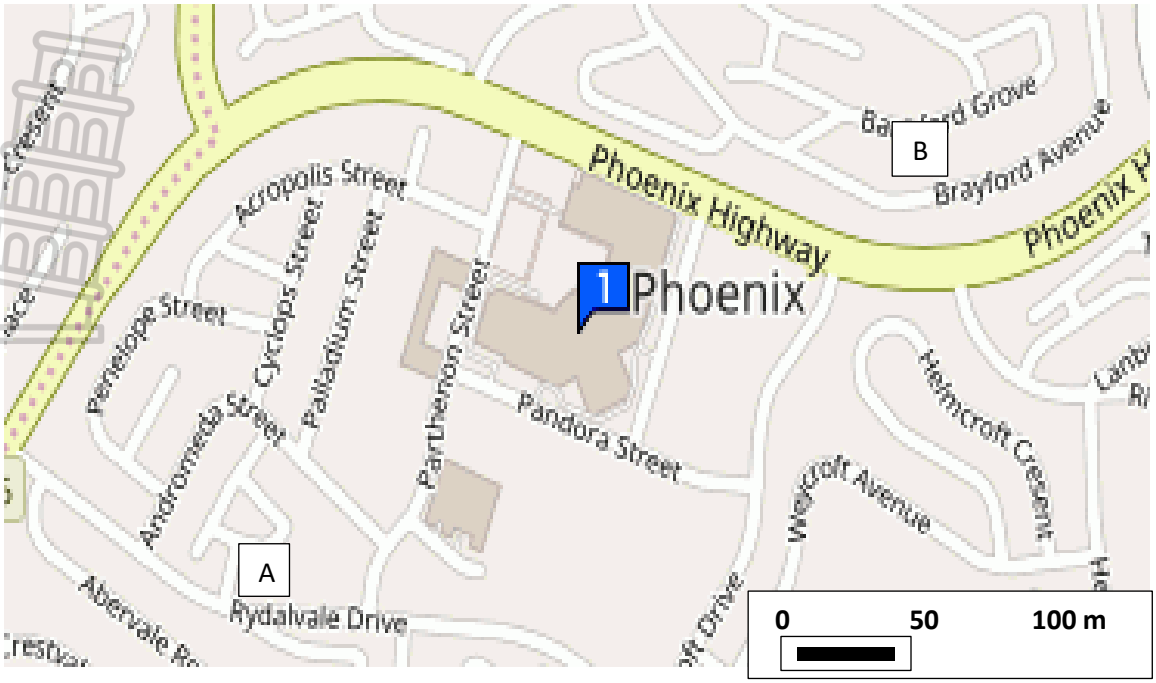
5.1 Define the term *layout plan* in the given context. (2)

5.2 Name the type of scale used and explain it. (4)

5.3 Give a general direction from seat 401 to seat 418. (2)

5.4 The distance between seat 401 and seat 407 is 8, 5 cm. Use the scale given to calculate the actual distance in metres. (3)

5.5 One of the music groups that is going to perform in the Festival is from Phoenix. Use the map below to answer the questions that follows.



Refer to map above to answer the questions that follow.

5.5.1 State one disadvantage of a bar scale? (2)

5.5.2 Use the scale given to calculate the distance between point A and point B. (3)

5.5.3 Mr Smith stays in Rydalvale Drive, he will be driving to pick up two other members of the group. Firstly he will pick up David from Penelope Street and Siyabonga at Acropolis Street then they will join Phoenix highway. Describe the detailed directions from Mr Smith's house to the Phoenix Highway. (5)

5.5.4 If they leave Durban at 6:15 am and arrive at KwaMsane Community Hall at 8:51 am, determine the duration of their trip in hours and minutes. (3)

5.5.5 Hence, calculate the average speed, if the distance between Durban and KwaMsane Community Hall is 224 km by using your answer in 5.5.4.

You may the formula : $\boldsymbol{Speed} = \frac{\boldsymbol{Distance}}{\boldsymbol{Time}}$ (3)

Maps

Work with the following maps:

• street maps with and without a grid reference system

• national and provincial road and rail maps

•strip charts showing distances on a portion of road

• residential or housing estate maps.

In order to:

Describe the position of an object (e.g. *buildings, furniture, seats*) in relation to surrounding objects.

Describe the position of a building in relation to surrounding buildings (e.g. *the building is directly across the road from the double-storey brick building*).

Find locations, follow directions and develop directions for travelling between two or more locations using the following mapping reference systems and/or techniques:

• directional indicators "left", "right", "along", "straight", "up" and "down"

• house and/or building numbering systems

• numbering systems used for seating in sports stadiums

• grid reference system (*e.g. North Street is located on AD14*)

QUESTION 6

6.1 In time for the BRICS Summit in 2022, Google launched improved map services in South Africa providing detailed driving and walking directions, transport data and a range of other services. Below is an extract from a google map.

Source: https://techcentral.co.za/google-maps-officially-launched-in-sa/181247/

Use the above map to answer the following questions

6.1.1 Give the general direction of Krugersdorp from Soweto. (2)

6.1.2 Identify the type of scale used on the map. (2)

6.1.3 Use the type of scale identified in **question 6.1.2** to determine the number scale. (4)

6.1.4 Xolile travelled from Sandton to Alberton, give two possible routes that he can take to reach his destination. (4)

6.1.5 Identify the types of road(s) on the map. (3)

6.2 The Soweto Marathon is an annual 32km marathon that is ran by runners mainly from South Africa and Africa.

6.2.1 Scelo from Umkhumbane stated that if the motorbikes that carry timing boards travels at a speed of 10km/h they would finish the course in 150 minutes.

Verify, if his statement is correct.

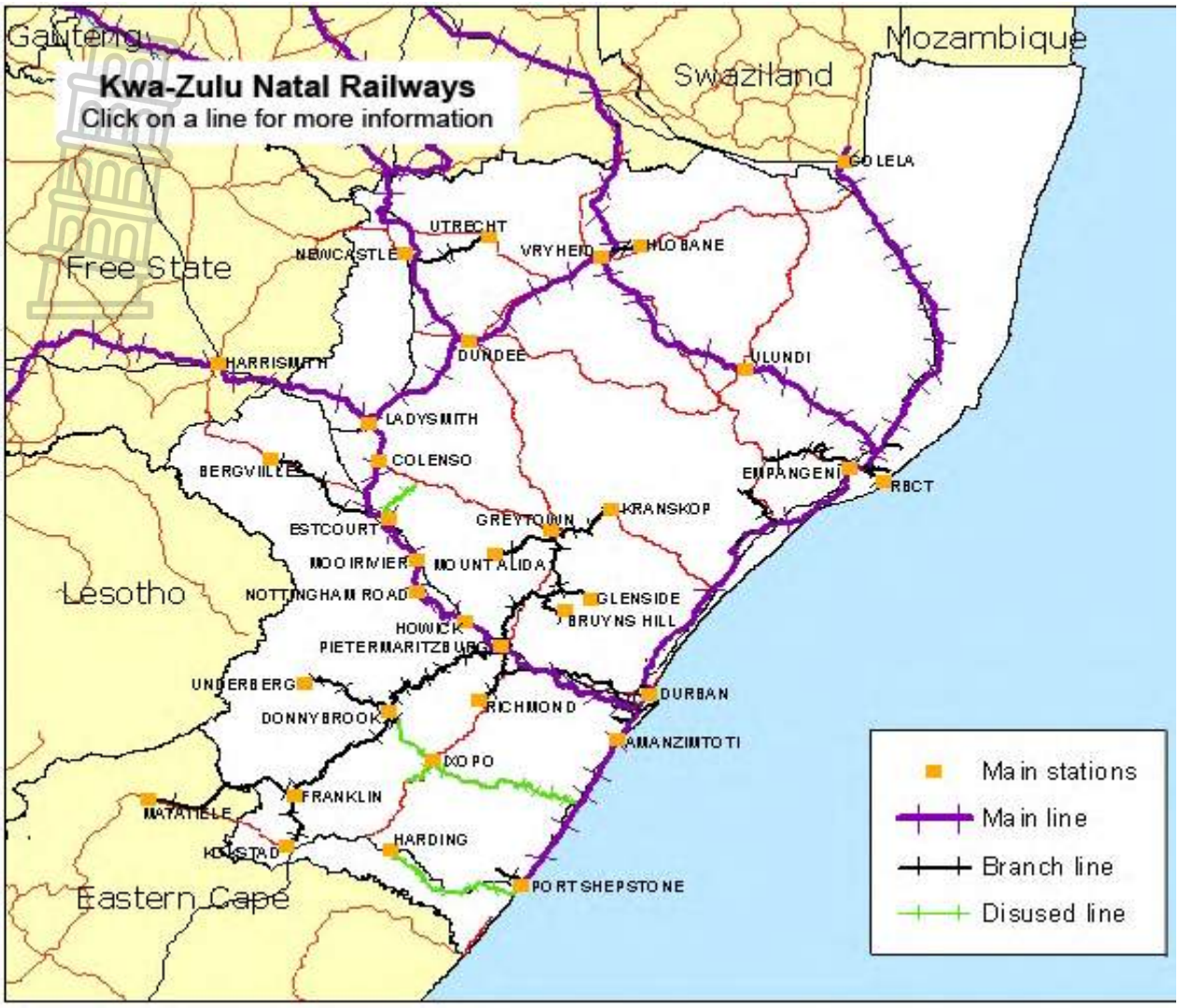
You may use the following formula:

Time = $\frac{Distance}{Speed}$ (5)

6.2.2 At how many kilometers is the halfway point of the marathon? (2)

6.3 Xolile is a banana farmer located in Durban. He is considering selling his harvest to various potential customers around KwaZulu-Natal. He was advised that railway freight is the cheapest mode to distribute his bananas.

The following map shows mainly various railway types and stations in the province of KwaZulu-Natal that he can use to transport his bananas.



source: http://www.kzntransport.gov.za/freight_databank/kzn/rail/freight_lines/3_xml.html

Use the above map to answer the following questions

6.3.1 How many main railway station(s) are there in Durban? (2)

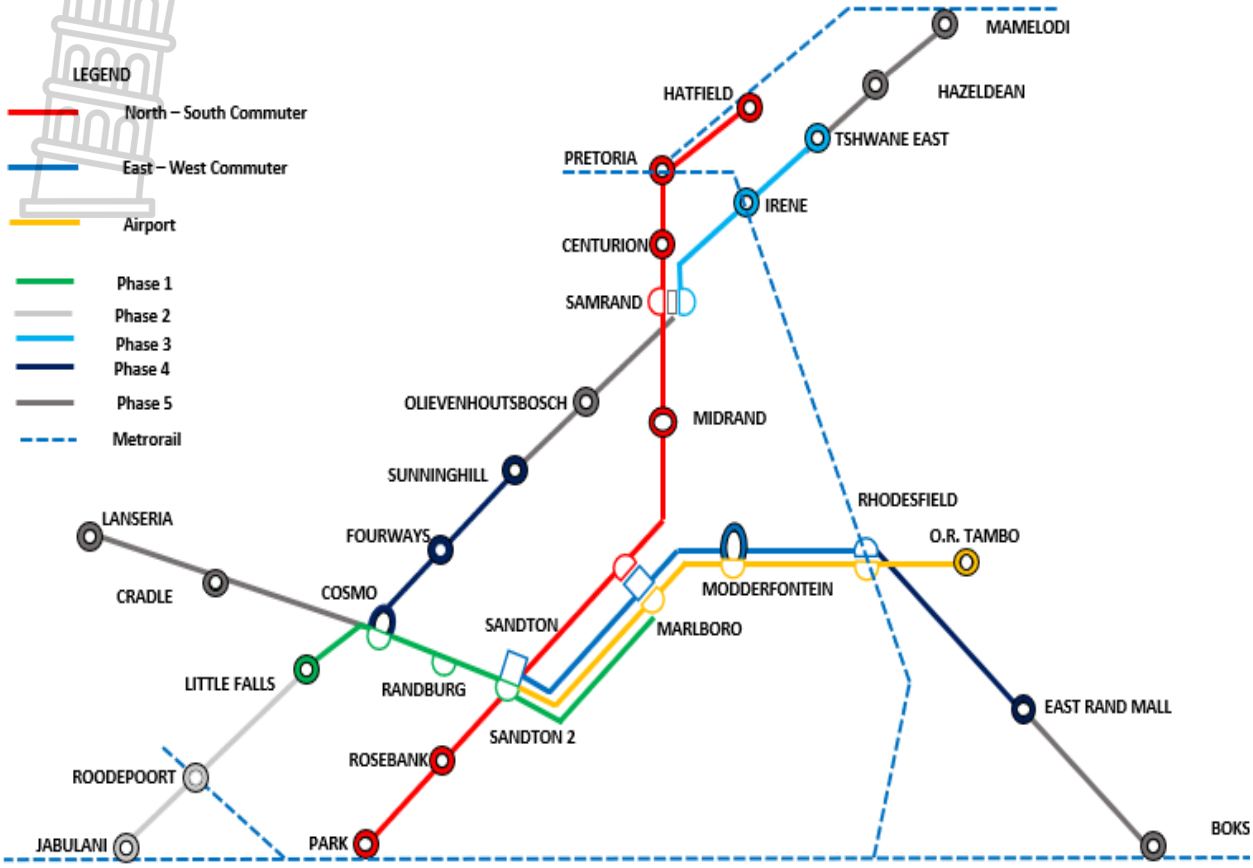
6.3.2 Is railway transportation of bananas the most appropriate mode of transportation? Motivate your answer. (3)

6.3.3 Name **TWO** railway stations located outside the province of KwaZulu-Natal. (2)

6.3.4 Which railway type can be used to travel from Pietermaritzburg to Franklin station. (2)

6.4 In an attempt to reduce traffic congestion in Gauteng, the Gautrain has proposed extensions to it routes to improve accessibility and reach.

The map below shows the proposed extensions in phases and the initial Guatrain routes merged with those of Metro-rail and fares.



Pay-As-You-Go Single Train Fares

Off Peak Fares	Hatfield	Pretoria	Centurion	Midrand	Marlboro	Sandton	Rosebank	Park	Rhodesfield	OR Tambo
Hatfield		R 22	R 28	R 45	R 53	R 57	R 60	R 64	R 60	R1
Pretoria	R 22		R 25	R 36	R 49	R 53	R 57	R 60	R 57	R1
Centurion	R 28	R 25		R 29	R 36	R 46	R 48	R 53	R 52	R1
Midrand	R 45	R 36	R 29		R 25	R 29	R 33	R 36	R 34	R1
Marlboro	R 53	R 49	R 36	R 25		R 22	R 24	R 29	R 25	R1
Sandton	R 57	R 53	R 46	R 29	R 22		R 22	R 24	R 32	R1
Rosebank	R 60	R 57	R 48	R 33	R 24	R 22		R 22	R 34	R1
Park	R 64	R 60	R 53	R 36	R 29	R 24	R 22		R 36	R1
Rhodesfield	R 60	R 57	R 52	R 34	R 25	R 32	R 34	R 36		R1
OR Tambo	R192	R192	R 192	R178	R165	R165	R178	R178	R165	

source:

https://gma.gautrain.co.za/projects/Pages/Extensions.html

Use the above map to answer the following questions.

6.4.1 Xolile commutes to work daily from Park to Pretoria every weekday. His daily commuting cost is R35 per trip. His friend, Sbahle stated that the monthly cost of using

Metrorail will be more than R1 500 cheaper than the monthly cost of using the Gautrain. (7)

Verify, if the her statement is correct.

6.4.2 Comparatively, which option is better between the Gautrain and Metrorail for a trip from Roodepoort to Mamelodi. Motivate your response. (3)

QUESTION 7 - Maps (directions and point locations): Seating plans & Residential maps

7.1 Zinhle recently bought the house at plot label A at El Fiesta Housing Estate

Use the residential map below to answer questions

N

Adapted from Answer Series

Use the above information to answer the following questions.

7.1.1 Give the address for Zinhle's house, (2)

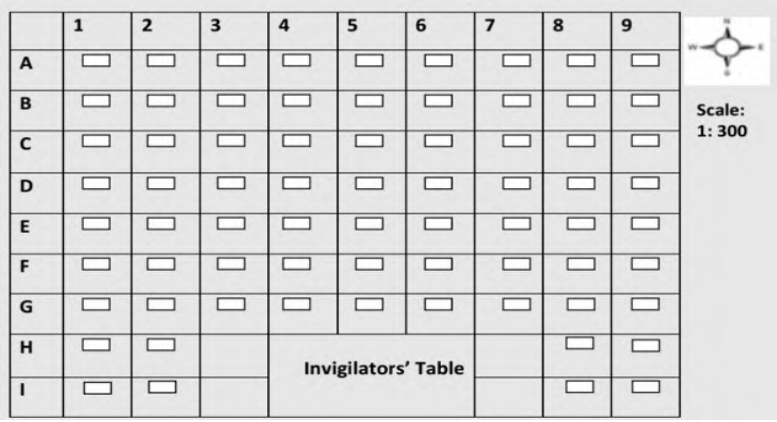
7.1.2 Give a reason why there are vacant plots (plots with no numbers) (2)

7.1.3 Give a general direction for Zinhle's house from the entrance. (2)

7.1.4 Zinhle's friend lives in 1st avenue at the house labelled B. she has to attend Zinhle' house warming.

Describe the shortest route she will take. (4)

7.2 The matric learners of Sakhile high school sat for their NSC exams in November 2023. Below is a seating plan of the matric learners in the exam room.



