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KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

CURRICULUM GRADE 10 – 12

DIRECTORATE

LEARNER SUPPORT DOCUMENT

GRADE 10

MATHEMATICAL LITERACY

2026

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This document consists of 80

PREFACE

This document serves to assist Mathematical Literacy learners on how to deal with curriculum. It also captures the challenging topics in the Grade 10 work. Activities should serve as a guide on how to assess topics dealt with in this document.

It is hoped that teachers will find this document useful for better learner performance in 2026 and that they will benefit from this document.

Provincial Mathematical Literacy Subject Advisors AND Lead Teachers are to be commended for their contributions and cooperation during the preparation and production of this document.

The document will cover the following:

A	**FINANCE**	
B	**DATA HANDLING**	
C	**MEASUREMENT**	
D	**MAPS AND PLANS**	
E	**PROBABILITY**	

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Important Mathematical Literacy Terminologies

MEASUREMENT	
TERM	MEANING
Area	The amount of two-dimensional space occupied by a2-D shape. The area of a shape is the size of its surface.
BODMAS	Brackets, of/orders (powers, squares, etc.), division, multiplication, addition, subtraction. A mnemonic (reminder) of the correct order in which to do mathematical operations.
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".
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 log of wood, for example, or a tube.
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.
Growth Charts	Graphs consisting of a series of percentile cures that show the distribution of the growth measurements of children.
Imperial System	A system of measurement using inches, pounds, feet, gallons and miles.
Length	The measurement between two points, in a straight line, e.g. the length of a room.
Measure	Using an instrument to determine size, weight etc.

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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).
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.
Radius	The distance from the centre of the circle to any point on the circumference of the circle.
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.
Volume	The amount of 3-D space occupied by an object. It is measured in cubic units.
Weight	An indication of how heavy an object is.

DATA HANDLING	
TERMS	MEANING
B	
Bar graph	The graphical representation of data that uses bars to compare different categories 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.
Box-and-whisker plot	Diagram that statisticians use to show the distribution of data along a number line divided into quartiles.
Broken line graph	A graph that has numbers that alternate going up and down and do not keep to a curved 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

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Classify	Identify/the type of 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 easily see 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 that has 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 the same.
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.

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H	
Histogram	90° graph using adjacent bars to show frequencies of continuous numerical data with many different values. Areas of rectangles (continues; no gaps between them) show frequency of classes 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-sided dice.
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 numerical data 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.

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Mode	Value of 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 data set. 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	
Percentiles	The points that divide the data set into 100 equal parts. Quartile 1 is the 25Th percentile i.e., the value at which 75% of the data set lies above and 25% of the data set lies below it. Quartile 2 Is the 50th percentile i.e., the value at which 50% of the data set lies above and 50% of the data set lies below it. Quartile 3 is the 75th percentile i.e., the value at which 25% of the data set lies above and 75% of the data set lies below it.
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 a study 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.

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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 between zero and one.
Q	
Qualitative data/ Categorical data	Data that relates to certain categories e.g male/female or type of car e.t.c
Quantitative data/ Numerical data	Data that can be measured and can be discrete or continuous.
Quartiles	The values that divide a list of numbers into four equal parts.
Questionnaire	List of questions that can be used to collect data. An instrument consisting of questions for the purpose of collecting data.
R	
Random sampling	The sampling method that allows every member of the population a chance of being 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 data set.
Related [data sets]	Linked; connected.
Represent[data]	Draw; graph.
Representative sample	Sample likely to give results similar to those obtained from studying the whole population.
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 the relationship 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 graph with bars side-by-side a stack bar graph divides the bar into segments. It is used to show how one bar is divided into smaller parts
Survey	Collect data from a group of people or objects.

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Survey [biased]	Survey containing factors that produce answers that do not represent a truthful picture 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 like absentees 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
Account	A record of income and expenditure.
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.
Capital	Money that is owned by someone and used for the purpose of investing or lending.

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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.
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.
Exchange rate	The value of one currency relative to the value of another currency.
Expenditure	An amount of money that is spent on something.
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.
Gross income	The total amount of all an individual's income before deductions.
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.
Inflation	An increase in the price of a basket of goods or services that is representative of the economy as a whole.

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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.
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.
Net pay	The amount an employee "takes home" after income tax has been deducted.
Overdraft	An overdraft is an arrangement you make with the bank that allows you to draw more money than there is in your account.
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).
Remittance slip	A piece of paper that accompanies a payment and contains the most important details of the transaction.
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.
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.

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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).
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).
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 14% (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.
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.
Zero rated VAT items	These are goods that are exempt from VAT. Groceries that are basic foodstuffs are zero-rated in South Africa, e.g. brown bread, milk, mielie meal, samp, rice, etc..

MAPS AND PLANS AND REPRESENTATION OF THE PHYSICAL WORLD	
TERM	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.
Bar scales	Presented as a picture, it means that if you placed a ruler next to this scale, you could determine how many centimeters next to this scale, you could determine how many centimeters represent the specified kilometers
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.
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.
Floor plan	Shows the design and dimensions of the inside of a building, from a top view.
Highway	A major road that links major cities.
Line graphs	A diagram used to display data with a consistent trend.

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Location:	A particular place or position.
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)
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
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.
Map:	A symbolic representation of selected characteristics of a place drawn on a flat surface.
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.
Route map	Shows a specific route, for instance for an event, as seen from above.

PROBABILITY	
TERM	MEANING
Event	An event is something that may or may not happen when an action is performed.
Outcome	This is the result of an event.
Probability	The likelihood of something happening or not happening.
Experiment	Is a series of trials performed one after another.
Trial	Is an action which may lead to a result.
Possible outcome	is any of the possible results of a trial.
Favourable outcome	is any of the possible outcomes which favour a specific event.
Actual outcome	is the actual result of a single trial.
Frequency	The number of times that something happens.
Expected frequency of an outcome	is the number of times one expects the outcome to occur during an experiment.
Actual frequency of an outcome	is the number of times the outcome actually occurs during an experiment.
Frequency of an event	Is the number of times that the event occurs during an experiment (a set of trials)

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Relative frequency (experimental probability) of an event	is the number of times it occurs divided by the total number of trials. i.e.	
		$Experimental\ Probability = \frac{\text{number of times the outcome did occur}}{\text{total number of trials (outcomes)}}$
Theoretical probability	is worked out as number of possible successful outcomes divided by total number of outcomes.i.e.	
		$Probability = \frac{\text{number of successful outcomes}}{\text{total number of possible outcomes}}$
Sample Space	All the possible outcomes of an experiment.	
Sample Point	Just one of the possible outcomes	
Random	When something happens without being made to happen on purpose.	
Fair	Treated equally, without having an advantage or disadvantage.	
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.	
Descriptions of the likelihoo d 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.	
Compound events	are two or more events happening at once.	
Independent events	are events such that the probability of one event occurring in no way affects the probability of the other event occurring.	
Dependent events	Events are dependent if the occurrence of either event affects the probability of the other.	
Mutually Exclusive	means we can't get both events at the same time. (It is either one or the other, but not both)	

Question word	What is required of you
Analyse	Separate, examine and interpret
Calculate	This means a numerical answer is required – in general, you should show your working, especially where two or more steps are involved
Classify	Group things based on common characteristics

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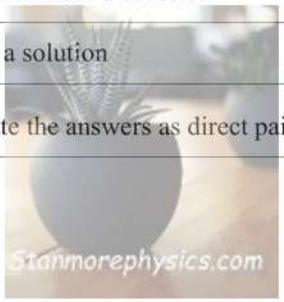
Compare	Point out or show both similarities and differences between things, concepts or phenomena
Define	Give a clear meaning
describe	State in words (using diagrams where appropriate) the main points of a structure/process/phenomenon/ investigation
determine	To calculate something, or to discover the answer by examining evidence
differentiate	Use differences to qualify categories
discuss	Consider all information and reach a conclusion
explain	Make clear; interpret and spell out
identify	Name the essential characteristics PAY SPECIAL ATTENTION
Label	Identify on a diagram or drawing
List	Write a list of items, with no additional detail
Mention	Refer to relevant points
Name	Give the name (proper noun) of something
State	Write down information without discussion
Suggest	Offer an explanation or a solution
tabulate	Draw a table and indicate the answers as direct pairs



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2. Structure of the question papers

PAPER 1	PAPER 2
Finance 60% (±5) Data Handling 35% (±5) Probability 5% Including Growth Charts (CAPS page 65) assesses application of measures of spread in data handling.	'Maps, plans and other representation of the physical world 40% ((±5) Measurement 55% (±5) Probability 5% Including ±5% (Income, Expenditure, Profit/loss, Income-and-Expenditure statements and Budgets, Cost price and Selling price) where there is direct link to Measurement and Maps and Plans.
Question 1:30 marks ± 5 marks Level 1 questions from Finance and Data Handling Question 2 Finance Question 3 Data Handling Question 4 Integrated context on Finance and Data Handling Including Growth Charts (CAPS page 65) assesses application of measures of spread in data handling. Question 5 Finance, data handling or integrated question Data handling will be examined in the context of one or more of the other questions. Each question can contain more than one context.	Question 1:30 marks ± 5 marks Level 1 questions from Measurement and Maps, plans Question 2 'Maps and plans Question 3 Measurement Question 4 Integrated context on 'Measurement and Maps and plans Including (Income, Expenditure, Profit/loss, Income-and-Expenditure statements and Budgets, Cost price and Selling price) where there is direct link to Measurement and Maps and Plans. Question 5 Measurement, maps and plans or integration Data handling will be examined in the context of one or more of the other questions. Each question can contain more than one context.
N. B: EACH PAPER MAY HAVE 4 OR 5 QUESTIONS	

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QUESTION 1

1

Mrs. Mabaso went to local supermarket to purchase some few items that are needed at home. Shown below is the till slip for items.

Cash Receipt/ Till slip

Shop Name	
VAT nr: 4731804	
Items:	Price:
Chicken 3.5kg	
x6 @ R114	A
Bread	14.96*
Carrots 1kg	7.18*
Coffee 2kg	53.99
Penne Pasta	
x B @ R 27	81.00
Plastic bag	0.08
VAT	C
Total	R 841.21
Rounding	R 841.20
Date: 12/05/2022	

[Source: www.Google.com]

Use the information above to answer the questions that follow.

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1.1 Write down the date Mrs. Mabaso purchased the items. (2)

1.2 Identify the type of document shown above. (2)

1.3 Explain the meaning of VAT. (2)

1.4 Write the number of items Mrs. Mabaso Purchased. (2)

1.5 Determine the value of A, B, and C (6)

1.6 Mrs. Mabaso paid R841,20 for the items. Round off the amounts in rands. (2)

1.7 Identify the unit price for 3,5kg. (2)

1.8 Determine the probability of buying vegetables, write your answer as a percentage. (4)

1.9 Write the ratio of coffee to Penne pasta. (2)

1.10 List the items for which the VAT was exempted. (2)

[26]

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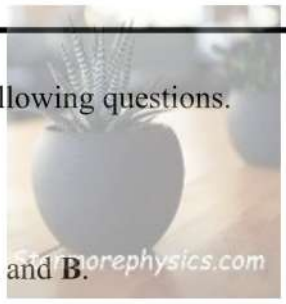
QUESTION 2

2 Given below is Phiwokuhle's budget for May, a grade 10 learner who works weekends at a local shop.

TABLE 1: PHIWOKUHLE'S MAY BUDGET

INCOME	**Amount (R)**	**EXPENSES**	**Amount (R)**
Weekend job	2 200,00	School transport	350,00
Pocket money	800,00	Airtime	150,00
		Rent	400,00
		Groceries	800,00
		Scientific Calculator	399,99
		Savings (5% of her total income)	**B**
		Entertainment	200,00
TOTAL	**A**	**TOTAL**	2 499,99

[Source: www.google.com]



Use TABLE 1 above and answer the following questions.

2.1 Define the term *Savings*. (2)

2.2 Determine the missing values **A** and **B**. (4)

2.3 Differentiate between fixed and variable expenses. (3)

2.4 Give TWO examples of fixed and variable expenses from Phiwokuhle's budget. (4)

2.5 Show with calculations, whether his income will be enough to cover his expenses. (3)

2.6 Determine the percentage of income spent on school transport. Round off your answer to ONE decimal. (4)

2.7 Phiwokuhle's boss reduces his weekend shifts in June, so his weekend income drops by 25%. Determine his new total income in June. (3)

2.9 Give a reason why it is important to have a budget. (2)

2.10 Write the ratio for the amount of airtime to the amount of entertainment in its simplest

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to 2d. (3)

2.11 Determine, as a percentage, the probability of randomly selecting an expense less than R250.00. (4)

[32]

QUESTION 3

3.1

James wants to go on a school trip that costs R5,000.

Option A: R5 000 invested at 10% simple interest for 2 years.
Option B: R5 000 invested at 8% compound interest for 2 years.

Use the information above to answer the following questions

3.1.1 Define the term interest rate. (2)

3.1.2 Calculate the total value for Option A. (3)

3.1.3 Calculate the total value for Option B (4)

3.1.4 Identify the option that gives James a higher interest. (2)

3.2

James withdraws R1,200 cash to buy lunch. The bank charges a 2% fee on the withdrawal amount.

Use the information above to answer the following questions

3.2.1 Calculate the fee amount charged. (2)

3.2.2 **Calculate how the amount of R1224 was calculated** (2)

3.3 Below is a bank statement of Thelma Smith for a month of March.

Account holder	**Thelma Smith**	**Account type: Savings**		**Account number: 9115601836**
Date	**Transaction**	**Debit**	**Credit**	**Balance**
01/03/2026	Opening balance			R16 712, 32
03/03/2026	ATM Withdrawal	2850,13		R13 862,19
05/03/2026	Salary		5 000	**A**
07/03/2026	Pick n Pay	2850,13		R16 012,06
10/03/2026	Electricity	600		R15 412,06
15/03/2026	Transfer received		2 650	R18 062,06
18/03/2026	Jet clothing store	430		R17 632,06
19/03/2026	ATM Withdrawal	350		R17 282,06
28/03/2026	Bank Changes	197,20		R17 084,86

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	21/03/2026	Closing balance			R17 084,86

3.3.1 Define the term opening balance. (2)

3.3.2 Identify the transaction with the highest cost. (2)

3.3.3 Calculate the total amount of deposits made into the account. (2)

3.3.4 Calculate the total transaction that was made on this bank statement. (2)

3.3.5 Write the Abbreviation ATM in full. (2)

3.3.6 Calculate the missing value of **A.** (2)

3.3.7 Define the term closing balance. (2)

3.3.8 Write the ratio of electricity amount to the ratio of transfer received in the simplified form. (3)

[31]

3.4 Sandra works as a bookkeeper. She must go through the company bank statement every month and balance all transactions. **ANNEXURE B** below is an extract of a bank statement for Clover SA LTD. below

Refer to **ANNEXURE B** and answer the questions.

3.4.1 Write the balance shown for 20/07/2023 in words (2)

3.4.2 Determine the total amount deposited into the account. (2)

3.4.3 Calculate the total amount paid for bank fees (2)

3.4.4 Determine the cash withdrawal fees as a percentage of the total bank fees. Round off your answer to the nearest percent. (3)

3.4.5 Suggest TWO ways the account holder can reduce banking fees. (4)

3.4.6 Identify ONE fixed expense from their budget. (2)

3.4.7. If they have an outstanding debt of R15 000 and want to settle it within 6 months, calculate the amount they need to pay per month. (3)

3.4.8 Critically discuss whether they can afford the amount calculated in 6.1.9. (3)

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3.4.9 Suggest TWO ways in which the couple can adjust their budget to save more money (4)

ANNEXURE B BANK STATEMENT OF CLOVER SA LTD

One of the Global One money management products or services

Current Account Statement

CAPITEC BANK

Capitec Bank

25/08/2023
Branch: 470010
Device: 9820

Tax Invoice

VAT Registration Number
4156894615

Capitec Bank Limited
Mthatha Plaza, Shop 23/A 35 Nelson
Mandela Dr. Umtata Central,
Mthatha, 5100, South Africa

From Date: 08/02/2023
To Date: 25/08/2023
Print Date: 25/08/2023

Business Details
CLOVER S.A. LTD
CONSTANTIA PARK,GATEVIEW HOUSE
A3,WELTEVREDENPARK, ROODEPOORT,
1709, SOUTH AFRICA

Account Number 10021548965

Posting Date	Transaction Date	Description	Money In (R)	Money Out (R)	Balance (R)
20/07/2023	12/06/2023	Banking App Payment Received A Pieterse	3 000.00		2649756.42
29/07/2023	13/06/2023	Banking App Payment Luno		210.00	2649546.42
02/08/2023	13/06/2023	Banking App Payment Fee		1.00	2649545.42
05/08/2023	14/06/2023	ATM Balance Enquiry Fee		5.55	2649539.87
16/08/2023	16/06/2023	ATM Cash WithdrawalSpar Panorama (Card 1551)		1 000.00	2649439.87
16/08/2023	16/06/2023	Cash Withdrawal Fee (ATM)		8.83	2649431.04
16/08/2023	16/06/2023	Banking App Payment Luno		1 200.00	2648231.04
17/08/2023	17/06/2023	Banking App Payment Fee		1.60	2648229.54
19/08/2023	19/06/2023	ATM Balance Enquiry Fee		5.55	2648223.99
19/08/2023	19/06/2023	ATM Cash WithdrawalSpar Panorama (Card 1551)		154680.00	2493543.99
20/08/2023	20/06/2023	Cash Withdrawal Fee (ATM)		8.83	2493535.16
23/08/2023	23/06/2023	Banking App Payment Luno		500.00	2493035.16
25/08/2023	25/06/2023	B Banking App Payment Received A Pieterse	25000.00		2468035.16

Adapted from www.capitec.co.za

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QUESTION 4

4 Mandla started a business to make wardrobes, closets, and kitchen cabinets. He uses different colours Silver, Brown, and White, with different prices.

The following is a quotation for one of his customers.

Wardrobe material and labour	**Prices (R) Colour**	**Price (R) White**
5 doors	R6 000	R5 200
6 doors	R7 000	R6 200
12 doors	R18 300	R15 400
Kitchen		
Material	R16 500	R14 800
Labour	R7 200	R7 200

NB: All prices include VAT



[Source: https://share.google/JOrit8rCUUxJiZ1]

4.1 Define the term *VAT*. (2)

4.2 Calculate the VAT-exclusive amount for a 5-door white wardrobe. (2)

4.3 Explain the meaning of *VAT inclusive*. (2)

4.4 Calculate the VAT amount for kitchen colour material. (2)

4.5 Calculate the difference in VAT for kitchen material. (4)

4.6 Express the unit ratio of the wardrobe price colour to the wardrobe price white. (3)

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4.7 Explain why the price of kitchen cabinet labour is the same for colour and white (2)

4.8 Mandla increases the price of the white wardrobe by 6.5%. Calculate the new prices for 5 doors, 6 doors, and 12 doors. (6)

4.9 Calculate the total cost for the white wardrobe, excluding VAT. (2)

A school tuck shop sells stationery and snacks to learners. At the start of the term, many learners buy items, and the shop keeps detailed records of sales and stock. The tuck shop recorded a total sale of 245000 rands for the year.