Adapted from DGE SSIP 2020

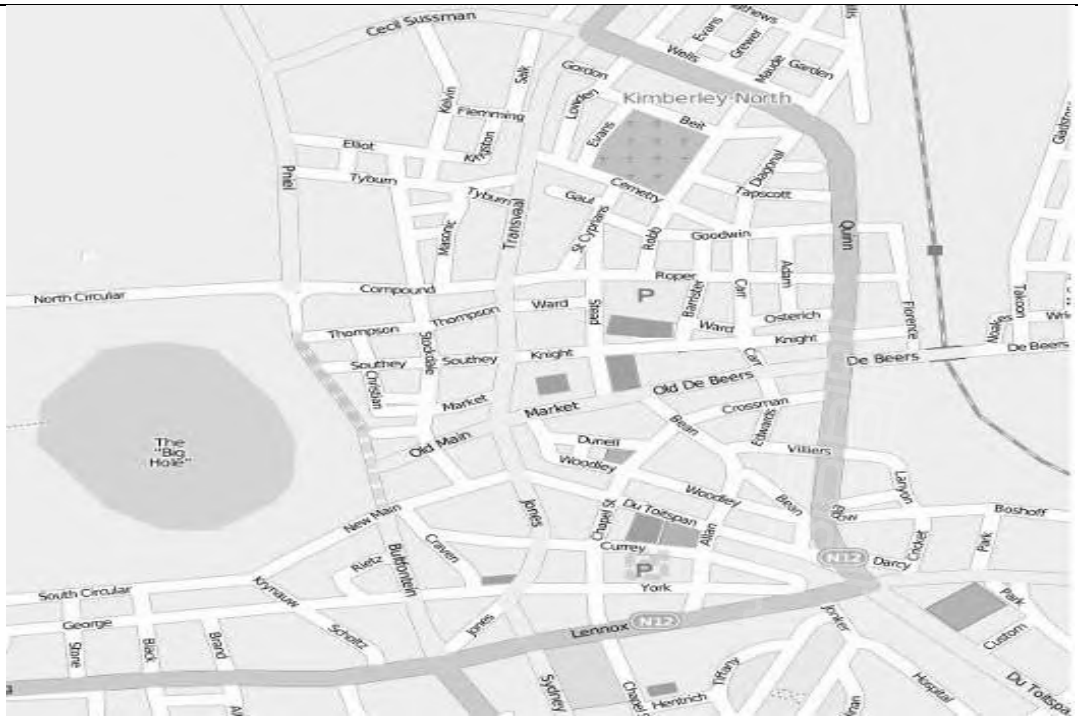
Use the above information to answer the following questions.

7.2.1 Give the general direction of leaner seating at C5 relative to leaner seating at F8. (2)

7.2.3 Identify and the type of scale used on the map and give one advantage, (3)

7.2.4 Use the scale to determine the actual area in m^2 (4)

7.3 Below is a map showing part of Kimberly. Use the map to answer the questions that follow



Key: P(park)

Adapted from exemplar question paper 2024

Use the above information to answer the following questions.

7.4.1 What is the name of the road that passes over railway indicated on the map? (2)

7.4.2 Write down the name of the road that is South of the Big hole. (2)

7.4.3 How many parks are in this map. (2)

Data handling

In Grade 11, the type of data dealt with is limited primarily (but not exclusively) to data including:

• two sets of data containing multiple categories (*e.g. working with different test scores categorised into mark categories and organised according to gender*)

• values that can be read directly from graphs and/or tables without the need for estimation

• data relating to the wider community and more complex social issues that are less familiar to learners, e.g.:

- sports results/statistics for provincial and/or national sports events
- sales figures for a business
- profile of shoppers at a shopping centre
- vehicle statistics (as an indication of income level) of shoppers at a shopping centre
- price history data for grocery items
- data on housing, toilet, water and electricity facilities for a small community
- data on employment rates for a small community

QUESTION 8 [29]

8.1. Mr Molefe wants to select boys who will represent the school in the 8km marathon. He records their ages and finishing times during training. The table below shows the ages of his learners and their recorded times.

8.1 **TABLE 1:** AGES OF LEARNERS AND THEIR TIMES RECORDED DURING TRAINING IN PREPARATION FOR THE 8KM MARATHON

NAMES OF LEARNERS	LEARNER'S AGES	RECORDED TIMES
Mashego Thabiso	16	25 : 07
Khoza Lunga	17	24 : 15
Ngomane Cedrick	18	25 : 22
Mango Simphiwe	15	22 : 03
Lubisi Goodman	19	28 : 06
Fankomo Mandla	19	33 : 41
Mashele Conride	16	22 : 03
Matsane Jabu	17	29 : 20
Ndlovu Mncedisi	19	35 : 00
Moriri John	16	26 : 15

Use the table above to answer the questions that follow.

8.1.1 State whether the given data is numerical or categorical. (2)

8.1.2 Name the learner who recorded the longest time. (2)

8.1.3 Arrange the recorded times in descending order. (2)

8.1.4 Which data collecting instrument would you use to collect the data above? (2)

8.1.5 Name the second stage of the statistical cycle. (2)

8.1.6 How many learners recorded times above 20 minutes? (2)

8.1.7 State whether the age of the learners have an impact on the recorded times. Give a reason for your opinion. (3)

8.2 The probability of selecting a 19 year old learner whose recorded time is above 30 minutes is 0,6666666667

8.2.1. Define the term probability in the given context. (3)

8.2.2. Write down this probability as a percentage rounded to one decimal place. (2)

8.3 The following statistics represents the heights (in cm) of 12 players from the Lion Park squad and 12 players from Unobhala squad , that were chosen at random for a soccer Cup Final.

LION PARK					
155	165	162	170	140	165
175	156	158	164	140	164

UNOBHALA					
160	155	160	175	150	167
173	155	155	171	147	171

8.3.1. What percentage of Unobhala players has a height of 155 cm? (3)

8.3.2. Complete the tally and a frequency table for Lion Park players. (3)

Height (in cm)	Tally	Frequency	Cumulative frequency
140-150	//	2	2
151-160	///	3	(a)
161-170	(b)	6	11
171-180	/	(c)	12

8.3.3 Overall which of the two squads has taller players than the other? Support your answer (3)

QUESTION 9

9.1 The Department of basic education analyses matric results according to different provinces which allows policy makers and the public to understand how well the education system is functioning in different regions.

The table below shows an analysis of 2023 matric results:

PROVINCES	TOTAL ENROLLED	TOTAL WROTE	TOTAL ACHIEVED	% ACHIEVED
Eastern Cape	98 418	95 697	77 917	81,42
Free State	35 634	34 451	30 673	89,03
Gauteng	132 570	127 697	109 030	85,38
Kwazulu-Natal	167 247	A	136 366	86,36
Limpopo	94 424	93 533	74 400	79,45
Mpumalanga	67 995	65 534	50 429	76,95
North West	42 287	41 418	33 808	81,63
Northern Cape	13 032	12 842	9 740	75,84
Western Cape	64 112	62 077	50 620	81,54

Use the table above to answer the following questions.

9.1.1 Identify TWO provinces that show the highest pass percentages. (2)

9.1.2 Write down the modal number that enrolled. (2)

9.1.3 Arrange the total number enrolled in descending order. (2)

9.1.4 Calculate the mean (average) percentage obtained by all provinces. (3)

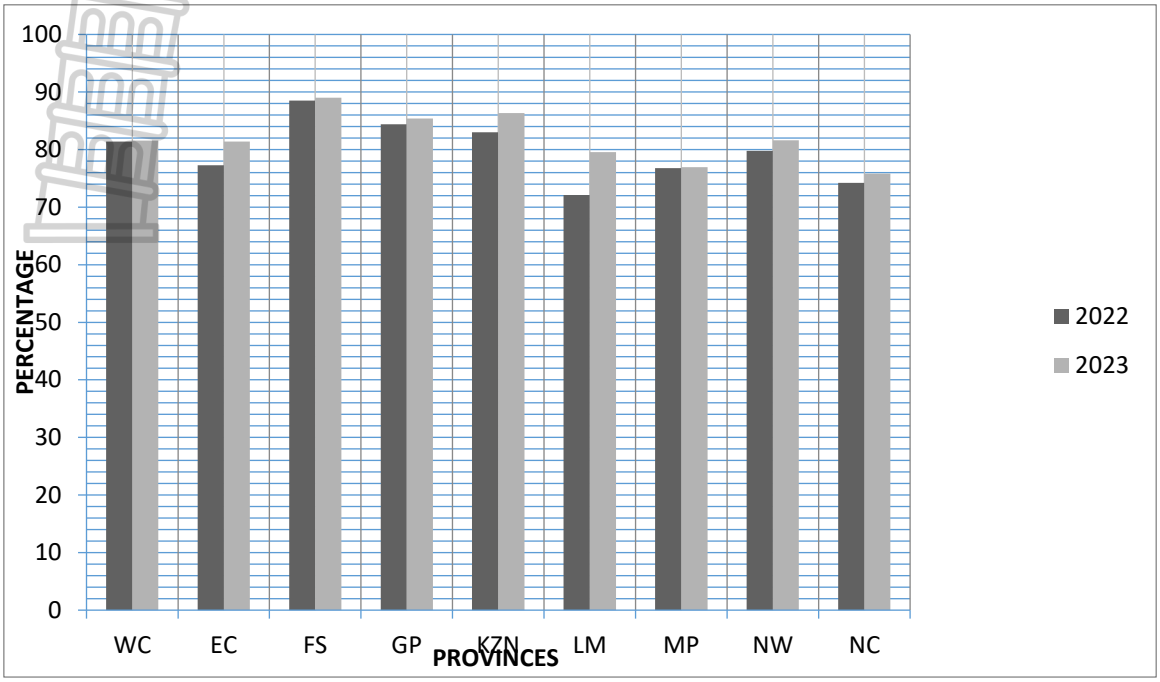
9.1.5 Determine the median of the total achieved. (2)

9.1.6 Determine the value of A, which is the highest number of the total that wrote, if the range is 145 069. (3)

9.1.7 Determine the total number of learners that failed matric in Gauteng. (2)

9.1.8 Determine with calculations which measure of central tendency is the most representative of the majority of the data values in the national pass percentages. (4)

9.2 The graph below shows the performance in Mathematical literacy Grade 12 for 2022 and 2023 in different provinces.



Use the table above to answer the questions that follow:

9.2.1 Name the type of graph used to represent the data. (2)

9.2.2 Describe the trend in the KZN Mathematical Literacy results. (2)

9.2.3 Provide any possible solution to improve the results in the subject. (2)

9.2.4 Name the province that obtained the second lowest percentage in 2022. (2)

9.2.5 Determine the range in the 2023 percentage. (3)

QUESTION 10

10.1

Samsung is among the world's largest and most popular producers of electronics. From appliances to smart TVs, smartphones, and everything in between, the South Korean company is well-known across the globe. Samsung revenue was 236,81 trillion KRW in 2020.

Use Table 1 to answer the questions.

Pictures of a Samsung cellphone

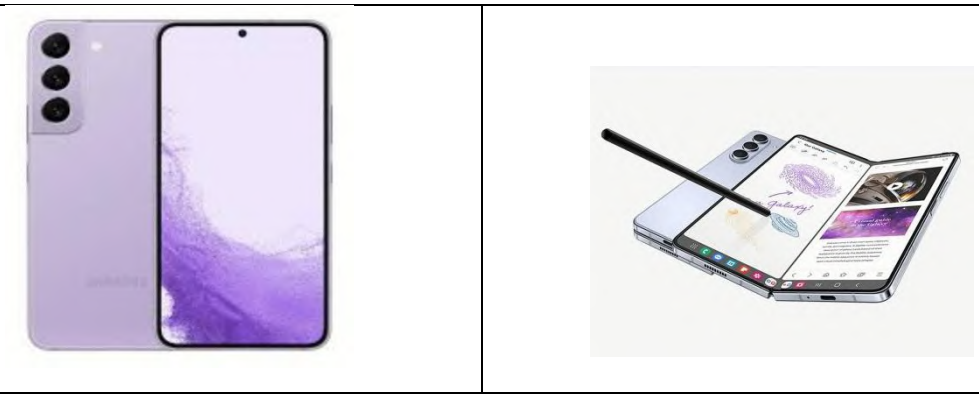


TABLE 1: GLOBAL SHIPMENT FIGURES FOR SAMSUNG PHONES (2017 -2020) (in millions)

	2017	2018	2019	2020
QUARTER 1	80,1	78,2	71,9	55,3
QUARTER 2	79,8	71,5	75,5	54,2
QUARTER 3	83,3	72,2	B	C
QUARTER 4	74,5	70,4	69,4	62,1
TOTAL	317,7	292,3	295,7	

Source: adapted from: http://www.mirrormeister.com/samsung

10.1.1 Identify the number of phones Samsung shipped out globally in the first quarter of 2020? Write your answer in full. (2)

10.1.2 Is the data shown in the table categorical or numerical? Explain your answer. (2)

10.1.3 Is the data shown in Table 1 discrete or continuous? Give a reason for your answer. (2)

10.1.4	Determine the total number of phones shipped globally in 2018 (A).	(2)
10.1.5	Determine the number of phones shipped globally by Samsung in the third quarter of 2019 (B).	(2)
10.1.6	The mean number of phones shipped globally per quarter, in 2020 was 63,025million. Use the mean to calculate the number of phones (C) that was shipped in the third quarter of 2020.	(5)
10.1.7	Determine the median number of phones shipped globally per quarter in 2019 and 2020 combined.	(3)
10.1.8	Display the data shown in Table 1 using an appropriate graph. Remember to label your axes and do a legend/key showing the various quarters.	(7)
10.1.9	One of the customers studied the table of global shipment figures and commented that the percentage decrease in shipment from 2019 to 2020 was twice the decrease from 2017 to 2018. Verify if the customer's claim is valid.	(7)
10.1.10	Identify the trend do you notice in the total shipment of phones from 2017 to 2020? Give a possible reason for the trend in figures.	(3)

10.2 Clive is interested in buying a Hyundai i10 Motion car. He did some investigation on the prices of the used cars. He then summarised the collected data in a table with the age of the car and the selling price.

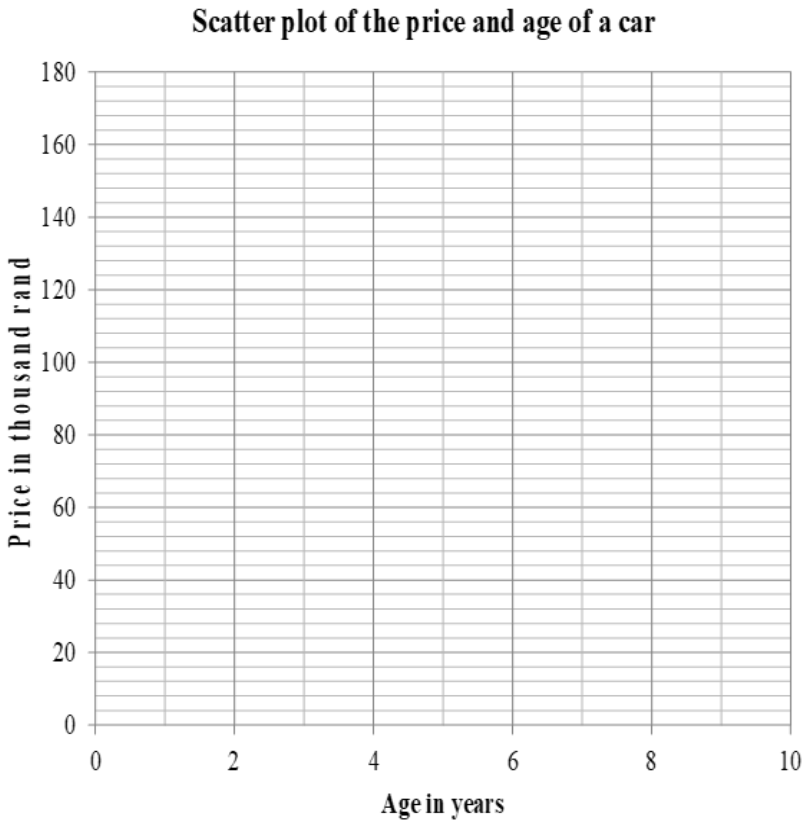
Source: http://www.carfind.co.za

Table: Price and age of a used Hyundai i10 Motion

Age in years	1	2	1	7	4	5	4	7	6	4	6	3
Price in thousands	175	159	179	120	145	145	140	119	125	155	120	155

10.2.1 Clive noticed that even within the same age the price differs. Write down the possible reason why prices within the same age differ. (2)

10.2.2 Use the grid provided below to draw a scatter plot of the age versus the price of the used Hyundai i10 Motion. (4)



10.2.3 Use the scatter plot to describe the trend in the price of a used Hyundai i10 Motion. (2)

car as it becomes older.