A PICTURE OF THE TUCKSHOP

[Source: https://www. ecoflow.com]

QUESTION 5

5.1

Use the information above to answer the questions that follow.

5.1.1 Rewrite the amount using correct thousand separators. (2)

5.1.2 Write the amount in words. (2)

5.2 The shop packs items in bulk for different classes:

- 1 dozen = 12 items
- 1 box = 50 items

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5.2.1 Calculate the number of individual pens in 6 dozens. (2)

5.2.2 Determine the total number of individual paper clips in 3 boxes. (2)

5.3 The shop records stock changes over four days:

- Monday: 120 items start up stock
- Tuesday: 45 items (items sold)
- Wednesday: 60 items (new stock delivered)
- Thursday: 90 items (items sold)

5.3.1 Identify the days on which stock decreased. (2)

5.3.2 Calculate the total change in stock over the four days. (2)

5.4 A learner bought items at the tuck shop:

- 6 pens at R4 each
- A fixed additional amount of R18 is added for other items she bought.

Calculate the total cost of all items purchased. (4)

5.5 A chocolate slab is shared among two learners in class.

- One learner eats $\frac{2}{5}$ of the chocolate slab
- Another learner eats $\frac{1}{5}$ of the chocolate slab

5.5.1 Calculate the total amount of chocolate the two learners ate. Leave your answer in fraction. (2)

5.5.2 Determine the amount of chocolate left in fraction. (2)

5.6 A family monitors their weekly water usage to avoid exceeding their municipal limit.

The household records the following daily water usage:

- Monday: 125,75 litres
- Tuesday: 98,50 litres
- Wednesday: 110,25 litres.

NOTE: The total weekly water limit is 400 litres.

Use the information above to answer the questions that follow.

5.6.1 Calculate the total water used over the three days. (2)

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5.6.2 Calculate the remaining water after use. (2)

5.6.3 A water tank is $\frac{3}{4}$ full. During the week, $\frac{1}{8}$ of water in the tank is used.

Calculate how much water remains in the tank. (2)

[26]

QUESTION 6

6.1 EThekwini municipality provides water to households using the following tariff system:

Consumption (kℓ)	Tariff (R per kℓ)
0 – 6 kℓ	Free
7 – 15 kℓ	R12,50
16 – 25 kℓ	R18,00
Above 25 kℓ	R25,00

Source: https://www. ecoflow.com

- Basic charge: R50 per month
- All charges are VAT EXCLUSIVE

Use the information above to answer the following questions.

6.1.1 Define the term *tariff*. (2)

6.1.2 State the reason for providing free basic water to the community. (2)

6.1.3 A household uses 20 kℓ of water. Calculate the total bill including VAT. (7)

6.1.4 A household's water bill is R560. Calculate how many kilolitres of water were used. (11)

6.2 A community uses the following electricity tariff system:

Units (kWh)	Cost per unit
0 – 50	R2,19
51 – 150	R2,48
151 – 300	R2,67
Above 300	R4,54

[Source: https://www. ecoflow.com]

Downloaded from Stanmorephysics.com

- Basic charge: R75 per month
- All charges are VAT INCLUSIVE

Use the information above to answer the following questions.

6.2.1 Identify the type of tariff system used. (2)

6.2.2 Calculate the total electricity bill if a household uses 120 kWh. (5)

6.2.3 A household pays R555 for electricity. Estimate the number of units used. Show all calculations. (8)

6.3

A bank offers the following accounts:

Account A (Pay-as-you-use):

- Monthly fee (basic charge): R25
- R6 per transaction
- All charges are VAT EXCLUSIVE

Account B (Fixed tariff):

- Monthly fee: R95
- Unlimited transactions

All charges are VAT INCLUSIVE

Use the information above to answer the questions that follow.

6.3.1 Write down a formula for the total cost of Account A (excluding VAT). (2)

6.3.2 Calculate the total monthly cost, including VAT, for Account A if a customer makes 10 transactions. (5)

6.3.3 Calculate the total monthly cost for Account B. (2)

6.3.4 Determine which account is more cost-effective if a customer makes 15 transactions. (4)

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6.4 A mobile network offers the following tariff plan:

- Basic monthly subscription**:** R120
- First 100 minutes: Free
- Thereafter: R1,80 per minute
- All charges are VAT EXCLUSIVE

Use the information above to answer the questions that follow.

6.4.1 Identify the type of tariff system. (2)

6.4.2 Calculate the total monthly bill, including VAT, if a user talks for 140 minutes. (5)

6.4.3 A community member wants to keep their bill below R250 (including VAT). Calculate the maximum number of minutes they can use. (5)

6.5 A local taxi association charges fares as follows:

- Base fare (basic charge): R10 per trip
- R3,50 per kilometer travelled.

Use the information above to answer the questions that follow.

6.5.1 Calculate the cost of a 12 km trip. (3)

6.5.2 A commuter completes an 8 km round trip to work and back each day. Calculate the total transport cost for 5 working days. (5)

6.5.3 A passenger pays R45 for a trip. Determine the distance travelled. Show all calculations. (4)

[77]

6.6. John is too concerned about the bank charges as he believes that his bank charges him a lot of money. He currently has an FNB Pay-as-you-use Account but is thinking of changing to an FNB Easy-Pay Account.
TABLE 1 below shows the transactional fees for the two banks.

TABLE 1: TRANSACTIONAL FEES OF TWO BANKS

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TRANSACTION TYPE	BANK FEES	
	FNB Easy (Bundle)	**FNB Easy (Pay-as-you-use)**
Deposits (ATM)	R1,30 per R100	R1,30 per R100
Deposits (Branch)	R15,50 + R2,30 per R100	R4,00 per R100
Cash withdrawals (own ATM)	R9,00 per R1 000 (or a part thereof)	R8 per R1 000 (or a part thereof)
Cash withdrawals (other ATM)	R11 + R2,30 per R100 (or a part thereof)	R10/ R1 000 (or a part thereof)
Cash withdrawals (branch)	R15,50 + R2,30 per R100	N/A
Debit order (internal)	Free	Free
Debit order (external)	R5,00	R1,50
Send cash (R1–R1 000)	R10,00	R8,00
Send cash (R1 001–R5 000)	R15,00	R16,00
Airtime/Data/Electricity (own ATM)	R1,50	R0,50
Airtime/Data/Electricity (other ATM)	R10,00	R8,00

Source: [Adapted from: www.fnb.co.za]

Use the information above to answer the following questions:

6.6.1 Explain the word *part thereof* as used in the given context of banks. (2)

6.6.2 Write down the bank account that John is using. (2)

6.6.3 Determine the minimum bank charge if he makes a cash withdrawal in another bank's ATM. (2)

6.6.4 Identify the amount charged for internal debit orders in both accounts. (2)

6.6.5 John's friend stated that if he makes a R3 500 withdrawal in another bank's ATM, he could save more than R10 in his own ATM. Verify that the friend's statement is correct by showing all calculations. (5)

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6.66 John pays R45,50 on bank charges when withdrawing from another bank's ATM. Determine the amount. (4)

6.67 Apart from deposits and withdrawals, on which transaction **FNB Easy(pay-as-you-use)** account costs more than **FNB Easy(bundle)** account. (2)

6.6.8 John made a withdrawal of R2 890 from his own bank's ATM. Calculate the difference in charges if he used an FNB Easy(pay-as-you-use) account and advise him **which bank account would be more convenient or cost-effective for him if he made the same withdrawal** from his own bank ATM. (5)

6.6.9 Give ONE reason that can make John remain using the account he currently uses as expensive as it is. (2)

6.6.10 State whether *ATM* is an acronym or abbreviation. (2)

6.6.11 Write down an acronym *ATM* in full. (2)

QUESTION 7

7.1 A local clinic in a township provides health care services to 500 households. As part of the campaign, 120 households were surveyed to determine how they treat their drinking water before use. The results of the survey are shown in the table below:

TABLE 1: Methods of water treatment for different households

Methods of treatment	**Number of households**
Boiling	36
Filtering	24
No treatment	60
Total	120

[*Source: www.cdc.gov*]

Use table 1and information above to answer the questions that follow:

7.1.1 Define the term *probability*. (2)

7.1.2 Write down the sample size for the survey. (2)

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7.1.3 State one possible event for the survey. (2)

7.1.4 Calculate the probability that a household uses boiling as a percentage. (2)

7.1.5 Express the probability of filtering as a fraction. (2)

7.2 A household has a bin collection schedule where waste is collected on Monday, Wednesday, and Friday.

Use the information above to answer the questions that follow:

7.2.1 If a day is chosen at random from the week, calculate, as a decimal, rounded to 2 decimals, the probability that waste is collected. (3)

7.2.2 List all possible outcomes when selecting a day of the week. (3)

7.2.3 Explain whether this probability is theoretical or experimental. (2)

7.2.4 Predict how many times waste will be collected in 4 weeks. (3)

7.3 A household kept a record of whether their electricity supply was available (ON) or interrupted (OFF) over a period of 10 days.

Day	1	2	3	4	5	6	7	8	9	10
Status	ON	ON	OFF	ON	OFF	ON	ON	OFF	ON	ON

Source: www.eskom.co.za

Use the information above to answer the questions that follow:

7.3.1 Determine the **relative frequency** of electricity being OFF. (2)

7.3.2 Determine the relative frequency of electricity being ON. (2)

7.3.3 Predict the number of days electricity may be OFF in the next 20 days. (3)

7.4 A household has two taps:

- Tap A: Working (W) or Not Working (N)
- Tap B: Working (W) or Not Working (N

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Use the information above to answer the questions that follow:

7.4.1 Draw a tree diagram showing all possible outcomes. (4)

7.4.2 Determine the probability that tap B is not working. (2)

7.4.3 Calculate the probability that at least one tap is working. (3)

7.5 The community conducted a survey to determine whether households recycle their waste and use prepaid electricity meters.

TABLE 2: Shows the number of households that recycle and use prepaid meters

	Prepaid Electricity	**No Prepaid**	**Total**
Recycle	30	10	40
Do not recycle	50	30	80
Total	80	40	120

[*Source: www.durban.gov.za*]

Use Table 2 and the information above to answer the questions that follow:

7.5.1 Calculate the probability that a household recycles and uses prepaid electricity. (3)

7.5.2 Calculate the probability that a household does not recycle. (3)

7.5.3 A community member stated that households are more likely to recycle if they use prepaid electricity**.** State whether this claim is valid. (2)

[45]

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QUESTION 8

8.1 The Mthembu household keeps a monthly record of their finances, as shown below.

Monthly Income	Monthly Expenditure
• Salary (Father): R12 500 • Salary (Mother): R8 000 • Child support grant: R500	• Rent: R6 000 • Electricity: R1 200 • Water: R800 • Transport: R2 500 • Groceries: R4 500 • School fees: R1 500 • Internet: R600

Use the information above to answer the questions that follow:

8.1.1 Calculate the total monthly income of the household. (2)

8.1.2 Calculate the total monthly expenditure. (2)

8.1.3 Determine whether a household has a surplus or a deficit. Show all workings. (3)

8.1.4 State whether the following are **fixed, variable or occasional costs**:

a) Rent

b) Groceries

c) School fees

d) Electricity (4)

8.2 The financial records for March at a local community crèche are shown below.

Income	Expenditure
• School fees: R9 600 • Donation from community: R2 500 • Fundraising event: R3 900	• Salaries: R6 500 • Food supplies: R2 800 • Electricity: R900 • Cleaning materials: R750 • Maintenance: R1 200

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Use the information above to answer the questions that follow:

8.2.1 Prepare an income statement for the crèche. (5)

8.2.2 Determine whether the crèche made a profit or loss. (2)

QUESTION 9

1.1 Luhlelo is running a baking business, her biggest issue is on quantity of milk needed when baking.

The pictures below show different milk containers and a measuring jug.

2-Litre 250ml Measuring Jug

[Adapted www.pictureSA .co.za]

Use the information above to answer the questions that follow:

9.1.1 Identify the amount of milk in the Measuring Jug in millilitres. (2)

9.1.2 Convert the 2-Litre milk to millilitres. (2)

9.1.3 Determine the ratio of a 250 *ml* milk container to a 2-Litre milk container in a simplified form. (2)

9.1.4 Explain the term *capacity* in the given context. (2)

9.1.5 Determine the probability as percentage, of finding a 5*l* container in the pictures above. (2)

9.1.6 Luhlelo's friend stated that the 250 *ml* milk container is eight times the 2-Litre milk container. Verify showing all calculations whether his statement is valid or not. (4)

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9.1.7 Luhlelo needs $2\frac{1}{2}$ cups of milk to make six muffins. Determine the amount of milk needed to bake two dozen of muffins, give your answer in litres.
Note: 1cup = 250 *ml* (5)

QUESTION 10

10.1 Vusi runs a small business selling and delivering mealie meal bags to the Spaza shops. He charges a fixed rate of R80.00 for delivery and then R15,50 for each bag of mealie meal he delivers.

TABLE 2 below helps him in calculating how much to charge each customer.

TABLE 2: BAGS OF MEALIEMEAL AND TOTAL COST IN RAND

Bags of mealie meal (Kg)	**0**	**10**	**20**	**30**	**40**	**50**
Total cost (R) in Rand	80	235	390	545	700	855

Use TABLE 2 and the information above to answer the questions below.

10.1.1 Determine the independent variable. (2)

10.1.2 Determine whether the data is discrete or continuous. (2)

10.1.3 Write down a formula to be used to calculate the delivery cost of the mealie meal bags per customer. (2)

10.1.4 Calculate the cost of delivering 35 bags of mealie meal. (2)

10.1.5 Determine the number of bags of mealie meal delivered if Vusi charged a total of R1 630. (5)

10.1.6 Determine the probability of Vusi delivering pockets of onions to Spaza shops, in words. (2)

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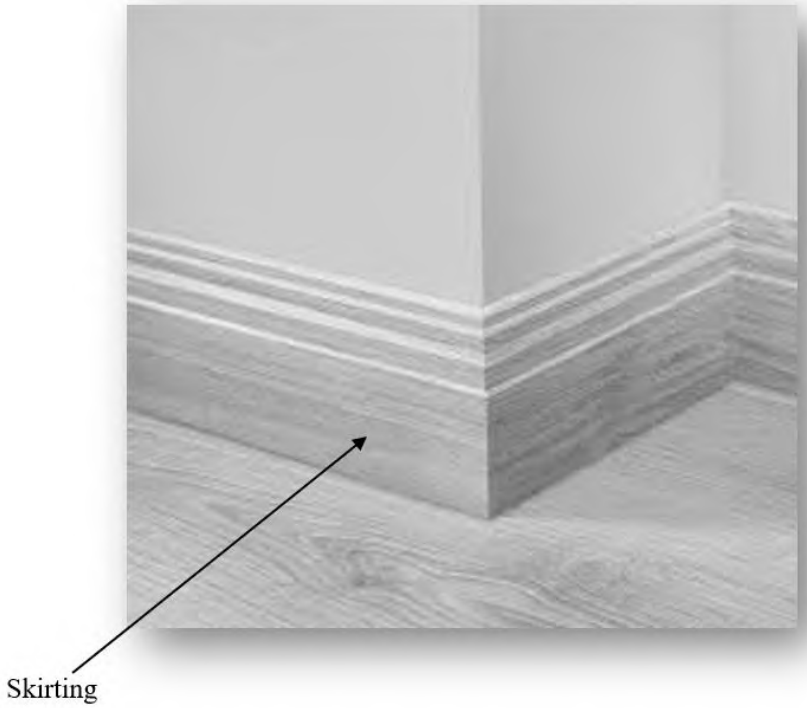
10.2 The measurements for the total amount of skirting board needed for one RDP house are: Kitchen is 12,5 m, Bathroom with toilet is 11,6 m, Bedroom is 11,6 m and Lounge is 11,95 m.

PICTURE OF THE SKIRTING BOARD ON THE WALL



source: https://www.skirting4u.co.uk

Note:
A skirting board is a wooden board covering the lowest part of an interior wall where it meets the floor.

Use the information above to answer the following questions.

10.2.1 Calculate the total length of skirting that is needed for ONE RDP house. (3)

10.2.2 The cost for skirting is R22,80 per 3 m length.

(a) Determine the cost of the skirting per metre. (2)

(b) Calculate the total cost of the skirting boards needed for 75 houses. (3)

(c) The builder has a budget of R27 500.00 for skirting 75 RDP houses. Verify with calculations whether his budget will be enough or NOT. (5)

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10.3 Mrs Thomas and several teachers have formed a lift club to reduce their travelling costs to school. She wants to determine how much each teacher will contribute to the lift club. The following data was collected:

TABLE 1: MONTHLY COST PER TEACHER LIFT CLUB

Number of teachers	1	2	3	4
Cost in Rands per teacher	1500	750	500	375

Use the information above to answer the questions that follow.

10.3.1 Determine the dependent variable in the table above. (2)

10.3.2 Identify the pattern in the data shown in the table above and describe it. (3)

10.3.3 Mrs Thomas stated that when three teachers share a car, each teacher pays approximately 66,67% of what one teacher would pay when only two teachers share the car.

Show with calculations how the percentage was calculated. (3)

10.3.4 Write the ratio of the amount each teacher pays when four teachers share a car to the amount each teacher pays when two teachers share a car, in simplified form. (3)

10.3.5 Give TWO advantages of using a lift club instead of driving alone to work. (4)

10..6 Mrs Thomas's friend says that the data collected is biased. Explain why this statement could be true. (2)

10.3.7 Write a formula to calculate the cost per teacher in the following form: **Cost = . . .** (3)

[20]

QUESTION 11

11.1 Match the terms in column A with column B, write only the correct letter next to the correct numbering, e.g., 11.1.2 B

Column A	Column B
11.1.1 Area	A. total length around the edges of a 2-D shape.
11.1.2 Perimeter	B. mm^3
11.1.3 Volume	C. space in a 2-D shape

(6)

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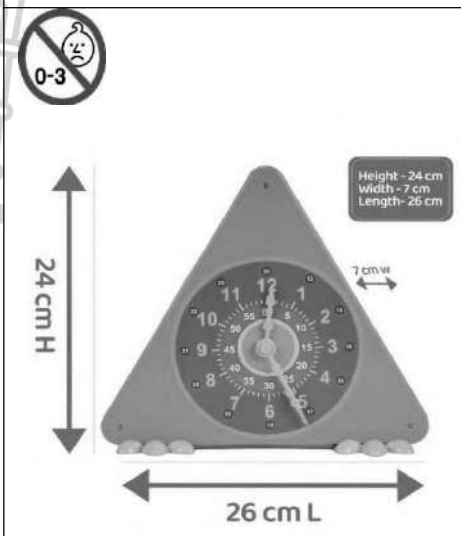
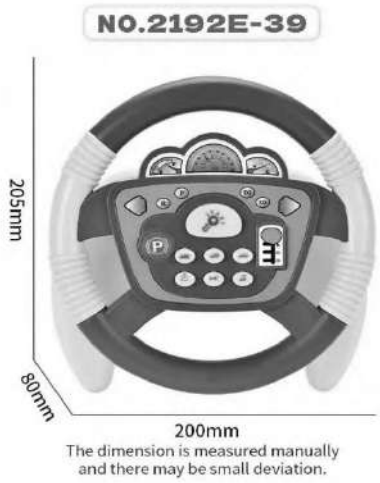
11.2 Mr Mbhele is the father of twins (a girl and a boy). He has recently been employed as an educator at a school in KwaZulu-Natal. With his first salary, he bought his kids toys to play with.