10.2.4 Justify Claim's claim that the price of a 8-year-old used Hyundai i10 Motion could cost R110 000. (2)

INCOME, EXPENDITURE, PROFIT/LOSS

Identify and perform calculations involving income, expenditure, profit and loss values, including:

Fixed, variable and occasional *income* values and fixed, variable, occasional, high-priority and low-priority *expenditure* values from the following sources: business and/or workplace income:

o income from sales and/or services rendered

o donations and/or grants

o interest on money in accounts and/or investments

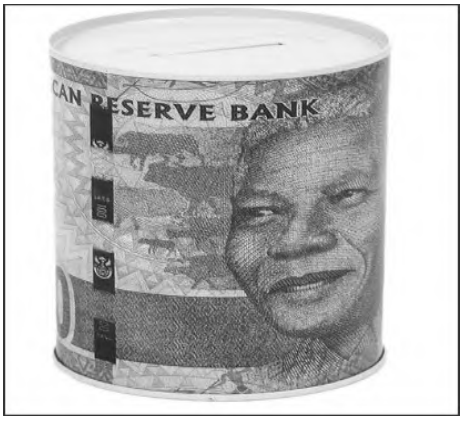
In order to:

Manage finances by:

- analysing and preparing income-and-expenditure statements and budgets, with an awareness of the difference between these two documents, for: - an individual and/or household, a comparison of income/expenditure/profit values over two years *(analysis only)*
- budgets showing a comparison of projected versus actual income, expenditure and profit/loss values *(analysis only)* - large projects and/or events (e.g. fund-raising event or a wedding)

QUESTION 11

Walter runs a small business of manufacturing money boxes out of sheet metal. The cost to produce one money box is R62, 50, which includes the cost for the sheet metal and labour. He sells the money boxes for R100 each.



www.mapetite.co.za

Use the information above to answer the following questions.

11.1.1 Explain the term *profit* according to the given context. (2)

11.1.2 Calculate the profit that Walter makes on each money box.

You may use the formula: **Profit = Selling price – Cost price** (3)

11.1.3 Determine the number of money boxes that he has to sell to make a profit of R1312, 50.

(3)

11.2. Abaqulusi Municipality published their Financial statements for the financial years 2021/22 and 2022/23 for different departments of the municipality, labeled A to G, as shown in Table 1 below(Some values are omitted)

TABLE 1: FINANCIAL PERFORMANCE OF DEPARTMENTS FOR THE YEAR 2021/22 AND2022/2013

DEPARTMENT	2021/22			2022/23		
	INCOME	EXPENDITURE	SURPLUS OR DEFICIT	INCOME	EXPENDITURE	SURPLUS OR DEFICIT
A	R52 388 125	R27 610 185	R24 777 940	R6 577 1447	R32 490 095	…….
B	R1 609 653	R2 554 248	-R944 595	R2 960 816	R2 754 802	R206 014
C	R1 308 287	R1 301 356	R6931	R1 416 484	R1 507201	-R90717
D	R6 855 006	R7 932 644	-R1 077 638	R7 151 138	R7 234 832	-R83 694
E	R6 979 909	R8 447 349	-R1 467 440	R7 530 785	R6 375 380	R1 155 405
F	R10 770 950	R9 774 804	R996 146	R10 764 108	R11 237 114	-R473 006
G	R13 231 361	R15 645 928	-R2 414 567	R14 505 986	R15 031 602	-R525 616

Adapted from Abaqulusi Municipal.co.za

11.2 Study TABLE 1 above and answer the questions that follow

11.2.1 Explain the term *deficit* in this context. (2)

11.2.2 Explain the meaning of the negative sign (-) in the surplus/deficit amount. (2)

11.2.3 Determine, by showing ALL calculations, whether Department A showed a surplus or deficit in 2022/23. (3)

11.2.4 Write the income amount for Department G for 2021/22 in words. (2)

11.2.5 Identify the department that showed the greatest deficit in 2021/22 (2)

11.2.6 One councillor stated that the percentage difference in the expenditure for Department D from 2021/22 to 2022/23, was greater than -6, 2%.

Verify with calculations, whether his statement is correct. You may use the formula:

$$\%\ \text{different} = \frac{(2022/23\ expenditure - 2021/22\ expenditure}{2021/22 expenditure} \times 100\%$$

(4)

11.2.7 Calculate the probability (expressed as a percentage) of randomly selecting a department that had expenditures of more than R10 million in 2022/23. (3)

QUESTION 12

Mrs Nyawo is a street vender, selling vegetables at Hlabisa taxi rank. She pays rent of R100 per week for the space she is using. In December 2023, she bought 4 bags of sweet potatoes from the local farmer at R1 350 per bag. Each bag has a maximum of 150 sweet potatoes. She then repacks the sweet potatoes into small packs of 5 sweet potato per pack and sells them.

The picture below shows sweet potatoes bags and small packs

1 bag of sweet potato

Source:https://www.bing.com/sweetpotato

12.1 Calculate the total amount Mrs Nyawo paid to the farmer. (2)

12.2 Define the term *cost price* according to the given context. (2)

12.3 If ONE pack of sweet potato weighs about 2, 27 kg. Convert the weight of one pack into grams. (2)

12.4 Calculate the approximate cost of ONE sweet potato. (2)

12.5 How many small packs will Mrs Nyawo be able to pack, if she puts 5 sweet potatoes in ONE small pack? (2)

12.6 One small pack weighs 2, 27 kg. Calculate the weight of ONE bag of sweet potatoes. (2)

12.7 She bought 20 plastic packs with 50 plastic bags inside each pack, each pack cost R10,00.

12.7.1 Calculate the cost of ONE plastic bag. (2)

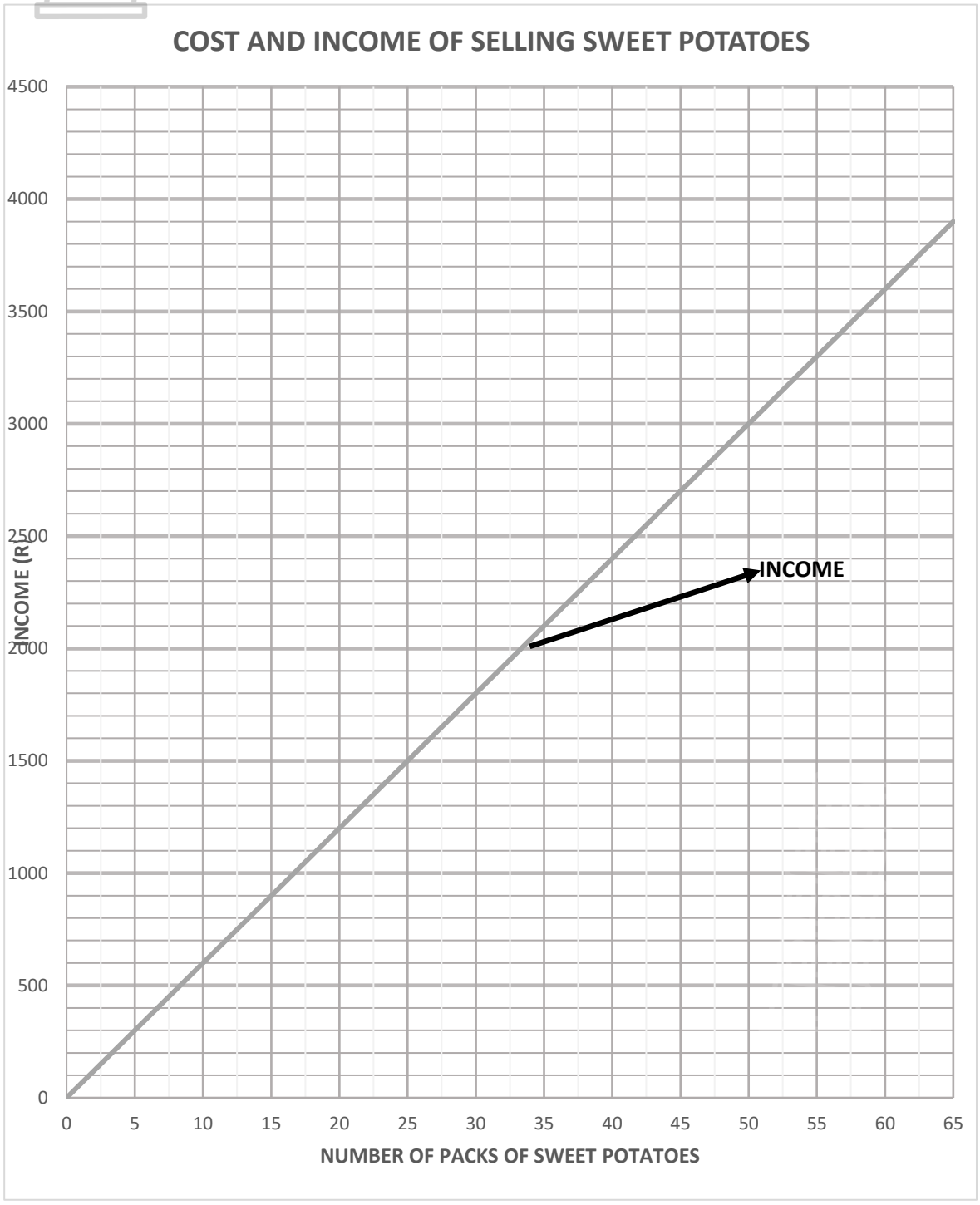
12.7.2 Calculate the cost price to make ONE small pack of sweet potatoes. (3)

12.8 The graph of showing INCOME is drawn on ANNEXURE A, draw the graph showing the COST on the same set of axes. (3)

12.9 Use the graph to determine the selling price of ONE small pack of sweet potatoes. (2)

12.10 Mrs Nyawo stated that if she can sell ONE bag of sweet potatoes, she will make a profit that is not less than R2 300 during December, if she adds a mark-up of 30% per small pack .Verify whether her claim is correct. (6)

ANNEXURE A



Cost price and selling price

Identify the costs associated with producing/manufacturing an item or rendering a service in the context of:

• a home industry (e.g. *bread-baking business*)

• small business (e.g. *tuck shop; street vendor; flea-market stall; cell phone container business; garden services; painting business; car wash; hairdresser; catering, business; crèche; subsistence farming*).

In order to:

Determine the cost of production and/or cost price of an item or service, with an understanding of the difference between these two costs.

Decide on an appropriate selling price for an item and/or service based on an expected percentage profit.

QUESTION 13

13. Tanya started her own online business of buying and selling luggage. She buys the set of three luggage bags for R800 per set. She sells the set of three bags for R1 200 per set. Tanya rents a space for her office and for the storage of the luggage. Her cost to rent the space is R 4000 a month, including water and electricity. She also pays a monthly salary to an employee to assist her with her business. The bags are sold for R1 200 a set.

Picture showing a set of luggage

NOTE: Luggage is a word used to describe suitcases or other bags in which to pack personal belongings for travelling.

Table 1 : Table showing Tanya's monthly income and expenses for her luggage business

NO OF LUGGAGE SETS	0	10	20	50	**D**	150	200
COST (IN RANDS)	**A**	18 000	26 000	**B**	90 000	130 000	170 000
INCOME (IN RANDS)	0	12 000	24 000	60 000	120 000	**C**	240 000

Use TABLE 1 to answer the questions that follow.

13.1 Calculate the monthly fixed cost (A) for Tanya's luggage business. (3)

13.2 Write a formula to calculate the monthly cost for the business.

Begin the formula : **Cost = ……..** (2)

13.3 Write a formula to calculate the monthly income from the sale of luggage sets.

Begin the formula: **Income = ……..** (2)

13.4 Identify the independent variable shown in TABLE 1. (2)

13.5 Identify the two dependent variables shown in TABLE 1. (2)

13.6 Use the formulae for cost and income to calculate the values for B, C and D. (6)

13.7 Draw and label a graph to show the monthly cost for Tanya's luggage business on the same set of axes as the income graph on Annexure A. (5)

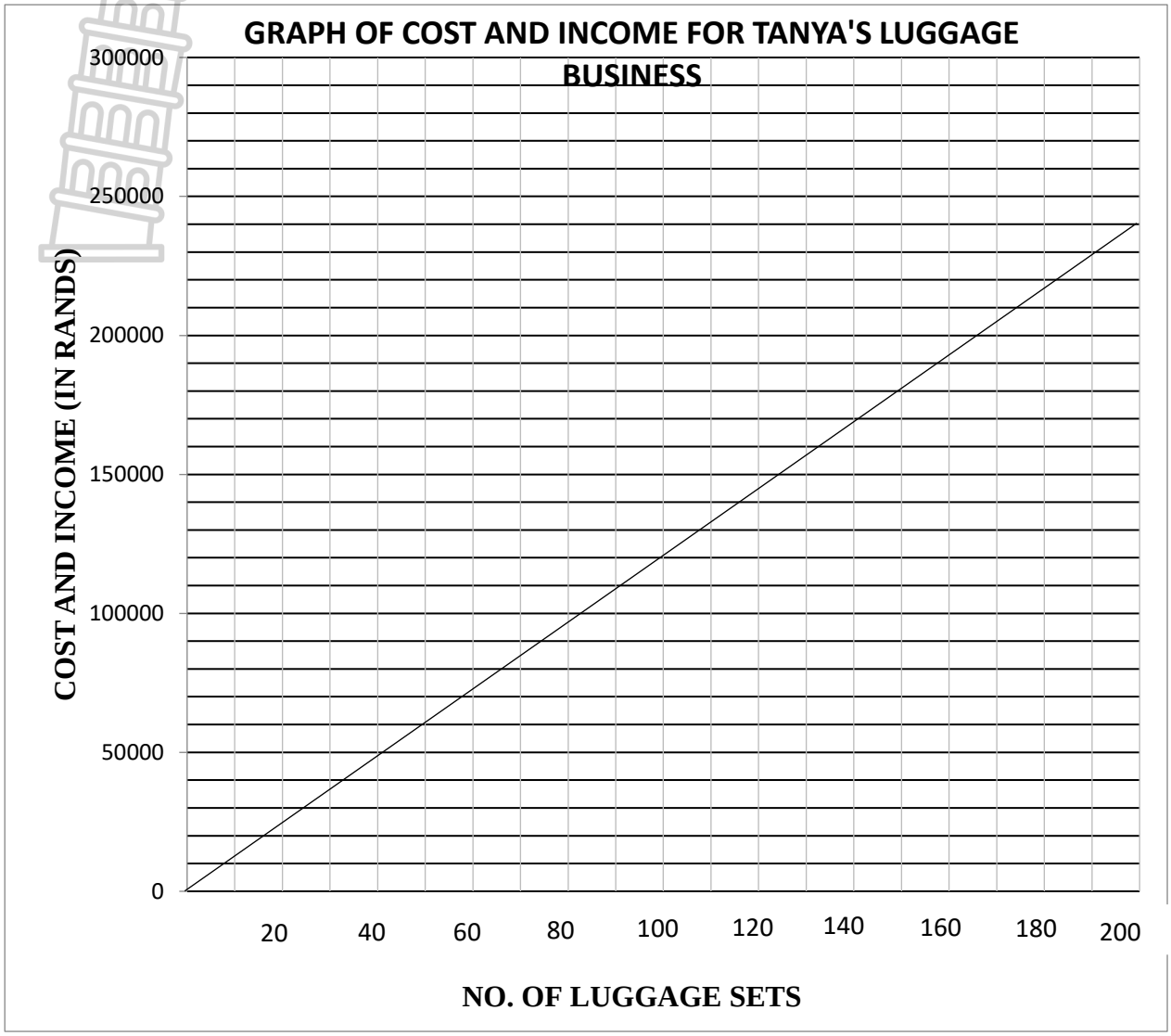
13.8 Refer to the graph to explain the break-even point for Tanya's luggage business. (2)

13.9 Use the graph to explain two ways in which the break-even analysis is important for the business. (4)

13.10 Determine the percentage profit that Tanya will make for the month if she sells 30 sets of luggage. (5)

Formula: **Profit/Loss = Income - Cost**

ANNEXURE A QUESTION 13.7



INTEREST (LOANS; INVESTMENTS & BANK ACCOUNTS)

Perform calculations involving simple and compound interest through manual calculations and without the use of formulae*.

Represent simple interest growth scenarios using linear graphs and compound interest growth scenarios using graphs showing compound change.