FIGURE 1: Picture of the toys he bought for his kids.

A TRIANGULAR CLOCK TOY	**A CIRCULAR STEERING WHEEL**
	

[Source//:www.kidsalot.co.za]

Study the information above and answer the following questions.

11.2.1 Calculate the area of the triangular toy.
You may use the following formula:

$$\textbf{Area of a triangle} = {}^{1}/_{2} \times \textbf{base} \times \textbf{height}$$ (2)

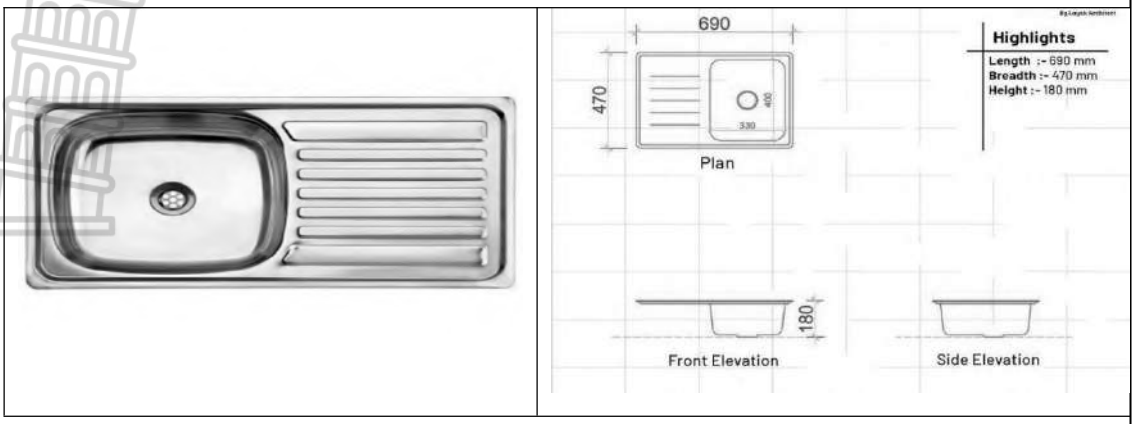
11.2.2 One of the kids stated that the difference between a 205mm diameter steering wheel and a 200mm diameter is less than 2cm. Verify if the statement is correct, and show all calculations. (5)

11.2.3 State the meaning of the warning sign found on the kids' toys (2)

Downloaded from Stanmorephysics.com

11.3 Mr Mbhele is looking into a kitchen sink to buy for his newly built cabinets. Below is the picture of the top mount kitchen sink.

FIGURE 2: PICTURE OF THE TOP MOUNT KITCHEN SINK.



[Source//:www.LayakArchitect.com]

Study the diagram above and answer the following questions.

11.3.1 Identify the shape of the kitchen sink. (2)

11.3.2 Calculate the difference between the perimeter of the whole kitchen sink and the basin in cm.
You may use the following formula.

$$\boldsymbol{Perimeter\ of\ a\ rectangle = 2l + 2}$$ (4)

11.3.3 Calculate the diameter of the circular insert that is found at the centre of the kitchen sink if it is $\frac{1}{4}$ of the width of the kitchen sink basin. (2)

11.3.4 Determine for which purpose the circular insert can be used. (2)

11.3.5 Calculate the area of the basin.
You may use the following.

$$\boldsymbol{Area = length \times width}$$ (2)

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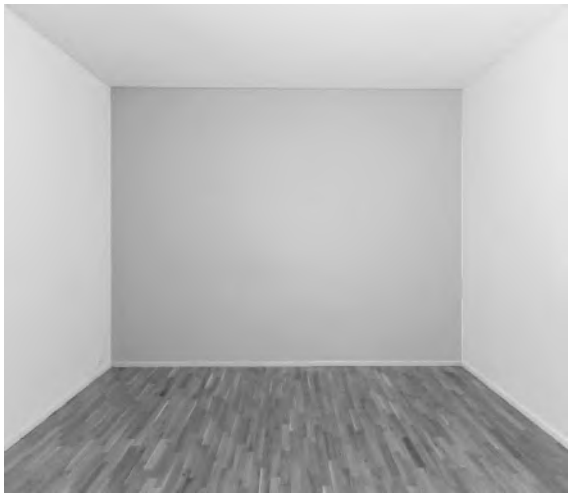
11.4 Mrs Msomi buys small cylindrical water containers from Richbay Chemiacals and sell them to his neighbors. He stores them in a storeroom.

Cylindrical water container	Storeroom
	
Dimension: ***Diameter: 0,75m*** ***Height: 1,0 m***	***Dimensions:*** ***Length: 10,5 m*** ***Width: 6,5 m*** ***Height: 3,2 m***

Use the information above to answer the questions that follow.

11.4.1 Determine the radius of water container (2)

11.4.2 Calculate the perimeter base of the container
You may use the formula:
$\boldsymbol{P = 2 \times 3,142 \times radius}$ (2)

11.4.3 Determine the number of water containers that will fit along the length of the storeroom if the diameter of is placed along the length of the storeroom. (3)

11.4.4 Determine the number of water containers that will fit along the width of the storeroom (2)

11.4.5 Determine the number of containers that will fit on the floor of the storeroom. (2)

11.4.6 Determine the total number of containers that will fit in the storeroom (4)

11.4.7 Mrs Msomi claim that the height occupied by containers is more than 90% of the storeroom height. Verify using calculations if the statement is correct (4)

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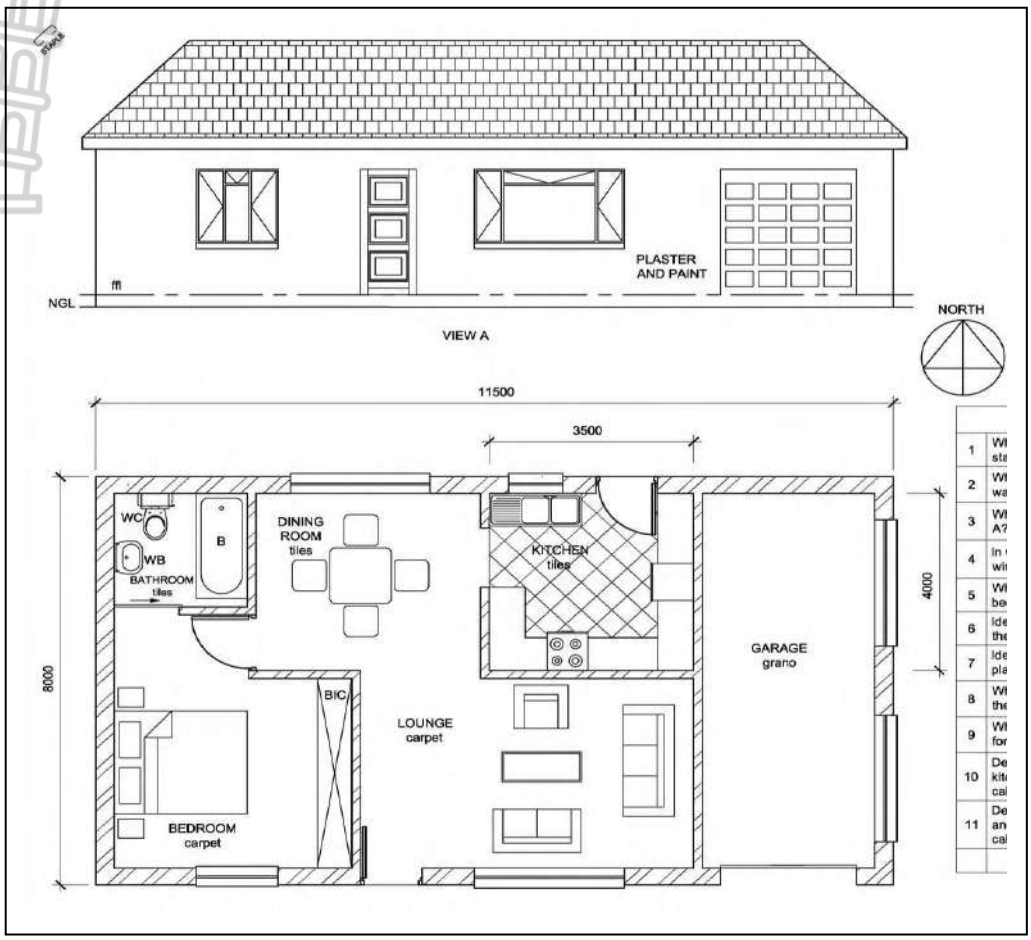
QUESTION 12

12.1 Below is the picture of the house that Mr Mbhele wishes to build for his family.



[www.houseplans@vukani.co.za]

Study the diagram and use the information above to answer the following questions.