In order to

Investigate the following scenarios:

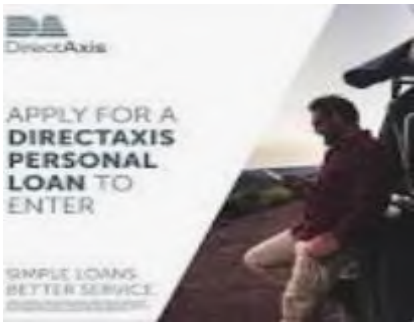
• loan agreements between family members where repayments are made only once at the end of the loan

• investments in fixed deposit accounts where the money is deposited and withdrawn from the account only once

• bank accounts with a changing balance

QUESTION 14 [28]

14.1



DirectAxis

Leonard applied for a loan of R30 000 from Direct Axis. Loan conditions are given below:

Once-off initiation fee: R1 207,50
Monthly loan service fee: R69,00
Interest Rate: 28% p. a. compounded monthly
Monthly repayment: R1 891,16 (including a monthly service fee)
Loan term: 2 years

NB: The once-off initiation fee can be paid upfront or be added to the monthly repayment. Leonard paid it upfront.

Shown below is a table showing the interest incurred, payments made and balance owed over the loan term until the loan is fully paid.

Month	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Interest	700	672,21	643,76	614,66	584,87	554,39	523,20	491,28	458,62
Payment	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16
Balance	28808,84	27589,89	25065,99	25065,99	23759,70	22422,93	21054,97	19655,09	18222,55

Month	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**
Interest	425,19	390,99	355,98	320,16	283,51	245,99	207,61	168,32	128,12
Payment	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16	1891,16
Balance	16756,58	15256,41	13721,23	12150,23	10542,58	8897,41	7213,86	5491,02	3727,98

Month	**19**	**20**	**21**	**22**	**23**	**24**
Interest	86,99	44,89	1,81			
Payment	1891,16	1891,16	**C**			
Balance	1923,81	77,54	0			

www.directaxis.co.za

14.1.1 Calculate the monthly interest rate as a percentage. (2)

14.1.2 Calculate the real cost of the loan. (3)

14.1.3 Leonard claimed that the total interest on the loan was exactly R7 903. Verify his claim with calculations. (5)

14.2 Bongi won R50 000 with the National LOTTO. She invested 75% of her winnings in a Nedbank Just Investment Account. Nedbank offered her an interest rate of 7,5% per annum compounded annually. Use the above information to answer the questions that follow:

14.2.1 Determine the amount that Bongi invested at Nedbank. (2)

14.2.2 Calculate the total interest earned in 2 years by investing 75% of her winnings. Show all your calculations. (5)

14.3 Ms. Vesi borrowed R60 000 from ABSA Bank to start her small business. She agreed to pay back the money at an interest rate of 8,5% p.a, compounded annually for 2 years.

14.3.1 Define the terms *interest rate*, and *interest value.* (4)

14.3.2 Calculate the amount of interest that was added at the end of the first year. **(2)**

14.3.3 Determine the total amount that Ms. Vesi paid back to the ABSA Bank after 2 years. **(5)**

Banking,loans and investments (banking)

Investigate the following types of bank accounts:

• savings account

• cheque/current account

• fixed deposit account

• credit account (with a credit card) and a debit account (with a debit card).

Compare bank charges of different banks using tariff tables, given formulae and drawn graphs to assess the suitability of different accounts for individuals with particular needs.

Investigate the advantages and disadvantages of the different types of accounts regarding access to money, bank charges and interest rates.

Investigate the implications of late payments on a credit card account

QUESTION 15

15.1. The bank statement shows transactions made by Ms Samu Mavimbela from 1st of march to 31 March 2024. Study the statement below and answer the following questions

Account Statement

Issue Date:	31/03/2024	
Period:	From 01/03/2024 to 31/03/2024	ACCOUNT HOLDER: **MS SAMU MAVIMBELA**
111-234-567-890		WASBANK branch
Bit Manufacturing Ltd		231 Valley Farms Street
2450 Courage St, STE 108		Santa Monica, CA
Brownsville, TX 78521		smavimbela@domain.com

Date	Payment Type	Detail	credit	debit	Balance
		Balance Brought Forward			8,313.30
03/03/2024	Fast Payment	Amazon		132.30	8,175.00
04/03/2024	BACS	eBAY Trading Co.		515.22	7,665.78
04/03/2024	Fast Payment	Morrisons Petrol		80.00	7,585.78
04/03/2024	BACS	Business sponsor	R20 000		**A**
06/03/2024	BACS	Jumes White Media		2,416.85	25,168.93
10/03/2024	Fast Payment	ATM High Street		100.00	25,068.93
11/03/2024	BACS	Accorn Advertising Studios		150.00	24,918.93
11/03/2024	Fast Payment	Marriott Hotels		177.00	24,741.93
15/30/2024	Fast Payment	Abelio Scotrail Ltd		122.22	24,619.71
16/03/2024	Fast Payment	Cheque 000234		1,200.00	23,419.71
17/04/2024	Int. Bank	Interest recieved	9.33		23,429.04
18/04/2024	DD	OVO Energy		270.00	23,159.04
20/04/2024	BACS	Toyota Online		**B**	12,633.64
25/04/2024	BACS	HMRC		1,000.00	11,633.64
29/04/2024	DD	OVLA		280.00	11,353.64
30/04/2024	EBP	Michael Kor Salary		1,554.00	9,799.64
31/04/2024	DD	BOS Mastercard		4,000.00	**C**

Adapted from ABSA.co.za

15.1.1. Name the account holder (2)

15.1.2. Determine the number of days covered by the above statement? (2)

15.1.3. Calculate the missing value **A** and **B** in the given statement (2)

15.1.4. Determine the closing balance **C** on the 31 march 2024? (2)

15.1.5. Differentiate between the term debit and credit in the given context (4)

15.1.6. All transactions made includes charges, determine amount charged on Amazon payment (4)

15.2. Absa bank provided information on how they charge any transaction made by Ms Samu Mavimbela on the year 2024. Study the table below and answer the following questions.

Monthly administration fee	R45.00
Digital fraud warranty	No Charge
Rewards membership fee	No Charge
Senior Rebate Banking minimum balance [1]	R5 000
Lump-sum life cover [2]	R15 000

Transaction Type	Digital Banking Internet, App, USSD and Telephone (IVR) Banking	Card Banking Point of Sale (POS)	ATM Banking	Assisted Banking Branch and Telephone Banking (adviser-assisted)
Cash Deposits				
• Cash deposits	-	-	R2.50 per R100 or part thereof	R4.00 per R100 or part thereof
• Cardless Cash Deposit	-	-	R2.50 per R100 or part thereof	-
Cash Withdrawals				
• Absa	-	No Charge	R2.50 per R100 or part thereof	R100.00 plus R4.00 per R100 or part thereof
• Saswitch ATM / Post Office terminal	-	-	R10.00 plus R2.50 per R100 or part thereof	-
• Overseas [3]	-	R100.00	R100.00	-
Purchases and Top-Ups				
• Prepaid Data, Airtime and Utilities	R1.50	-	R1.50	R1.50
• Saswitch ATM	-	-	R12.00	-
• POS – local / overseas [3]	-	No Charge	-	-
• Lotto purchase	R2.70	-	-	-
• Daily Lotto purchase	R1.00	-	-	-
• Digital voucher	R2.70	-	-	-

www.absa.co.za

15.2.1. Describe the meaning of *part thereof* in the given context (2)

15.2.2 Determine the charge on bank app purchase of lotto ticket? (2)

15.2.3 Ms Samu Mavimbela made the withdrawal of R2 500 on point of sale. Determine the charge on transaction made? (2)

15.2.4 Ms Samu Mavimbela was charged R390 on deposit; calculate determine the amount deposited? (3)

15.2.5 Ms Samu Mavimbela made the following transactions on ATM banking

- Cash withdrawal of R2 330 on Saswitch
- Deposit R1250 on cardless cash deposit
- Cash deposit of R1 500 (6)

Determine the total charged on above transactions [31]

Inflation

Investigate changes in the prices of goods and/or services.

In order to:

Recognise that inflation is a measure of the change in the purchasing power of money over time

• inflation represents the *average* increase in the prices of a variety of goods and services over time and that different items can have different inflation rates.

Investigate, through calculation and discussion, the impact of inflation on:

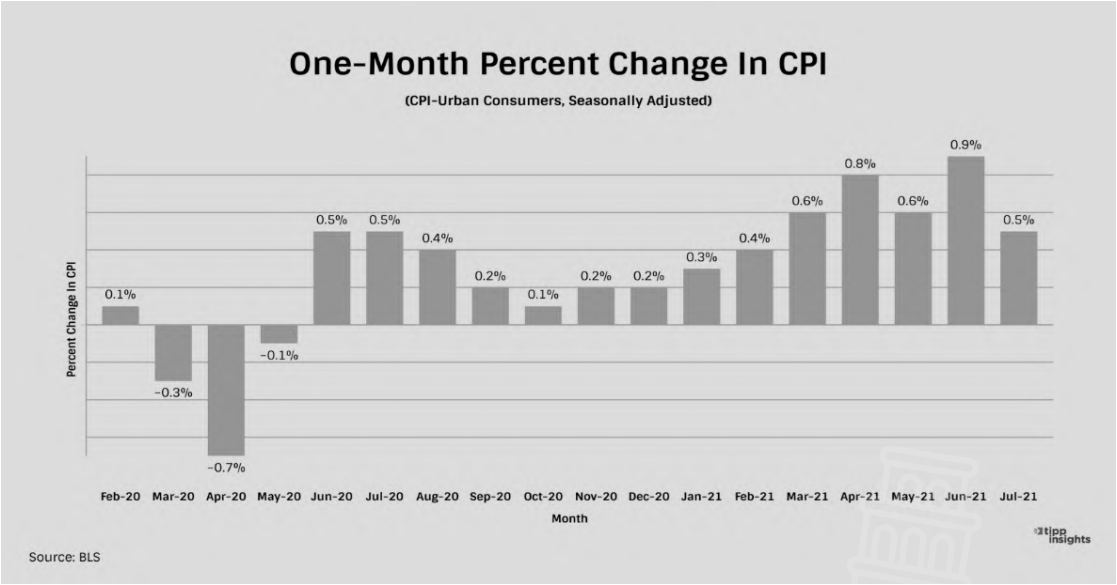
• purchasing power

• the value of an item over time

• the value of money in a bank account and/or investment (*discussion only*).

QUESTION 16

16.1. Below is the graph that shows the monthly inflation rate in the United States of America. Study the graph and answer the questions based on it.



www.statbureau.org

16.1.1 Write the acronym ***CPI*** in full (2)

16.1.2 Identify the above type of graph. (2)

16.1.3 Identify the month(s) between which the CPI did not change in 2020 (2)

16.1.4 Describe the trend of the graph between June 2020 and October 2020. (4)

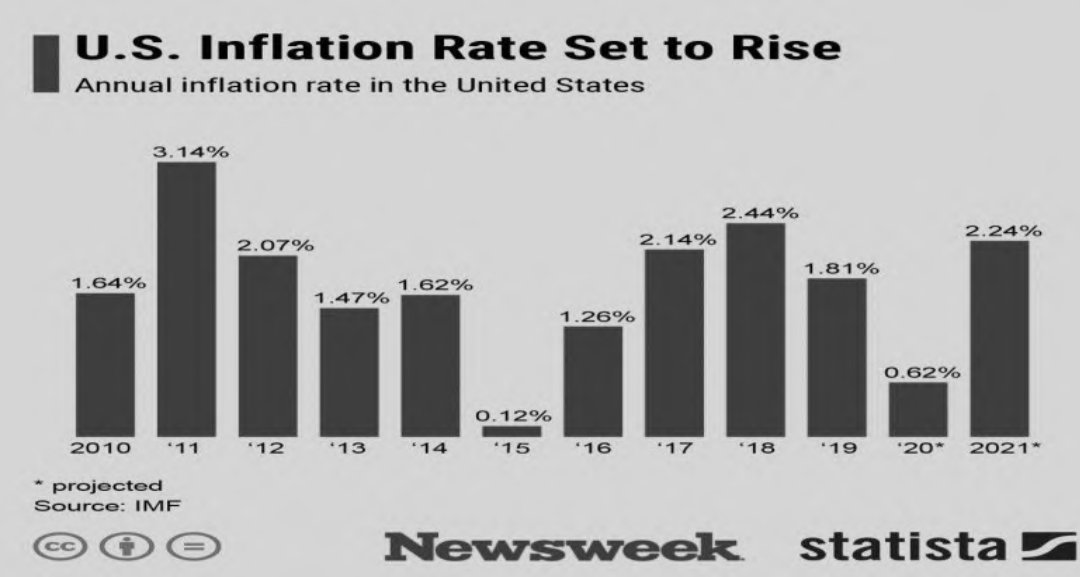
16.1.5 If the financial year starts in February and ends March, calculate the average rate of inflation in 2020 (3)

16.1.6 Mr Montsho claimed that it will be cheaper to buy stuff between August and October as he sees the rate of CPI or inflation declining.

Critique Mr Montsho's claims on the prices of goods. (2)

16.1.7 Critically comment on the values of CPI between March and May 2020 and the impact it will have on the prices of goods and services. (3)

16.2 Mr Montsho the South African renowned businessman who likes to travel the world and his next plan was to travel to USA and he read an article about the inflation from the newspaper. The extract is shown below, use the graph to answer the questions based on it.



www.useco.org

Use the above information to answer the following questions.

16.2.1 Define the term *inflation* (2)

16.2.2 Fill in the missing word to make the following statement TRUE about inflation:

The rate of inflation **……** the buying power of the money. (2)

16.2.3 Mr Montsho a South African businessman planned to visit USA in 2022 for a vacation with his family. He has R400 000 intended to spend on vacation in the USA.

Calculate how much will his R400 000 worth in 2022 when arrives in the USA. (4)

If the exchange between US$ and ZAR is **US$1 =ZAR19,65**

16.2.4 The Montsho family wants to buy a farm for their first born boy in the US. The farm currently (**2021**) costs **$45 000.** If the rate of inflation remains the same for the next 2 years, calculate the price of the farm in **US$** in 2023. (2)

6.3. The table below shows the list of items that Mr Moleleki, the mineworker buy for his grocery and their prices overtime. Use the table below and answer the questions that are based on it.

Product	2018	2019	2020	2021	2022	2023	2024	Kazmaie
Kellogg's corn flakes (18 oz.)	$3.29	$2.50	$3.99	$3.12	$3.49	$3.99	$3.99	
Red Delicious apples (per lb.)	$1.40	$1.69	$1.79	$1.27	$1.99	$1.99	$1.99	
Parkay margarine (4 sticks)	$1.59	$1.79	$1.79	$1.38	$1.67	$1.50	$1.48	
Oreo cookies (16.6 oz.)	$3.19	$2.79	$3.39	$2.98	$3.50	$4.19	$4.49	
Eggs (1 doz., large)	$1.49	$1.64	$1.43	$1.64	$1.49	$1.29	$1.59	
Folger's coffee (11.3 oz.)	$5.59	$3.99	$5.59	$4.88	$3.99	$4.99	$4.99	
Whole milk (1 gallon)	$3.09	$2.99	$2.98	$4.24	$2.50	$2.89	$2.50	
Ground chuck beef (per lb.)	$2.92	$2.49	$1.98	$2.78	$2.99	$3.29	$3.59	
Fresh whole chicken (per lb.)	$0.98	$0.89	$0.99	$0.98	$1.19	$1.19	$1.19	
Idaho potatoes (5 lb. bag)	$2.50	$2.50	$2.97	$2.97	$2.99	$2.99	$2.99	
Mott's apple juice (64 oz.)	$2.98	$2.59	$3.79	$2.28	$3.00	$2.99	$3.29	
Campbell's chicken noodle (10.75 oz.)	$0.79	$0.79	$0.89	$0.79	$0.79	$1.29	$1.29	
Wonder Bread (20 oz.)	$2.79	$1.49	$2.69	$1.98	$1.99	$1.69	$1.69	
Iceberg lettuce (1 head)	$0.99	$0.99	$1.29	$0.94	$0.99	$0.88	$0.88	
Coca-Cola (2 liter bottle)	$1.89	$1.50	$1.89	$1.25	$1.33	$1.69	$1.79	

tledoblade.com

Use the above information to answer the following questions.

16.3.1 How many items does he constantly buy for his grocery? (2)

16.3.2 Calculate the total amount he spent on groceries in 2023 (2)

16.3.3 Describe the trend shown by the prices of the **ground chuck beef** from 2020 to 2024. (2)

16.3.4 Calculate the percentage change in price of the **oreo cookies** between 2022 and 2023.

You may use the formula: $\boldsymbol{percentage\ change} = \frac{\boldsymbol{new\ price - old\ price}}{\boldsymbol{old\ price}} \times \mathbf{100}$ (3)

16.3.5 If Mr Moleleki works at the platinum mines and the employer decides to give them a salary raise of 3.2% and the rate of inflation is 7.8%.

Critically comment on the financial implications that this situation will bring to Mr Moleleki`s household. (3)

Maps and Plans

Work with the following maps:

•street maps with and without a grid reference system

• national and provincial road and rail maps

• strip charts showing distances on a portion of road

• residential or housing estate maps.

In order to:

Describe the position of an object in relation to surrounding objects.

Describe the position of a building in relation to surrounding buildings.

Find locations, follow directions and develop directions for travelling between two or more locations using the following mapping reference systems and/or techniques:

• directional indicators “left”, “right”, “along”, “straight”, “up” and “down”

• house and/or building numbering systems

• numbering systems used for seating in sports stadiums

• grid reference system.

QUESTION 17

17.1

The Dlalisa family lives in Johannesburg and is planning to take a trip to Durban during the festive season. The distance from Johannesburg to Durban is 564 km. Attached **Annexure** shows the map of South Africa and the possible National roads they are likely to use when travelling to Durban. Use the map and the information above to answer the questions that follow:

Use the above information to answer the following questions

17.1.1 What is the relative position of Durban from Johannesburg? (2)

17.1.2 Name the national road the family can use to travel from Johannesburg to Durban. (2)

17.1.3 Mr Dlalisa stated that it will take them approximately 4 hours 20 minutes to travel from home to Durban.

Determine the average speed (in km/h) they will be travelling at from home to Durban.

The following formula may be used:

Speed = Distance ÷ time (4)

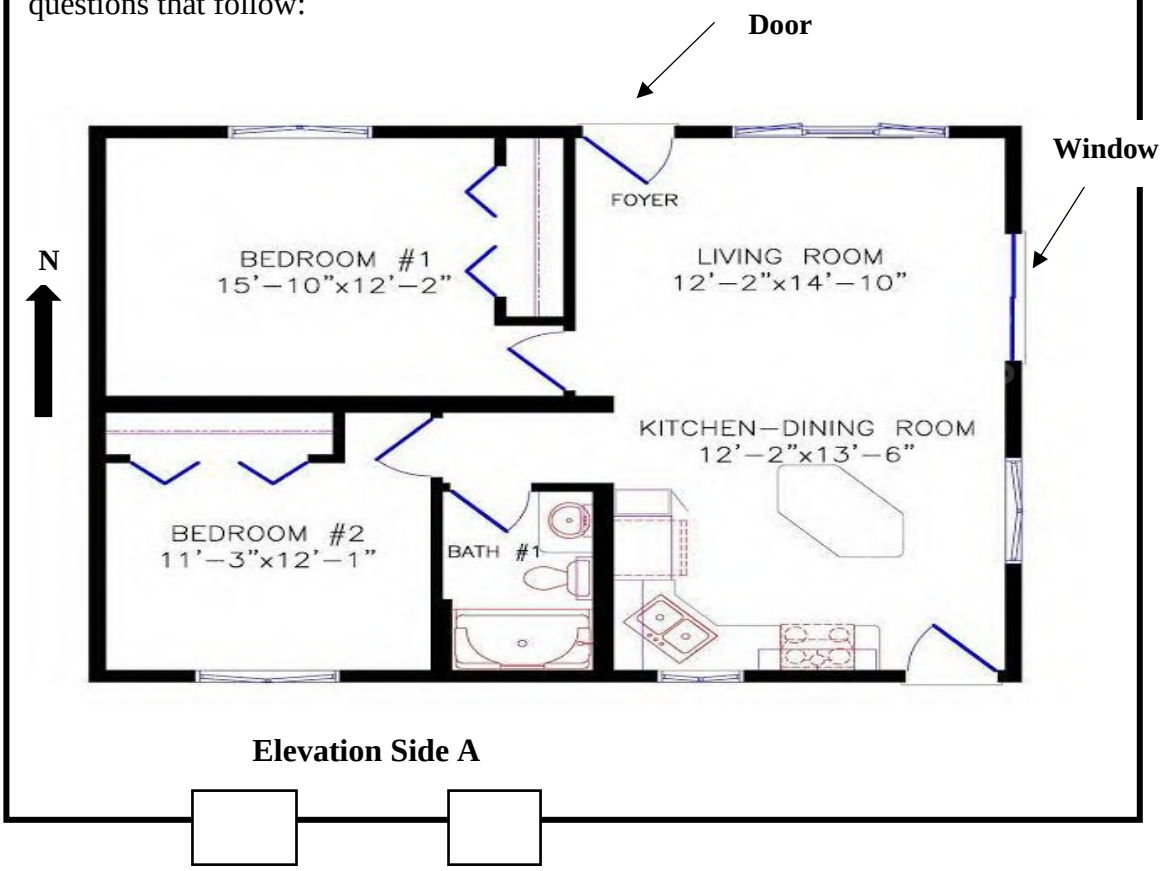
17.1.4 The family car they will use has a petrol consumption of 7,6 litres/100 km.

Calculate the number of litres of petrol they will use for the return trip. (3)

17.1.5 Petrol currently costs R24,86 per litre. But it is predicted that this price will increase by 3,03% when they take the trip to Durban. Calculate the estimated cost of petrol for the return trip (5)

17.2

Below is a floor plan of houses that government wants to build for all citezens staying in shacks in a new land development in town. Study the plan and answer the questions that follow:



Use the above information to answer the following questions

17.2.1 How many external doors does the house have? (2)

17.2.2 How many windows does the house have? (2)

17.2.3 Identify the number of doors that open to the right (2)

17.2.4 Which room(s) experience the sun in the morning? (2)

.

17.3

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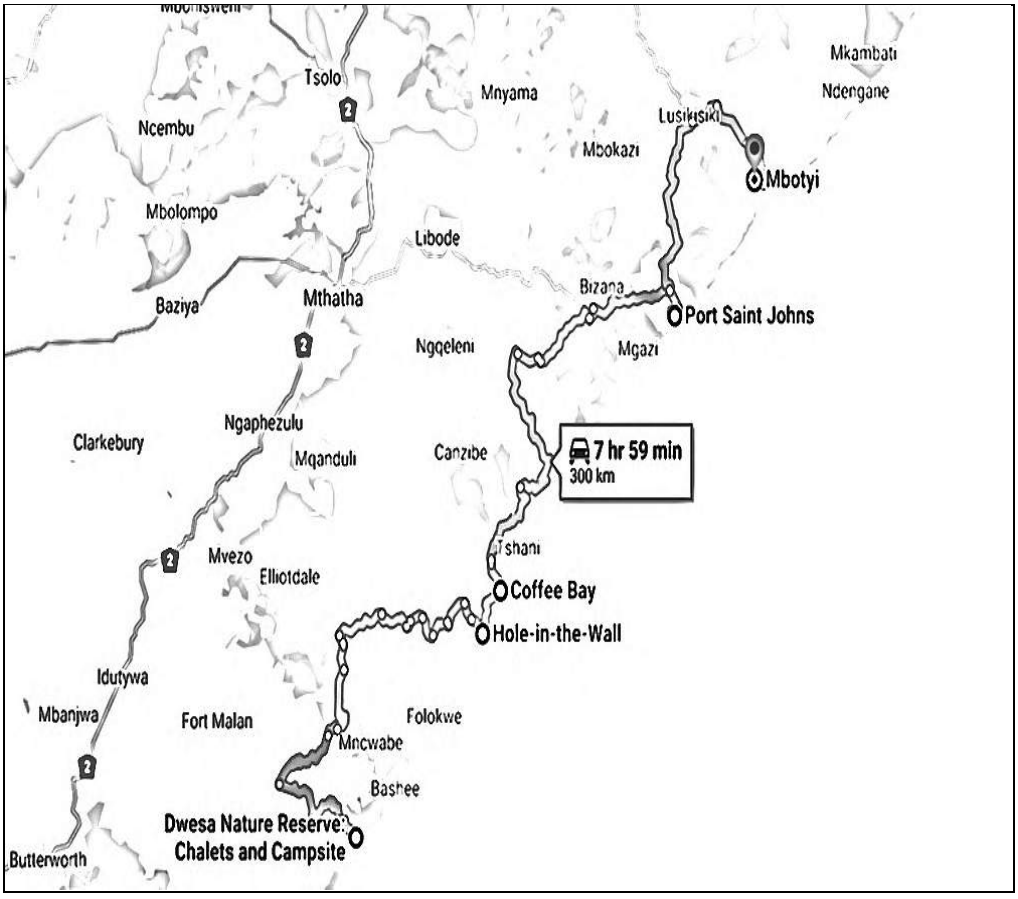
The Ngcobo family stays in Mbotyi in Lusikisiki in the Eastern Cape Province. They plan to visit Dwensa Nature Reserve (Chalets and Campsite) for a holiday. They will travel via the R61 during their trip. The map below shows the route map they will use when travelling on their car that has a petrol consumption of 6,4 litres per 100km travelled.



17.3.1 Name any TWO towns they will pass when travelling to Dwensa Nature Reserve (Chalets and Campsite). (2)

17.3.2 Write down the distance they will travel from home to Dwensa Nature Reserve (Chalets and Campsite). (2)

17.3.3 Determine the speed (in km/h) they will be travelling if they will take the estimated time of 7hours 59 minutes to reach their destination.

You may use the formula: Distance = speed x time. (4)

17.3.4 The map length from Mbotyi to Dwensa Nature Reserve (chalets and Campsite) was measured to be 10cm. Determine the scale used on the map. (4)

17.3.5 Determine the amount of petrol they will use for a return trip. (3)

17.3.6 Petrol costs R25,48/litre. Determine the total fuel cost for the return trip. (2)

17.4 The Ngcobo family of five have a budget of R9 550,00 for the entire holiday. The Dwensa Nature Reserve charges as follows to guests;

- Accommodation costs R1 800 per family per night,
- Breakfast costs R100 per person per day
- Supper costs R1 500 for the entire family per night
- Free lunch.
- Campsite activities, games and other entertainment will cost them R1 050 in total for the duration of their stay at the Dwensa campsite.

Note: The family will have two breakfast meals, two lunch meals and two supper meals at the Dwensa Nature reserve (Chalets and Campsite)

17.4.1 Determine the amount they will pay for lunch meals for the entire holiday. (2)

17.4.2 Mr Ngcobo stated that their budget will be enough for their holiday including petrol. Use calculations to show whether his statement is correct or incorrect. (5)

Instruction and assembling diagrams

Use instruction/assembly diagrams, containing words and/or pictures, found in manuals for:

• plastic models

• un-assembled wooden furniture units

• cell-phones

• electrical appliances that require individual components to be connected

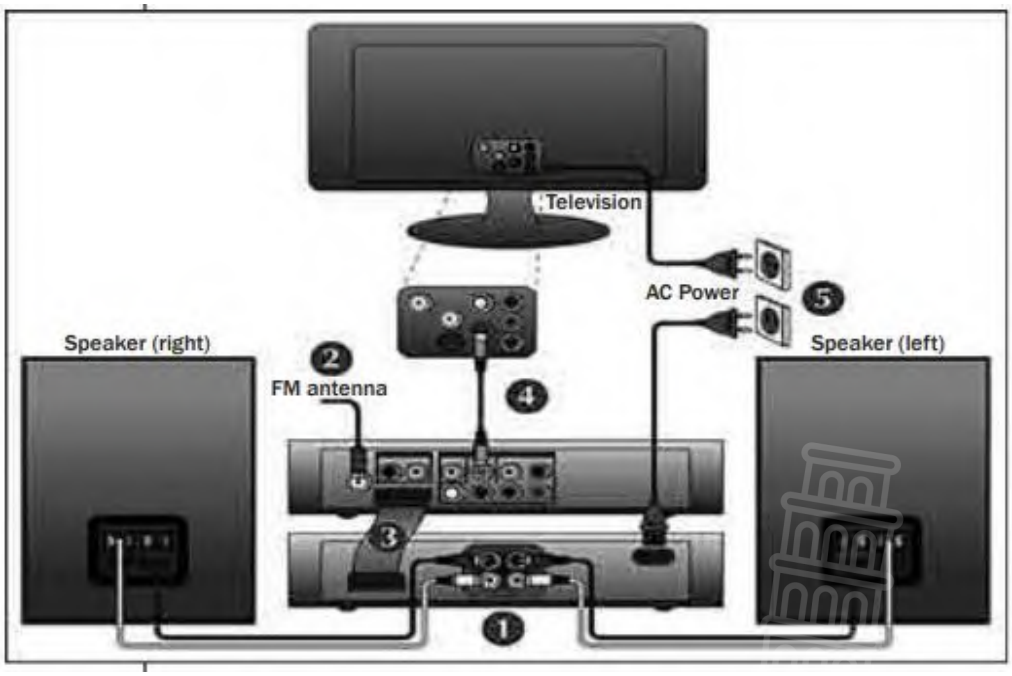
• children's toys including *Lego*-type kits.

In order to:

Complete the task presented in the instructions and/or explain what the instructions mean and/or represent, using everyday language.

QUESTION 18

Sipho's parents bought him a sound system. He was instructed to assembly it. Instructions are provided on the picture below.



Adapted from :www.homemade-furniture.com

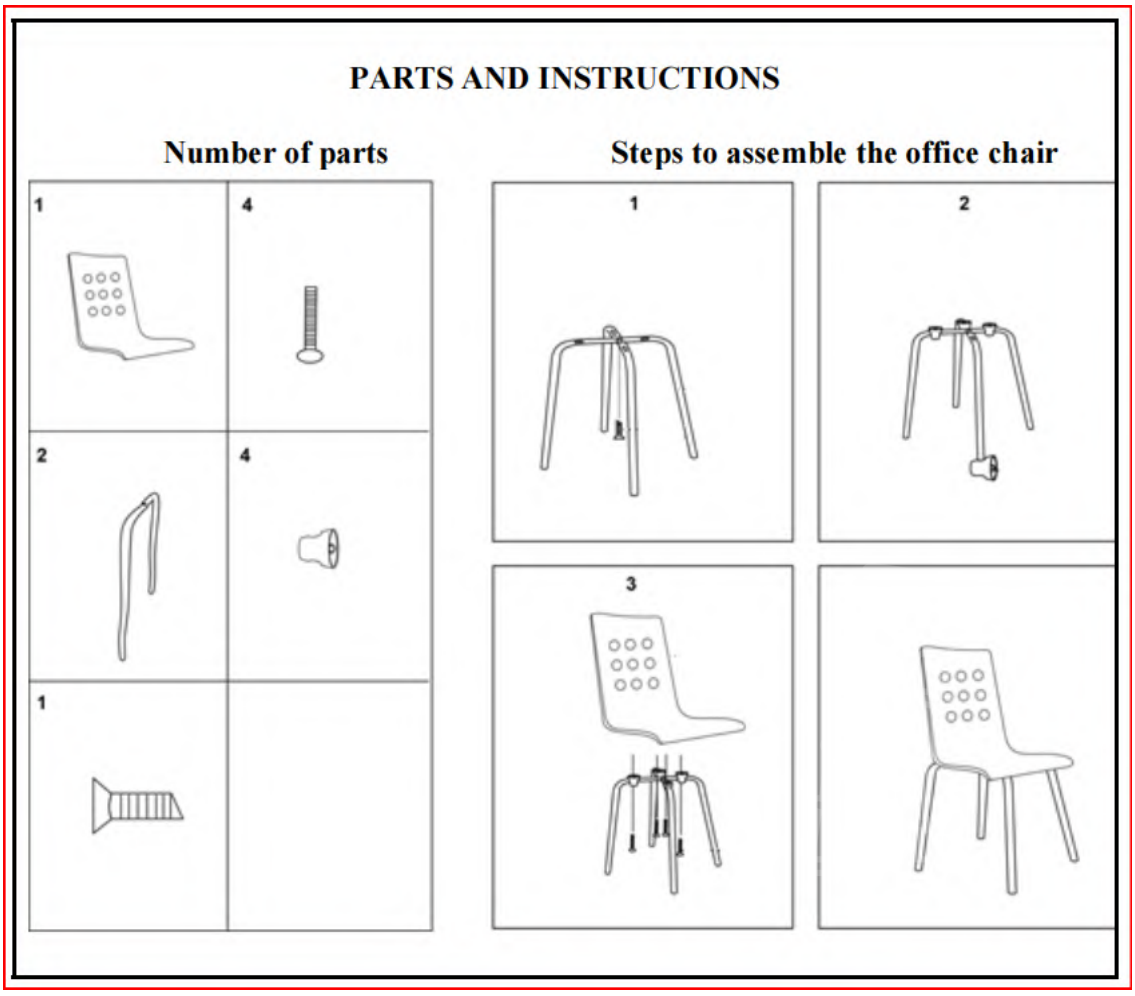
Use the information above to answer the following questions.

18.1.1 Match each written step to the step number that describes it.

Steps	Image Description
Step 1	a) Connect the composite video cable to a TV
Step 2	b) Connect the speaker cable
Step 3	c) Connect the power cable of the system and TV to AC power
Step 4	d) Connect the control cable
Step 5	e) Connect FM antenna

(5)

18.2 The fruit canning company bought some office chairs, but they must assemble it. The following is an illustration with instruction sheet on how the chairs should be assembled. Study the illustration and answer the questions that follow.