12.1.1 Define the term *floor plan*. (2)

12.1.2 Identify the side labelled **view A.** (2)

12.1.3 Describe the position of the dining room in relation to the bathroom. (2)

12.1.4 The builder stated that there is one design error in the bathroom. Identify the design error. (2)

12.1.5 Determine the number of windows shown on the floor plan. (2)

12.1.6 State the direction in which the kitchen door opens. (2)

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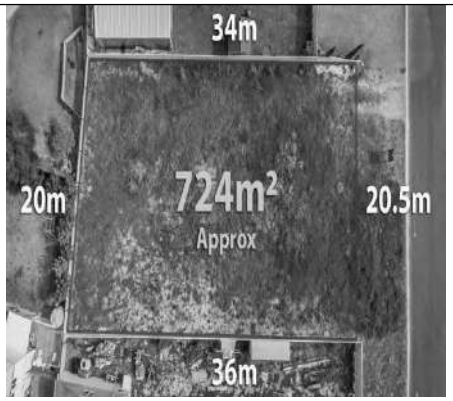
12.1.7 Determine the length and width of the house in meters. (3)

12.1.8 Calculate the area of the house in m^2.
You may use the following formula.

$$\boldsymbol{Area = length \times width}$$ (2)

12.2 Mr Mbhele wants to buy a piece of land to build his house, as illustrated on the plan above. He received two land options to choose from.

Figure 1: Picture of the two land option

LAND OPTION A	LAND OPTION B
	

[Source//:www.pinterestideas.co.za]

Use **FIGURE 1** and the information above to answer the following questions.

12.2.1 Calculate the area of the land in option **A** to be occupied by the house.
You may use the following formula (2)
$\boldsymbol{Area = length \times width}$

12.2.2 Mr Mbhele claims that if he buys the land in option B, his house will cover more than 80% of the land's area. Determine if his claim is correct.
(4)

12.2.3 Advise Mr Mbhele on which piece of land to purchase and give a reason for your answer. (3)

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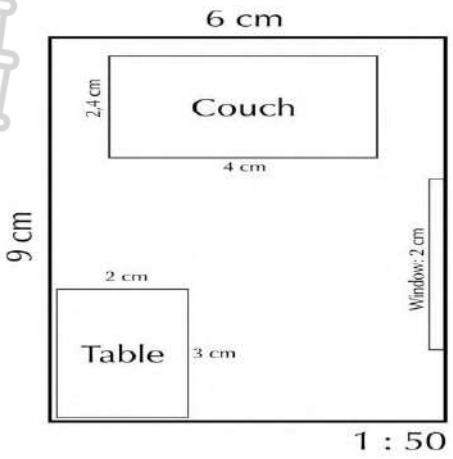
12.3 The plan below shows the layout of a rectangular sitting room.

FIGURE 2: Layout of a sitting room.



[source//:www.google.co.za]

Use **FIGURE 2** and the information above to answer the following questions.

12.3.1 Name the type of layout plan illustrated above. (2)

12.3.2 Calculate the total length of the room. (2)

12.3.3 List **ONE** advantage of using a number scale. (2)

12.3.4 Use the scale to determine the actual length of the window in m^2. (3)

12.4 A Junior Operations assistant at a Mini Mall in Durban is working with the manager to plan the opening of a new tenant in an empty store. The mall has three floors.

Use **ANNEXURE A** and the above information to answer the following questions.

12.4.1 Determine how many escalators are found on the first floor. (2)

12.4.2 A shopper is on the second floor near the opening. Determine which floor they must go to if they want to reach kitchen 1? (2)

12.4.3 Describe the shortest route from the West Exit 3 & 4 to the food court seating area, using escalators only. (4)

12.4.4 The total height of the Food Court is 3,6m, and the Ground Floor is 5m. Determine how much higher the Ground Floor is than the Food Court. (2)

12.4.5 A person walks at 1.2m/s. The distance from the Main Lobby to South Exits 1 and 2 is 60m. Determine how long it will take them to exit, in seconds. (4)

12.4.6 Determine the probability that a person randomly selects a West exit when leaving. Leave your answer as a decimal. (3)

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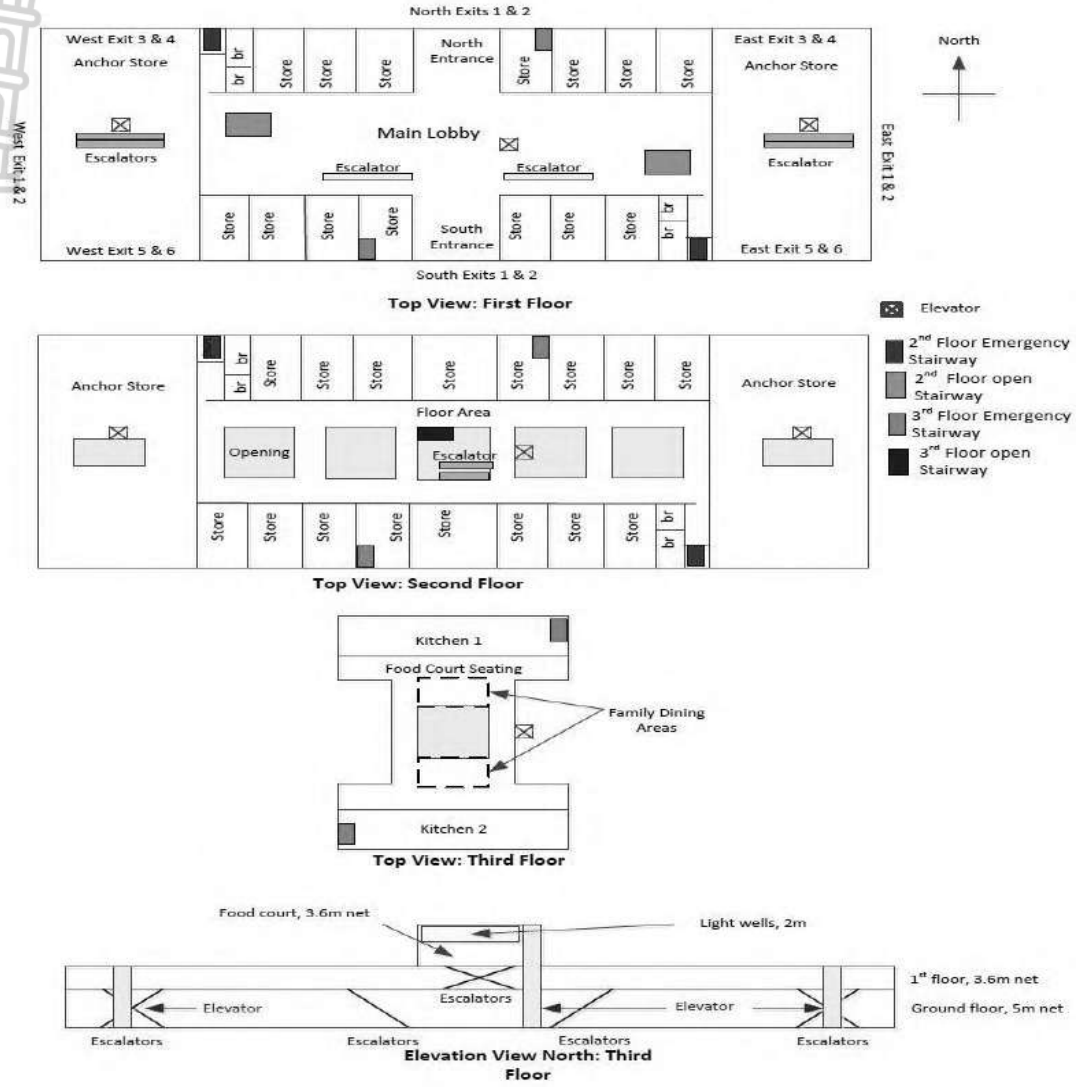
ANNEXURE A QUESTION 12.4

FLOOR PLAN OF A MINI MALL



[52]

QUESTION 13

13.1. Jacob lives in Pietermaritzburg and he is visiting his friend Peter who lives in Greytown. Study the map on **ANNEXURE A** to answer the questions that follow.

13.1.1 Identify the type of scale shown on the map. (2)

13.1.2. Identify the first town that is on the left of Hlabisa. (2)

13.1.3. Measure the straight distance between Pietermaritzburg and Greytown in cm. (2)

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13.1.4. Peter claims that the distance between Pietermaritzburg and Greytown is 70 km. Show by calculations using the scale of the map whether the claim is correct. (3)

13.1.5. Mention ONE advantage of the scale that is shown on this map. (2)

13.1.6. Identify the number of towns that are shown on this map. (2)

13.1.7. Express as a decimal, rounded to THREE decimal places, the probability of selecting a town on this map that starts with letter H. (4)