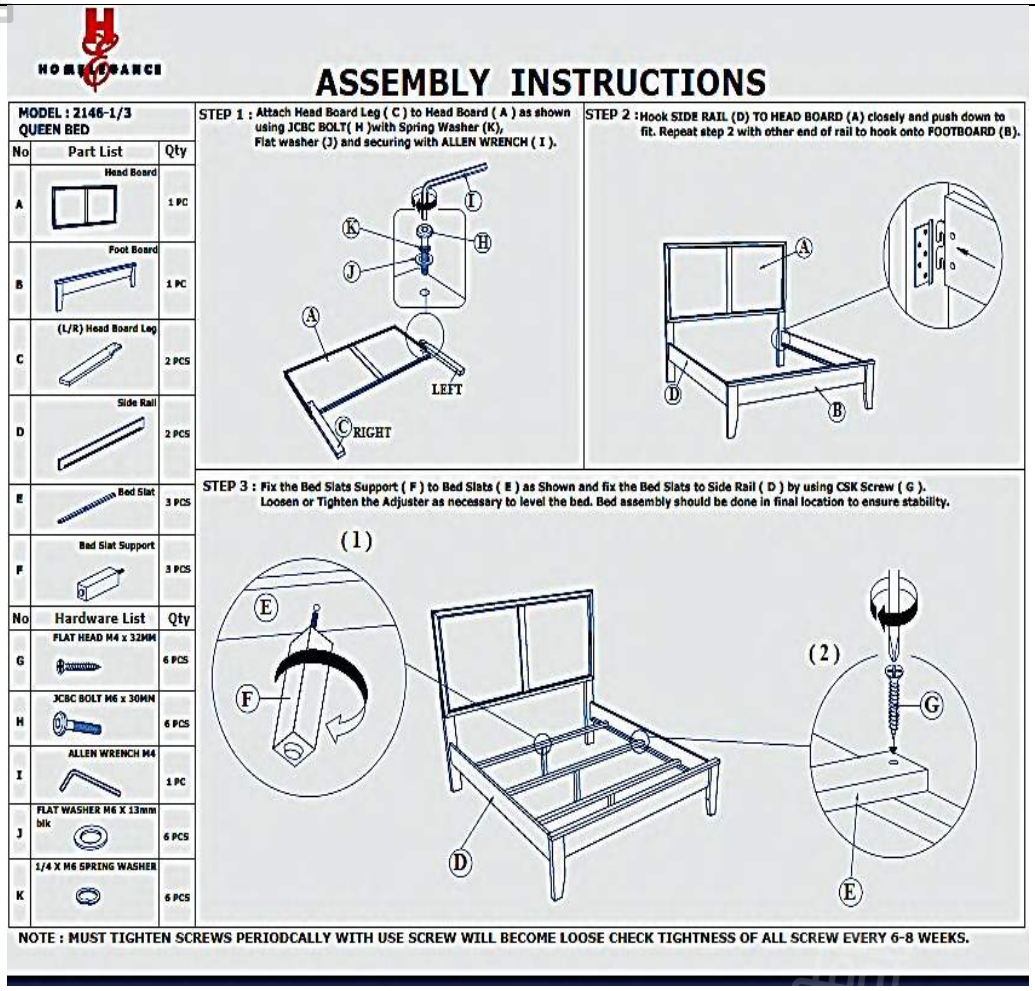


http://homemade-furniture.com

18.2.1 Determine how many pieces in total will be used to assemble 75 office chairs. (3)

18.2.2 Give a detailed description of how an office chair should be assembled. (6)

18.3 Illustrated below are the steps and components needed to assembly the diagram. The components to assembly the diagram are labeled alphabetical (A-K)



Refer to the assembly instructions and answer the following questions:

18.3.1 Determine how many flat head screws are required for the assembly of the diagram? (2)

18.3.2 Identify the diagram being assembled in the picture above? (2)

18.3.3 Name the tool used in step 1 (2)

18.3.4 Identify the item marked A and C in step 1 on the diagram? (2)

18.3.5 Explain what happens in Step 2 and in Step 3 number (1) and (2)? (4)

REVISION PAPERS:

FS MARCH 2024

QUESTION 1

1.1 TABLE 1 below shows a list of Terms and their Definitions relating to concepts used in Mathematical Literacy.

TABLE 1: EXPLANATIONS AND DEFINITIONS OF CONCEPTS

TERMS	DEFINITIONS
1.1.1 Bank statement	**A** The amount of space that a substance or object occupies, or that is enclosed within a container.
1.1.2 Body Mass Index (BMI)	**B** A comparison of two or more numbers that indicates their sizes in relation to each other.
1.1.3 Volume	**C** A summary of all the accounts' monthly transactions sent by the bank to the account holder every month in paper or digital form.
1.1.4 Ratio	**D** An estimate of total body fat.
1.1.5 Speed	**E** The rate of change of speed of an object with respect to time.
	F How quickly a certain distance is travelled.
	G Proof of receipt of the money.

Choose a DEFINITION that matches a TERM. Write only the letter (**A - G**) next to the question number (1.1.1 – 1.1.5) in the answer book. EXAMPLE: **1.1.1 H**

(10)

1.2 MANGAUNG soccer cup sponsored an amount of R579 432 for the individual prize winners. The money will be shared amongst the three winners in the ratio **2:3:4**.

Use the information above to answer the questions that follow:

1.2.1 Write 579 432 in words. (2)

1.2.2 Determine the amount received by the prize winner who was allocated the most money. (4)

1.3 The weather prediction for Virginia on the 26 February 2024 is given below.

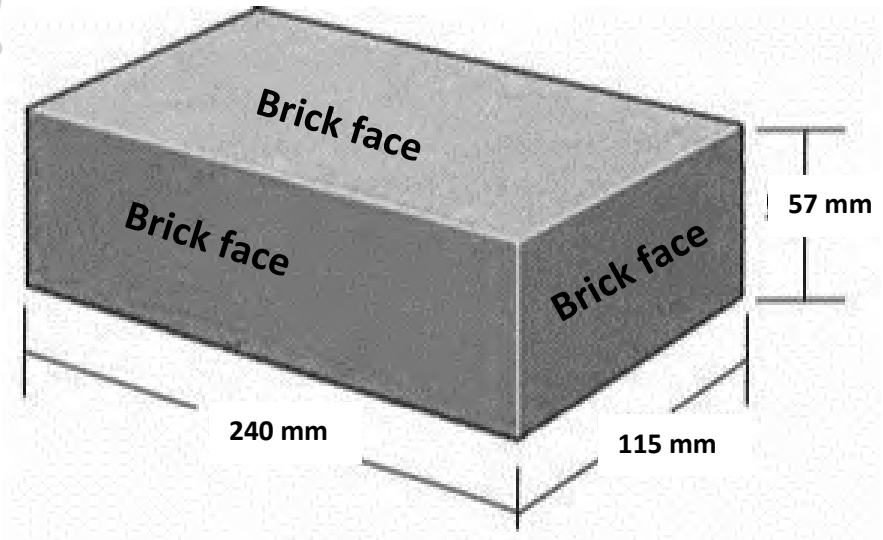
Convert the above temperature to degree Fahrenheit (^{0}F).

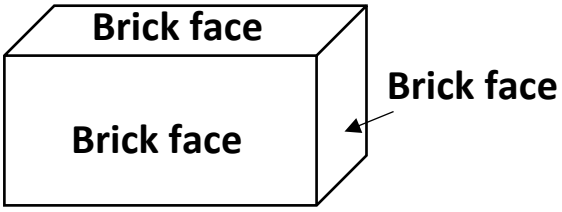
You may use the formula: $^0\mathbf{F} = \mathbf{(1{,}8 \times {}^0C) + 32}$ (2)

[18]

QUESTION 2

2.1 A rectangular building brick with dimensions is given below.





Note: A Brick face is a plane surfaces of a brick.

Use the information above to answer the questions that follow.

2.1.1 Write down the number of faces found on a rectangular brick. (2)

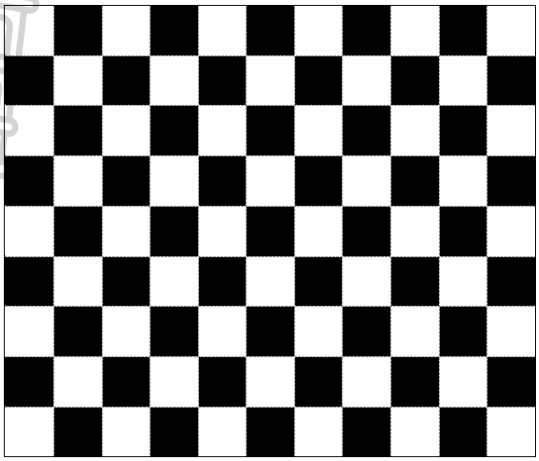
2.1.2 Which of the formula A to C will be suitable for calculating the volume of a brick.

A. Volume = Length × Width × Height
B. Volume = 2 × Breadth + 2 × Volume
C. Volume = Length × Breadth

(2)

2.1.3 Determine the volume of a single brick. (3)

2.2 Tirotsaone tiled his rectangular floor with square shaped ceramic tiles.

RECTANGULAR SHAPED FLOOR AFTER TILING	SQUARE SHAPED TILE
	

INFORMATION:

- Price of 1 Box of tiles was R436,55.
- Each box contained 12 tiles.
- Black and white were used.
- Tiles fit exactly on the floor.
- Cost of spacers and cement mix including water to tile was R778,28
- Labour cost was R2 200

Use information above to answer the questions that following.

2.2.1 Determine the number of tiles used to tile the rectangular floor. (2)

2.2.2 Tirotsaone bought 50 black tiles.
Calculate the number of boxes of white tiles that were needed. (4)

2.2.3 Tirotsaone stated that it cost him R2 978,28 to tile the floor.
Verify, showing all calculation, whether his statement is CORRECT. (6)

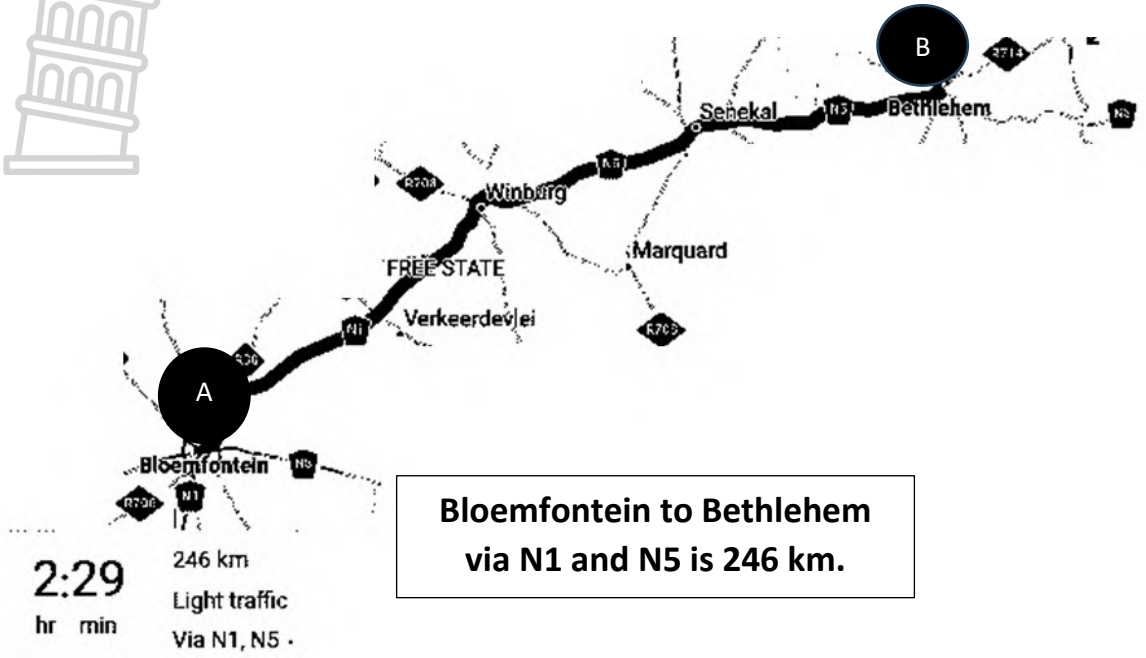
2.2.4 Explain why it will be a good idea to buy an extra number of tiles. (2)

[21]

QUESTION 3

3.1 Mr Sethole travelled 246 km from Bloemfontein (**A**) to Bethlehem (**B**) to attend a meeting.

Below is an indication of the route taken from Bloemfontein to Bethlehem.



Bloemfontein to Bethlehem via N1 and N5 is 246 km.

NOTE: www.bin.com
Hours = hr
Minutes = min

Use information above to answer the questions that following.

3.1.1 Mr Sethole left Bloemfontein at 06:45, at what time will he be in Bethlehem. (2)

3.1.3 Mr Sethole claimed that he was travelling at an average speed of 120km/h between Bloemfontein and Bethlehem.

Verify, showing all calculations, whether his claim is CORRECT.

You may use the formula:

Distance = Speed × Time (6)

3.2 Mr Sethole's ISUZU bakkie uses 5,58 litres of diesel for every 100km.

Show that Mr Sethole's bakkie travels 17,92 km using a single litre of diesel. (3)

[11]

TOTAL: 50

QUESTION 1

1.1 A list of definitions (A to E) addressed in Mathematical Literacy is given below.

A. The cost per measuring unit for a specific service.
B. The charge to avoid consumers paying the same rate.
C. A scale that is written in unit form.
D. A measurement of how hot or cold a substance is.
E. The ratio between two quantities remains the same.

Choose the correct definition that best describes the following terms.
Answer like**:** **1.1.1 E**

1.1.1 Sliding scale. (2)

1.1.2 Tariff. (2)

1.1.3 Direct proportion. (2)

1.1.4 Temperature. (2)

1.2 Mr Shongwe wants to relocate to either Bloemfontein or Durban city in RSA. He wants to choose the city with the lowest municipal rates. Table 1 and 2 below shows the municipal tariffs of these two cities.

TABLE 1: MUNICIPAL WATER TARIFFS OF BLOEMFONTEIN

	CITY 1: Bloemfontein	
BLOCK	**Water used**	**Amount(Rands) (2023/2024)**
1	6 kℓ	10,86
2	9 kℓ	26,30
3	15 kℓ	29,84
4	30 kℓ	36,41
5	More than 60 kℓ	43,58

TABLE 2: MUNICIPAL WATER TARIFFS OF DURBAN

	CITY 2: Durban	
Block	**Water used**	**Amount(Rands) (2023/2024)**
1	6 kℓ	Nil
2	19 kℓ	27,80
3	5 kℓ	37,90
4	10 kℓ	83,60
5	More than 50 kℓ	91,90

Adapted from:www.mangaung.co.za

Use the information and tables above to answer the questions that follow.

1.2.1 Identify the city with less amount to pay for using 6 kℓ. (2)

1.2.2 Write down the proportion for the relationship between water used and amount in rand. (2)

1.2.3 An example of how to calculate the cost of water usage in Durban has been provided in **ANNEXURE A**.

COMPLETE the table of Bloemfontein in **ANNEXURE A**. (4)

1.2.4 Use your answer in 1.2.3 to identify the city that has the most cost-effective water usage. (2)

1.2.5 If you are Mr Shongwe, which city would you choose to stay in. Explain giving a reason. (3)

[21]

QUESTION 2

2.1 Mr Shongwe is interested in buying a house in Durban and intends to physically go view this with his family. He came across two adverts of car hire companies namely Vezi car hire and Liebenberg car hire. The distance from Mr Shongwe's home to Durban is 425 km.

TABLE 3. VEZI CAR HIRE.

Distance travelled (in km)	0	50	100	150	**B**	250
Cost (in rand)	200	325	**A**	675	700	825

TABLE 4: LIEBENBERG CAR HIRE.

Distance travelled(in km)	0	50	100	150	200	250
Cost (in rand)	0	225	450	675	900	1125

Use the information and the tables above to answer the questions that follow.

2.1.1 Identify the dependent and independent variables from the two tables. (4)

2.1.2 Determine the constant ratio for Liebenberg car hire. (2)

2.1.3 Write down a formula that can be used to calculate the distance travelled using Liebenberg car hire. (2)

2.1.4 Calculate the value of **A** and **B**.

You may use the following formula.

(5)

Total cost = R200 + R2,50 × number of km travelled.

2.1.5 Draw a graph representing Vezi car hire on the same set of axis provided in **ANNEXURE B.** (4)

2.1.6 Mr Shongwe leaves home at 7:30 and should be in Durban at 14:00. It takes 7 hours for him to travel from home to Durban. Verify if Mr Shongwe will arrive in Durban on time. (3)

[20]

QUESTION 3

The car hire company offered Mr Shongwe a Hyundai Elantra with the following conditions.

Tank capacity : 52 *litre* (ℓ)

Consumption : 7,5 ℓ per 100 km

3.1. Convert the car's tank capacity of 52ℓ to gallons.

NOTE: 1 ℓ = 0,2199 gallon (gal) (2)

3.2 Round 7,5 ℓ of the Hyundai Elantra to the nearest litre. (2)

3.3 Write down the number of kilometres the car can cover with 7,5ℓ of petrol. (2)

3.4 Mr Shongwe found out that the temperature in Durban will be 75˚F. Convert temperature to ˚C.

You may use the following formula: **˚F = (1,8 × ˚C) + 32** (3)

[09]

TOTAL 50

NAME OF LEARNER: …….

CLASS / GRADE : …….

ANNEXURE A

Question 1.2.3

The formula to calculate the cost of water used.
Cost = water used ×tariff

DURBAN

	Water used	**Tariff**	**Cost**
	6 kℓ	R0	R0
	19 kℓ	R27,80	R528,20
	7 kℓ	R37,90	R265,30
TOTAL	32 kℓ		R793,50

BLOEMFONTEIN

	Water used	**Tariff**	**Cost**
	6 kℓ	R10,86	R 65,16
	9 kℓ	R26,30	**A = …….**
	15 kℓ	**B = …….**	R447,60
	2 kℓ	R36,41	R 72,82
TOTAL	32 kℓ		**C = …….**

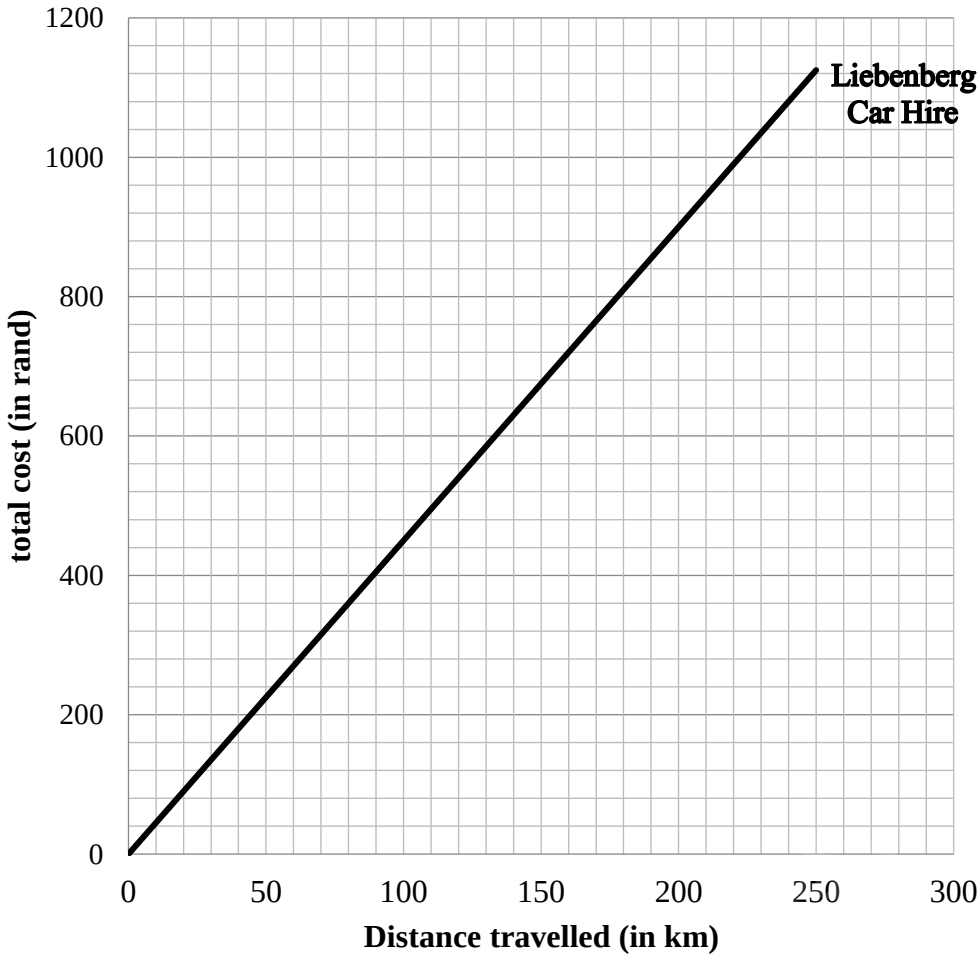
\

NAME OF LEARNER: …….

CLASS / GRADE : …….

ANNEXURE B

Question 2.1.5



MPUMALANGA MARCH 2024

QUESTION 1

1.1 In table 1 below is a list of explanations and definitions of concepts used in Mathematical Literacy.

TABLE 1: EXPLANATIONS AND DEFINITIONS OF CONCEPTS

A	The distance from the centre of a circuit to the outer part of the circle.
B	Unit used to measure temperature in most countries.
C	A system of measurement using inches, feet, galloons and miles.
D	A plan of how to spend money. An estimate of income and expenditure.
E	These are amounts that must be paid every month and which stay the same.
F	Best value for money.

Use the information above to write down the letter of the explanation or definition (A to F) of EACH of the following concepts:

1.1.1 Degrees Celsius (2)

1.1.2 Budget (2)

1.1.3 Fixed expenses (2)

1.1.4 Radius (2)

1.2 Anele is a learner at SunRise High School. Her class timetable is as follows:

CLASS 11B	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
7:20 - 7:30	**ASSEMBLY**	**ASSEMBLY**	**ASSEMBLY**	**ASSEMBLY**	**ASSEMBLY**
7:30 - 8:15	LO 11	BS 11/GEO 11	ECO 11/LS 11	HIS 11	XITS 11 - 11B
8:15 - 9:00	BS 11/GEO	MATH 11/ML 11	BS 11/GEO 11	MATH 11/ML 11	LO 11 - 11B
9:00 - 9:30	**FEEDING BREAK**	**FEEDING BREAK**	**FEEDING BREAK**	**FEEDING BREAK**	**FEEDING BREAK**
9:30 - 10:15	HIS 11	XITS 11	HIS 11	BS 11/GEO 11	BS 11/GEO 11
10:15 - 11:00	MATH 11/ML 11	LO 11	XITS 11	ENGAL 11	RS 11
11:00 - 11:30	**LONG BREAK**	**LONG BREAK**	**LONG BREAK**	**LONG BREAK**	**LONG BREAK**
11:30 - 12:15	XITS 11	ENGAL 11	ENGAL 11	ECO 11/LS 11	HIS 11
12:15 - 13:00	RS 11	ECO 11/LS 11	LO 11	LO 11	ECO 11/LS 11
13:00 - 13:45	ECO 11/LS 11	HIS 11	MATH 11/ML 11	XITS 11	MATH 11/ML 11
13:45 - 14:30	ENGAL 11	RS 11	RS 11	RS 11	ENGAL 11

[Adapted from *timetabling SA-SAMS*]

Use the timetable above to answer the questions that follow.

1.2.1 State whether the above timetable is a 12 – hour format or a 24 – hour format. (2)

1.2.2 Write down Anele's class. (2)

1.2.3 Calculate the total number of Mathematical Literacy (ML) hours Anele must attend per week. (2)

1.3 Themba is collecting all the recipes for cooking with Tasty Beef Tagine. The following is the recipe for Tasty Beef Tagine.

Serves 5 people

450g beef goulash 1 sachet (63g) Knorr 1½Cup (300ml)of water 2 tbsp. honey 2 tbsp. olive oil 250g mixed vegetables Salt and freshly ground pepper to taste Heat the oven at 180°C	

[*Source: marthasteward.com*]

Use the information above to answer the questions that follow.

1.3.1 How many mixed vegetables in kg will be used if Themba prepares the recipe for 25 people (3)

1.3.2 Convert of the oven to degrees Fahrenheit (°F). Give your final answer to the nearest whole number.

You may use the following formula:

°F = (°C × 1,8) + 32 (2)

[19]

QUESTION 2

Themba needs to use the internet in order to gather information for his research. He investigates data plan from different networks and he needs to choose either Vodacom or MTN. TABLE 2 below shows the two networks offer data usage according to the following rates.

TABLE 2: MONTHLY COST FOR DATA USAGE

	vodacom	MTN
	500 MB (megabytes)	**1GB (GIGABYTES, WHERE 1 000mb = 1gb)**
Minutes or Airtime	None	None
Fixed amount cost	R150	R220
Additional monthly costs	30c for every MB used over 500 MB	30c for every MB used over 1 GB

Adapted from www.datacontract.com]

Use the information and TABLE 2 to answer the questions that follow.

2.1 TABLE 3 below shows the monthly costs for MTN.

TABLE 3: MONTHLY COST FOR USING MTN

Number of MB used each month	0	500	800	1000	A	1400
Cost (in rand) MTN	220	220	220	220	250	340
Cost (in rand) Vodacom)	150	150	240	300	330	420

2.1.1 Write down an equation that can be used to calculate the cost for MTN. (2)

2.1.2 Calculate the missing value A in TABLE 3. (3)

2.2 Use ANNEXURE A to draw TWO line graphs representing the cost for Vodacom and MTN. Clearly label each line graph. (5)

2.3 Use the graphs drawn in Question 2.2 to determine which of the two internet providers you would advise Themba to take if he wants to pay only R 300 per month for his internet usage. Justify your answer. (3)

[13]

QUESTION 3

3.1 Mrs Jackson a mother of three children , earns a net salary of R18 350 per month after deductions. She budgets every month as follows:

TABLE 4: MONTHLY BUDGET FOR MRS JACKSON.

MONTHLY INCOME		**MONTHLY EXPENDITURE**	
Salary after deductions	R17 800	Bond repayment	R4 100
Housing subsidy	R550	Municipal rates	R475
		Water and refuse account	R325
		Electricity	R580
		Food	R2 750
		Car installment	R1 650
		Petrol	R1 800
		Entertainment	R1 300
		School fees	R940
		Clothes and cellphones (12% of the total monthly income)	**(A)**
TOTAL	**R18 350**	**TOTAL**	**(B)**

Use TABLE 4 above to answer the questions that follow.

3.1.1 Write down one fixed expense. (2)

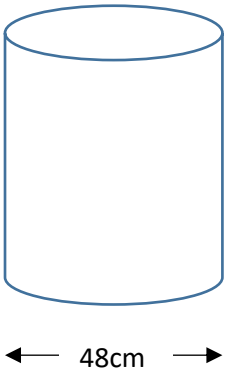
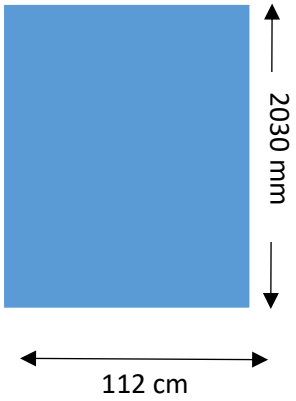
3.1.2 Mrs. Jackson states that the value of **A** is R2 202.

Show through calculations whether her statement is true. (2)

3.1.3 Calculate the total expenditure **(B)**. (2)

3.1.4 How much money Mrs. Jackson has left after paying all her expenses? (2)

3.2 Mrs. Jackson is planning on installing flat plates solar water heating system, as shown in the picture below. The complete heating system consists of a 200 litres cylindrical geyser with a diameter of 48cm, and a rectangular solar panel with a length of 2030mm and a width of 112cm.

PICTURE	DIAGRAMS
	 

Use the information above to answer the questions that follow.

3.2.1 Define the term capacity in this context. (2)

3.2.2 Calculate the radius of the cylindrical geyser. (2)

3.2.3 Convert the length of the rectangular panel to cm (2)

3.2.4 Calculate the area of the rectangular solar panel in m^2.

You may use the following formula:

Area = length × width (4)

3.2.5 Calculate the circumference of the cylindrical geyser.

You may use the following formula:

Circumference = 2× 3,142×πr (2)

3.2.6 The capacity of the cylindrical geyser is 200 litres. Determine the height of the geyser in centimeters.

You may use the following formula:

Volume of cylinder = **3,142 ×radius ^{2} × height**

NOTE: $\mathbf{1}\boldsymbol{l} = \mathbf{1000}\boldsymbol{cm}^2$

(6)

3.2.7 State one reason why people install solar geysers (2)

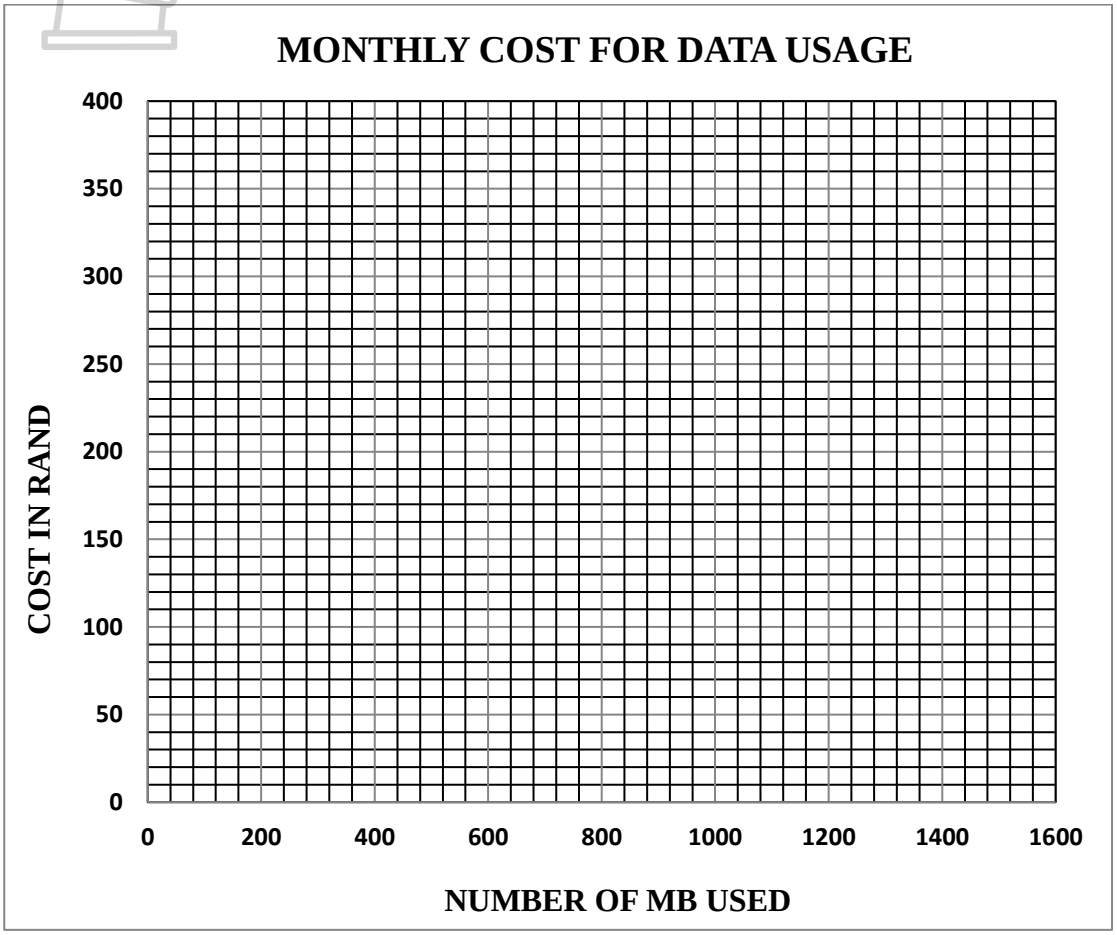
[28]

TOTAL: 60

ANNEXURE A

QUESTION 2.1.2

NAME OF LEARNER …… GRADE ……..



TERMINOLOGIES

DATA HANDLING

TERM	MEANING
	B
Bar graph	The graphical representation of data that uses bars to compare differentcategories of data. 90° graph using bars to show frequencies (horizontal and vertical graph), the vertical heights of a set of bars of equal breath represent the values of the dependant variable in a data set.
Biased question	Biased question is the question containing factors that may influence the respondent to answer in a way that is not entirely true.
Broken line graph	A graph that has numbers that alternate going up and down and do not keep to acurved consistent line.
	C
Categorical data	The data that is given in the form of words, names, or labels. It is generally descriptive in nature, as data classified and organized into categories.
Certain	Definitely going to happen e.g. getting heads or tails when tossing a coin is certain.
Class Interval	Data that is divided into a smaller number of categories
Classify	Identify the type or class.
Compound bar graph	(Also referred as vertical stack graph or component bar chart) display two or more sets of data. However, it shows a part/whole relationship so you can easilysee what amount each data group makes up of the whole.
Compound events	Two or more events that happen, e.g. tossing a coin and rolling a dice.
Contingency table	A two-way table representing the outcomes of an event.
Continuous data	The data that that is given as numbers including the decimal numbers and/or fractions. Numerical data (measurements like weight or age).
	D
Data	Information, series of observations, measurements, facts; collection and recording of information for statistical investigation. It is raw information thathas been collected, without any organization or analysis.
Data collection sheet	Two-column table showing what is observed and how many times it was observed; items of information.
Data handling	Data handling refers to the process of collecting, organizing, summarizing, representing, and analyzing information.