13.1.8. Convert 40 km to m. (2)

13.1.9. Name all the towns that are found along the coast line. (4)

13.1.10. Identify the ocean that is found on the right - hand side of the map. (2)

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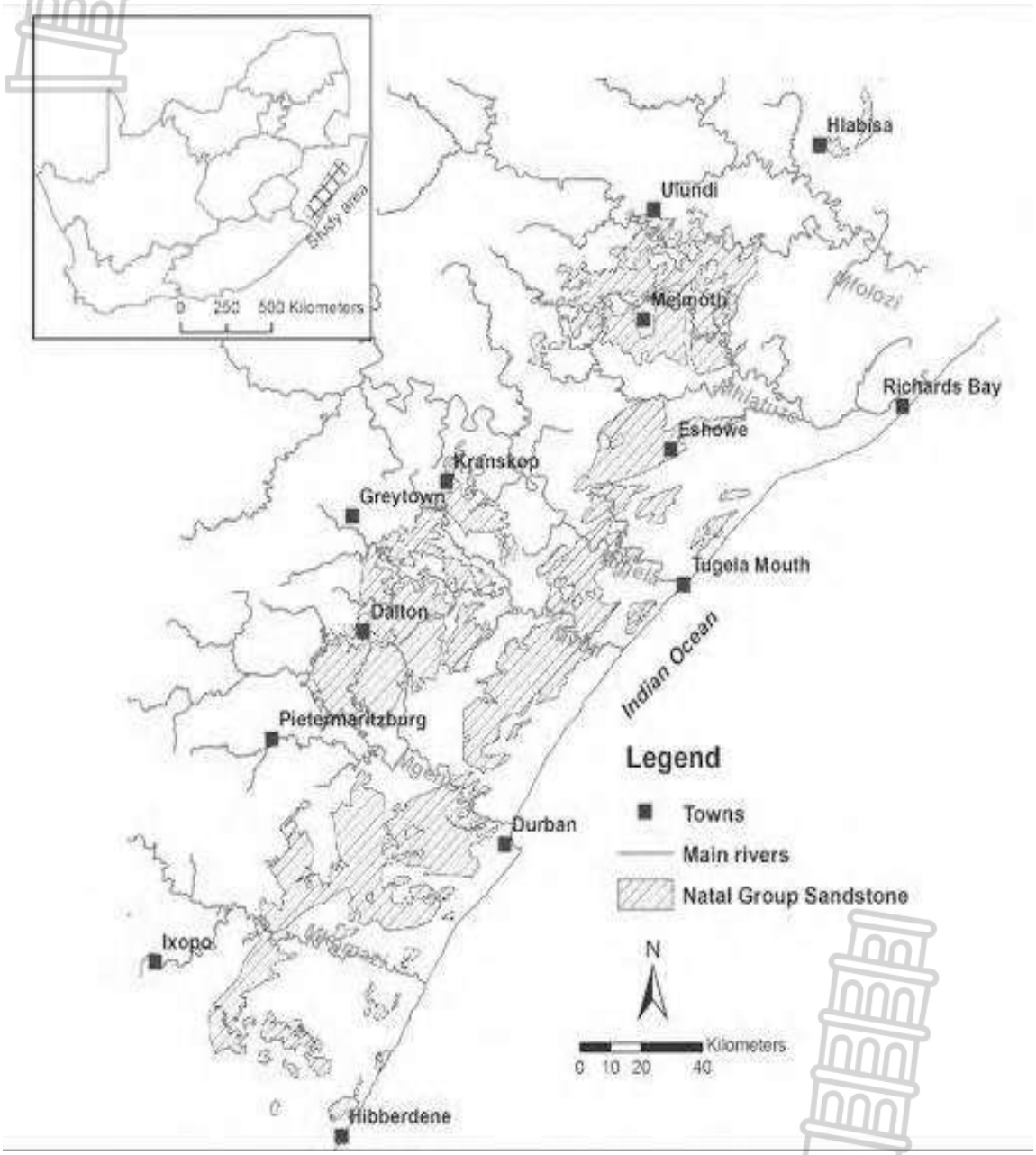
ANNEXURE A QUESTION 13.1



13.2 Zimele is planning a 5 -day trip from Johannesburg to Cape Town by car for his family of three, all adults. She needs to budget for petrol and accommodation

Study the map on **ANNEXURE C** and answer the questions that follow.

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13.2.1. Identify the type of scale shown on this map. (2)

13.2.2. Explain what the scale 1cm = 100 km means. (2)

13.2.3. Determine the number and names of countries located within South Africa but not part of it. (3)

13.2.4. Identify the ocean (s) that are found on this map. (2)

13.2.5 The coastline is the line where land meets the ocean. Identify the towns that are situated along the coastline on this map. (4)

13.2.6. Measure the distance as the crow flies (straight line) from Johannesburg to Port Elizabeth in mm. (2)

13.2.7. Calculate the actual distance in km from Johannesburg to Cape Town using the given scale. (4)

13.2.8. Calculate the total number of km for the return trip. (3)

13.2.9. The car consumes 8.1 l of petrol per 100 km. Determine the number of litres that will be needed for the return trip (2)

13.2.1 Use the number of litres calculated in 13.1.9 to calculate the total cost if one litre of petrol costs R 22.84. (2)

13.2.11. Explain what happens to the scale that is on this map when the map is resized. (2)

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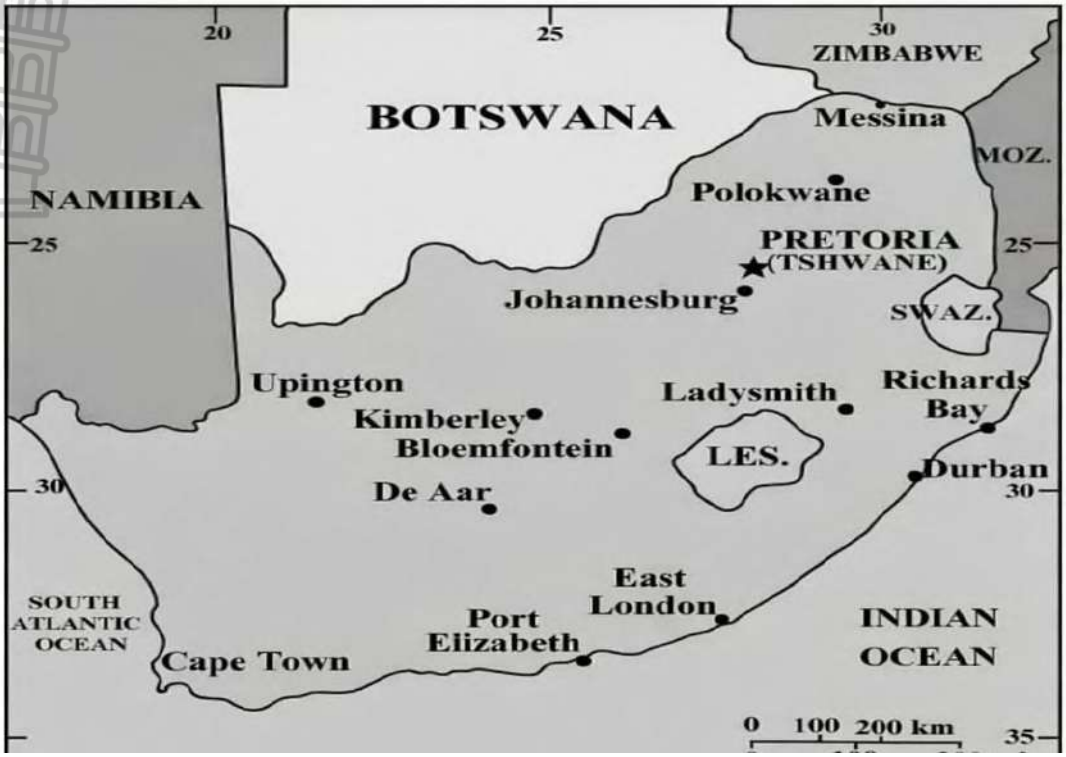
ANNEXURE C **QUESTION 13.2.**



QUESTION 14

14.1 The floor plan on **ANNEXURE B** shows Sipho's house. Carefully study the floor plan and answer the questions that follow

14.1.1. Explain the meaning of the term *floor plan.* (2)

14.1.2. Determine the number of bedrooms that are shown on the floor plan. (2)

14.1.3. Identify the difference between bedroom 2 and bedroom 3. (2)

14.1.4. Define the meaning of the given scale in words. (2)

14.1.5. Measure the length of the house in mm. (2)

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14.1.6. Calculate the actual length of the house in metres using the given scale. (4)

14.1.7 Determine the number of windows that are shown on the map. (2)

14.1.8. Describe the position of the car relative to the living room. (2)

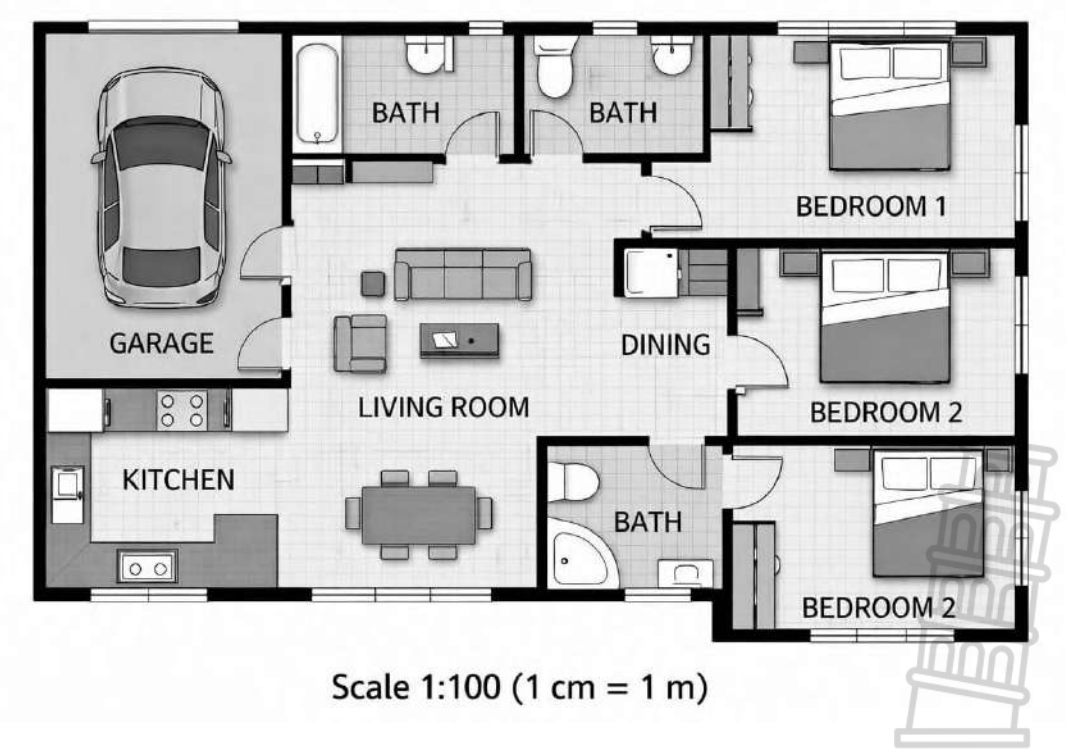
14.1.9. Identify the room (s) that will receive sunlight in the afternoon. (2)