Discrete	Separate; distinct; opposite of continuous.
Discrete data	Numerical data (fixed numbers like size of family). Data that can have only certain values (quantities that can be counted, usually whole numbers).
Double bar graph	The most common multiple bar graph that compares two sets of data.
E	
Equivalent	Quantities that have the same value.
Estimate	Roughly work out; roughly calculate.
Even	Chances of any outcome happening are equal; if a normal six-sided dice is rolled, the chance that any one of the numbers 1,2,3,4,5 or 6 could show is thesame.
Event	An activity e.g., rolling a single dice.
F	
Fifty-fifty (even) outcome	Chances of something happening or not happening are the same.
Frequency (f)	Number of times a data value is recorded.
Frequency table	Table showing frequencies in organised form. Table summarising the frequencies of all the data values in a data set.
G	
Group	Put into classes, sort, arrange, organise.
Grouped data	The data given in the form of intervals.
H	
Histogram	90° graph using adjacent bars to show frequencies of continuous numerical datawith many different values. Areas of rectangles (continues; no gaps between them) show frequency ofclasses of data. The graphical representation of continuous numerical data by way of bars to display the frequency of the items in the data set.
Horizontal bar graph	90° bar graph using horizontal bars to compare or rank items like household sizes in a block of flats.
I	
Impossible outcome	No chance of the outcome happening e.g. getting a 7 with an ordinary six-sideddice.
Interview	Record data by talking to someone face to face or over the telephone.

Inter-quartile range	The difference between quartile 3 and quartile 1 **OR** The difference between largest quartile and the smallest quartile.
Investigate	Examine; look into; study.
L	
Likely/likelihood	Chance of something happening is greater than the chance of it not happening.
Line graph	A graph that uses line segments to connect data points and shows changes in data over time.
M	
Maximum value	The highest or biggest value in the data set.
Mean	Average of the values in a data set; sum of all the observed values divided by the number of observations.
Mean [of a set of data]	Average: sum of all data values divided by the number of data values.
Measures of central tendency	Numbers that tell more about the balance (middle values) in a data set (mode;median; mean).
Measures of spread	Numbers that tell how far data values in a data set lie apart; spread of numericaldata set (range, quartiles, and percentiles).
Median	Middle value in an ordered data set.
Median [of a set of data]	Value that cuts an ordered data set in half.
Methods of collecting data	Methods of collecting data is interview, observation and research or survey.
Minimum value	The lowest or smallest value in the data set.
Mode	Value or values appearing most often in a data set.
Mode of a set of data	Most common data value in a data set.
Multiple bar graph	A bar graph that displays two or more sets of data at once for easy comparison
N	
Notation	System of figures/symbols to represent numbers, quantities or values.
Numerical data	The data that is given in the form of numbers.
O	
Observation	Recording of data by watching someone or something closely. **OR**

	The method of collecting data that involves watching, listening, touching, reading.
Outcome	Result of a trial (experiment).
Outcome [fair]	All outcomes are equally likely to occur.
Outliers	Data value that lies an abnormal distance from the other data values in the dataset. **OR** Extreme low or extremely high value in the data set. **OR** The item or value in the data set that differs significantly with other items or values.
P	
Pie Chart	A circular diagram that is divided up into different sections or sectors. A circle divided into sections illustrating the size for each category.
Population	Entire source of data involved in an investigation; all the subjects included in astudy or survey in order to draw conclusions about that population as a whole.
Possible outcome	The chance that the event will happen or occur.
Prediction	Statement describing the chance of an outcome to happen based on given information.
Probability [mathematical]	Results of trial or experiment expressed as a fraction: number of favourable outcomes divided by number of all possible outcomes.
Probability [of an outcome]	Likelihood of a particular outcome occurring, expressed as a number betweenzero and one.
Q	
Qualitative data/ Categorical	Data that relates to certain categories e.g male/female or type of car etc.
Quantitative data/ Numerical	Data that can be measured and can be discrete or continuous.
Quartiles	The values that divide a list of numbers into four equal parts.
R	
Random sampling	The sampling method that allows every member of the population a chance ofbeing included in the sample.
Range [of a data set]	Difference between the highest and lowest values in a data set. **OR**

	The difference between the maximum value and the minimum value in the dataset.
Related [data sets]	Linked; connected.
Represent[data]	Draw; graph.
Representative sample	Sample likely to give results similar to those obtained from studying the wholepopulation.
S	
Sample	Subset (small group) chosen from the population to represent the population. **OR** The fraction of the entire group to be used in the collection of data
Sampling	Choosing a representative sample.
Scatter plot	A graph that is made by plotting ordered pairs in a coordinate plane to show therelationship between two sets of data, but the points are not connected by a line.
Sort	Put, organise into categories.
Stacked bar graph	(Also known as stacked bar charts) Instead of displaying a compound bar graphwith bars side-by-side a stack bar graph divides the bar into segments. It is usedto show how one bar is divided into smaller parts
Survey	Collect data from a group of people or objects.
Survey [biased]	Survey containing factors that produce answers that do not represent a truthfulpicture of the situation.
T	
Tree diagram	Diagram using branches to display all the outcomes of a series of trials.
Trend	An upward or downward shift in the data set over time.
Two-way table	A contingency table representing all possible outcomes of two trials taking place together.
U	
Ungrouped data	The data given as individual items or values.
Unlikely	Chance of something happening is less than the chance of it not happening.
V	
Variable	A quantity that can take different values in a situation.

Vertical bar graph	90^0 bar graph using vertical bars to show change over time at discrete times likeabsentees per day for three weeks.
Very likely	Chance of something happening is much greater than chance of it not happening.
Very unlikely	Chance of something not happening is much greater than the chance of it happening.

FINANCE

TERM	MEANING
	A
Account	A record of income and expenditure.
	B
Balance	This is the difference between debits and credits.
Bank statement	The details of all the transactions made from one bank account in a given time period.
Break-even point	Break-even point is where the business is at an activity level (doing business) at which **total cost = total sales,** i.e. you have made enough income to cover the costs. At the break-even point, you are making neither a profit nor a loss; from that point on you will be making a profit with each sale (until new costs are incurred).
Budget	A plan of how to spend money. An estimate of income and expenditure.
Bursary	A sum of money given to you by an organisation to cover the cost of your formal studies.
	C
Capital	Money that is owned by someone and used for the purpose of investing or lending.
Commission	The sum of money paid to an agent (usually a salesperson) that is a percentage of the total value of goods sold by the agent.
Compound interest	Interest charged on an amount due but including interest charges to date.
Consumption rate	The rate at which a commodity, such as water, electricity or fuel, is consumed.
Cost-effective	Best value for money.
Cost price	This is the amount that it **costs per unit** to either manufacture or purchase an item or to prepare for a service that will be delivered. This amount is pure cost, no mark-up or profit has been added yet.
Cost rate	The price of a product per mass, volume, length or time unit.
Credit	This is an entry in an account that shows a payment made into the account.

Credit balance	The amount in the account is your own.
Credit card	A credit card is a service bank product that allows you to buy goods and pay for them at the end of the month.
Credit limit	The maximum amount you can spend on your credit card.
D	
Debit	When someone or an organisation takes money out of your account. An entry in an account showing a payment made from an account.
Debit balance	The amount owed to a lender or seller.
Debit order	It is an arrangement whereby you give permission to a third party to withdraw money from bank account on a regular basis.
Deposit	A payment made into a bank account.
Disposable income	Income that is left over after all payments have been made.
E	
Exchange rate	The value of one currency relative to the value of another currency.
Expenditure	An amount of money that is spent on something.
F	
Fine print	The legal terms and conditions printed on a contract applicable to a transaction or account.
Fixed deposit	A single deposit invested for a fixed period at a fixed interest rate.
Fixed expenses	These are amounts that must be paid every month and which stay the same, like rent, school fees and transport costs.
Fund	A source of money.
G	
Gross income	The **total** amount of **all** an individual's income before deductions.
H	
Hire purchase	Goods and products such as furniture can be purchased using a longer term lease or hire agreement (hire purchase); insurance is usually also added to the amount payable until it is paid off.
I	
Inflation	An increase in the price of a basket of goods or services that is representative of the economy as a whole.
Interest	Money paid regularly at a particular rate for the use or loan of money. It can be paid to you by a finance organisation or bank (in case of savings); or it may be payable by you to a finance organisation on money you borrowed from the organisation.
Interest rate value	This is the % rate of interest that will be charged on your loan amount, i.e. a percentage value of the original loan amount.
Interest value	This is the actual rand amount of interest that will be added to your loan.
Investment	To put money into an organisation or bank (e.g. by buying shares), so as to gain interest on the amount at a higher rate.

Investment	Something in which you have invested money.
Invoice	A comprehensive document that details all the work done or items sold, and what costs are due.
	L
Lay-bye	It is a form of credit where the buyer pays a deposit and pays the balance in instalments while the shop keeps the item(s) until it has been paid off.
Loan	A loan is an agreed sum of money that is lent by a bank or moneylender (e.g. personal loan or home loan).
Luxury item or service	An item or service that is not essential for daily life, but which makes life easier or more convenient.
	N
Net pay	The amount an employee "takes home" after income tax has been deducted.
	O
Overdraft	An overdraft is an arrangement you make with the bank that allows you to draw more money than there is in your account.
	P
PAYE	(abbr.) Pay as you earn: tax taken off your earnings by your employer and sent to the South African Revenue Service before you are paid (the balance).
	R
Remittance slip	A piece of paper that accompanies a payment and contains the most important details of the transaction.
	S
Salary	An amount of money paid for the work you do. (This is normally paid monthly.)
Selling price	This is the price at which something is offered for sale.
Simple interest	Interest charged on the original amount due only, resulting in the same fee every time.
Statement	A summary of transactions (debits and credits, or payments and receipts) made on an account.
	T
Tariff	The rate charged for a service rendered, e.g. import duties, water consumption cost, etc.
Tax	A compulsory levy imposed on citizen's earnings or purchases to fund the activities of government.
Taxable	A service, purchase or item or earning that has tax applied to it.
Tax invoice	Printed record of what was bought, what it cost, what was taxable, the tax amount, method of payment, amount tendered, and change due, if any.
Trillion	One-million-million (one followed by twelve zeros).
	U
UIF	(abbr.) Unemployment Insurance Fund: A government-run insurance fund which employers and employees contribute to, so that when employees are retrenched they can collect some earnings (a portion).
	V
Variable expenses	Expenses that change over time or from one week/month to the next. These are things that you usually pay or buy each month, but the amount changes e.g. telephone and electricity costs.

VAT	**Value Added Tax (VAT)** is a tax that is levied at 15% (currently in South Africa) on most goods and services, as well as on the importation of goods and services into South Africa.
VAT exclusive price	The price before **VAT** is added.
VAT inclusive price	The price after **VAT** is added.
W	
Wages	A wage is an amount of money paid to an employee normally based on a fixed number of hours worked per week.
Withdrawal	Money taken out of a bank account.
Z	
Zero rated VAT items	These are goods that are exempt from VAT. Groceries that are basic foodstuffsare zero-rated in South Africa, e.g. brown bread, milk, mielie meal, samp, rice, etc..

MAPS AND PLANS AND REPRESENTATION OF THE PHYSICAL WORLD

TERMS	MEANING
2-D models	A diagram or picture having length and width only.
2-dimensional plans	A plan or design having length and width only, but possibly representing three dimensional objects.
3-D models	A dimensional construction of real-life objects.
B	
Bar scales	Presented as a picture, it means that if you placed a ruler next to this scale, youcould determine how many centimeters next to this scale, you could determine how many centimeters represent the specified kilometers
C	
Compound bar graphs	Graphs that contain multiple bars for each category of data, with each bar representing a different component of each category of the data.
E	
Elevation map	Information about the profile of a route as seen from the side.
Elevation plans	Show the design and dimensions of the outside of a building from a side view.
F	
Floor plan	Shows the design and dimensions of the inside of a building, from a top view.
H	
Highway	A major road that links major cities.
L	
Line graphs	A diagram used to display data with a consistent trend.

Location:	A particular place or position.
	M
Map:	A symbolic representation of selected characteristics of a place drawn on a flat surface.
Model:	A thing used as an example to follow and imitate an object (a three dimensional figure or object)
	N
National road map	Shows major roads linking major cities to each other.
North elevation plan	Shows the side of the building that is in front of you when you are facing the compass direction 'North'
Number scale	A number scale such as 1 : 50 000 means that 1 unit on the map represent 50 000 units in real life
	S
Scale	Determines how many times smaller an object shown on a plan or map is that its actual size
Scale drawing	A diagram of a real-life object drawn in proportion.
Scaled elevation plans	Show the design and dimensions of the outside of a building from a side view using a specific scale.
Street map	A map of a small area such as a town or city.
Strip map	A map of a section of a travelling route.
	R
Route map	Shows a specific route, for instance for an event, as seen from above.

MEASUREMENT

TERMS	**MEANING**
	A
Area	The amount of two-dimensional space occupied by a2-D shape. The area of a shape is the size of its surface.
	B
Body mass index (BMI)	A number calculated from an adult's weight and height, expressed in units of kg/m^2
Breadth	How wide something is. From the word "broad".
	C
Capacity	The amount of space available to hold something. **OR** A measure of the volume a hollow object can hold – usually measured in litres.
Circle	A closed cure that is everywhere the same distance from the middle point.
Circumference	Distance around a circle / the perimeter of a circle.

Conversion	A change from one system / unit to another.
Cubed	The power of three; multiplied by itself three times.
Cubic	Shaped like a cube; having been multiplied by itself three times.
Cylinder	A 3-dimensional object with congruent parallel sides and bases are circles. A tall shape with parallel sides and a circular cross-section – think of a logof wood, for example, or a tube.
	D
Degrees Celsius	Unit used to measure temperature in most countries.
Diameter	A straight line passing through the centre of a circle and touching the circle at both ends, thus dividing the circle into two equal halves.
Dimension	A measurable extent, e.g. length, breadth, height, depth, time. Physics, technical: the base units that make up a quantity, e.g. mass (kg), distance (m), time (s).
Distance	How far it is from one place to another, e.g. from one town to another or from one point to another point.
	I
Imperial System	A system of measurement using inches, pounds, feet, gallons and miles.
	L
Length	The measurement between two points, in a straight line, e.g. the length of a room.
	M
Measure	Using an instrument to determine size, weight etc.
Measuring	Determine the value of a quantity directly, e.g. reading the length of an object from a ruler or the mass of an object from a scale.
Metric System	A system of measurement that uses metres, litres, kilograms, etc. A measurement system, using a base of 10 (i.e. all the units are divisible by 10).
	P
Perimeter	The total distance around the boundary or edge that outlines a specific shape.
Pi	π, the Greek letter p, the ratio of the circumference of a circle to its diameter. A constant without units, value approximately 3,142.
	R
Radius	The distance from the centre of the circle to any point on the circumference of the circle.
	S
Scale	An instrument that is used to measure the weight of an object.
Surface Area	The area of all the faces / surfaces of an object added together.
	V
Volume	The amount of 3-D space occupied by an object. It is measured in cubic units.
	W
Weight	An indication of how heavy an object is.

PROBABILITY

TERMS	MEANING
	A
Actual frequency of an outcome	Is the number of times the outcome actually occurs during an experiment.
Actual outcome	Is the actual result of a single trial.
A fair game	Is a game in which there is an equal chance of winning or losing.
A fair coin	Is a coin that has equal probability of falling on a "head" or a "tail" when it is tossed.
	C
Compound events	are two or more events happening at once.
	D
Dependent events	Events are dependent if the occurrence of either event affects the probability of the other.
	E
Event	An event is something that may or may not happen when an action is performed.
Expected frequency of an outcome	Is the number of times one expects the outcome to occur during an experiment.
Experiment	Is a series of trials performed one after another.
	F
Fair	Treated equally, without having an advantage or disadvantage.
Favourable outcome	Is any of the possible outcomes which favour a specific event.
Frequency	The number of times that something happens.
Frequency of an event	Is the number of times that the event occurs during an experiment (a set of trials)
	I
Independent events	Are events such that the probability of one event occurring in no way affects the probability of the other event occurring.
	M
Mutually Exclusive	Means we can't get both events at the same time. (It is either one or the other, but **not both)**
	O
Outcome	This is the result of an event.
	P

Possible outcome	Is any of the possible results of a trial.
Probability	The likelihood of something happening or not happening.
R	
Random	When something happens without being made to happen on purpose.
Relative frequency (experimental probability) of an event	Is the number of times outcomes occur divided by the total number of trials. i.e. Experimental Probability = number of times the outcome did occur / Total number of trials (outcomes)
S	
Sample Space	All the possible outcomes of an experiment.
Sample Point	Just one of the possible outcomes
T	
Theoretical probability	is worked out as number of possible successful outcomes divided by total numberof outcomes.i.e. Probability = number of successful outcomes / Total number of possible outcomes
Trial	Is an action which may lead to a result.
Descriptions of the likelihood of an event occurring:	
• **Impossible**	- It has no chance of happening.
• **Unlikely**	- It has a greater chance of not happening than of happening.
	- It has as much chance of happening as of not happening.
• **Even (equally likely)**	- It is equally likely to happen as to not happen.
• **Likely**	- It has a greater chance of happening.
• **Certain**	- It is certain that it will happen.