14.1.10 Discuss ONE disadvantage of using the ratio scale. (2)

14.1.11 Describe ONE disadvantage of having an open space shown on the floor plan. (2)

14.1.12 Mention ONE error shown on the floor plan. (2)

ANNEXURE B QUESTION 14.1



14.2. The school layout plan is shown in **ANNEXURE D**. Study the layout plan and answer the questions that follow.

14.2.1. Define the term *Layout plan*. (2)

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14.2.2.	Give ONE importance of the scale on the layout plan.	(2)
14.2.3.	Identify the type of scale shown on the plan.	(2)
14.2.4.	Explain the given scale.	(2)
14.2.5	Describe the shortest route a learner can follow from grade 8 to grade 11	(4)
14.2.6.	The actual length of the school is 26.7 m. Use the given scale to calculate the plan length in mm.	(4)
14.2.7.	Describe the position of the teacher's office relative to the restroom and the nurse's office.	(2)
14.2.8.	How can you identify the double door on this layout plan?	(2)
14.2.9.	Provide ONE advantage of a ratio scale.	(2)
14.2.10	Determine the percentage probability of getting a double door.	(4)

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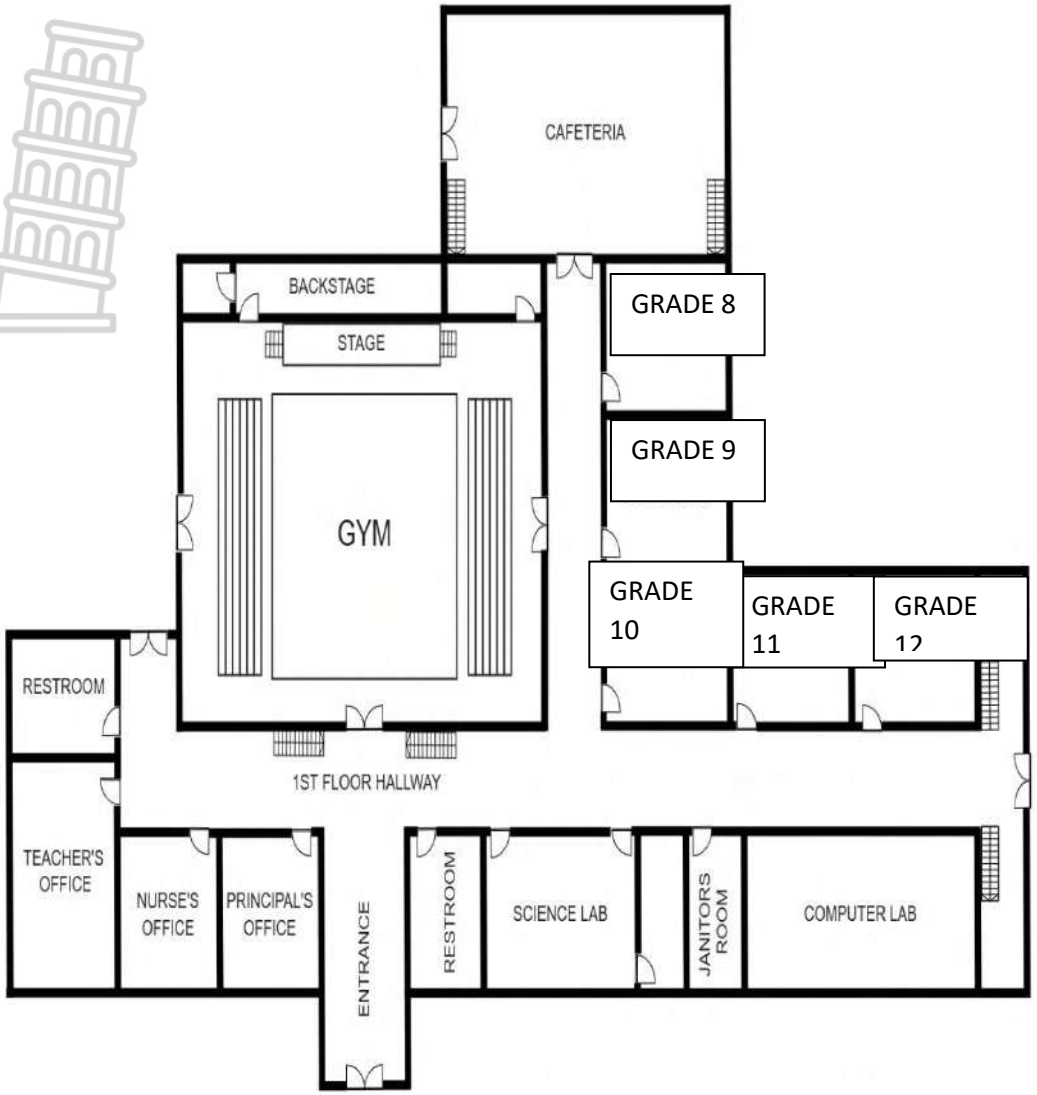
ANNEXURE D
QUESTION 14.2.



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QUESTION 15

15.1 Henry a grade 10 learner at Sethembe High conducted a survey on how learners travel to school using different modes of transport.

TABLE 1 below shows the records of the number of learners with different mode transport.

TABLE 1 NUMBER OF LEARNERS PER MODE OF TRANSPORT

MODE OF TRANSPORT	NUMBER OF LEARNERS
Walking	8
Taxi	12
Bus	5
Private Car	10
Bicycle	5

Use the table above to answer the questions that follow.

15.1.1 Name ONE tool that Henry used to collect the data above. (2)

15.1.2 Calculate the total number of learners that took part in the surveyed. (2)

15.1.3 Identify the Modal type of transport used by Sethembe High School learners. (2)

15.1.4 Write TWO questions that Henry can include on this survey. (2)

15.1.4 Determine the probability that fewer than six learners use mode of transport, and write your result as a percentage. (4)

15.1.5 Differentiate between *discrete* data and *continuous* data. (4)

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15.2 A group of learners in grade 10B were asked about their favourite sport. The data collected is given as follows:

Learners	**sport**
Learner no.1	Soccer
Learner no.2	Netball
Learner no.3	Soccer
Learner no.4	Rugby
Learner no.5	Cricket
Learner no.6	Soccer
Learner no.7	Netball
Learner no.8	Rugby
Learner no.9	Soccer
Learner no.10	Cricket

Use information given to answer the questions that follow:

15.2.1 Construct a frequency table for the data. (4)

15.2.2 Name the least popular sports from the survey of the learners. (2)

15.2.3 Write down the ratio of Netball players to the number of Soccer players. (2)

15.2.4 Classify the data as numerical or categorical, explain your answer. (3)

[27]

15.3. The Audi Centre Centurion wants to introduce the new 2025 Audi SQ5, but they are unsure which colours their customers would like. The supplier has 5 options that they can choose from (white, red, black, silver, and grey), but Audi Centre can only afford to buy only 3 different colours. To help them decide on the colours to stock, their salesman suggested they contact some of their customers to conduct a survey to decide on the 3 colours to buy.

FIGURE A: PICTURE OF THE AUDI SQ5.

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www.autotrader.co.za

Use the information above to answer the questions that follow.

15.3.1 Name the data collection instrument that can be used to collect this information.

15.3.2 Give ONE advantage of the instrument mentioned above.

15.4. The results collected were recorded in the table below.

Red	White	White	Red	Grey	White	White	Silver	White	Black
Black	White	Grey	White	Black	Grey	White	Grey	White	Grey
Red	Grey	Black	Red	Grey	Silver	Black	Silver	Grey	Silver
Grey	Grey	White	Silver	Silver	Grey	White	White	Silver	White

Use the table above to answer the questions that follow:

1.2.1 Is the above data numerical or categorical? (2)

1.2.2 If you were to advise Audi Centre, which three colours would you suggest they buy? Give a reason for your answer. (3)

1.2.3 Redraw and complete the tally and frequency table to represent the data above.

Colour of the car	**Tally**	**Frequency**
Red	IIII	4
White	A	B
Silver	C	7
Black	D	5
Grey	E	11
Total		**40**

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Question 16

16.1 Learners were asked to investigate the different colours of cars driven by educators at Glenns High School. The aim is to practice skills of developing questions, collecting data, organizing, and classifying information.

16.1.1 Develop at least TWO survey questions that you could ask educators to collect information about the colours of their cars. (4)

16.2 Jennifer collected data and recorded her results as follows:

- 5 cars white
- 3 cars black
- 4 cars silver
- 2 cars blue
- 1 car red

Use the information given to answer the questions that follow.

16.2.1 Construct using the colour of the cars, the frequency table to be used to organize the data above. (4)

16.2.2 Use ANSWER SHEET 1 to draw a bar graph to represent the information clearly. (5)

16.2.3 Classify the car colours into two categories: neutral colours and bright colours. (4)

16.2.4 Calculate the percentage of the cars that falls into the neutral colours category. (4)

16.2.5 Discuss the findings, highlighting the implications they present regarding educators' choices of car colours. (4)

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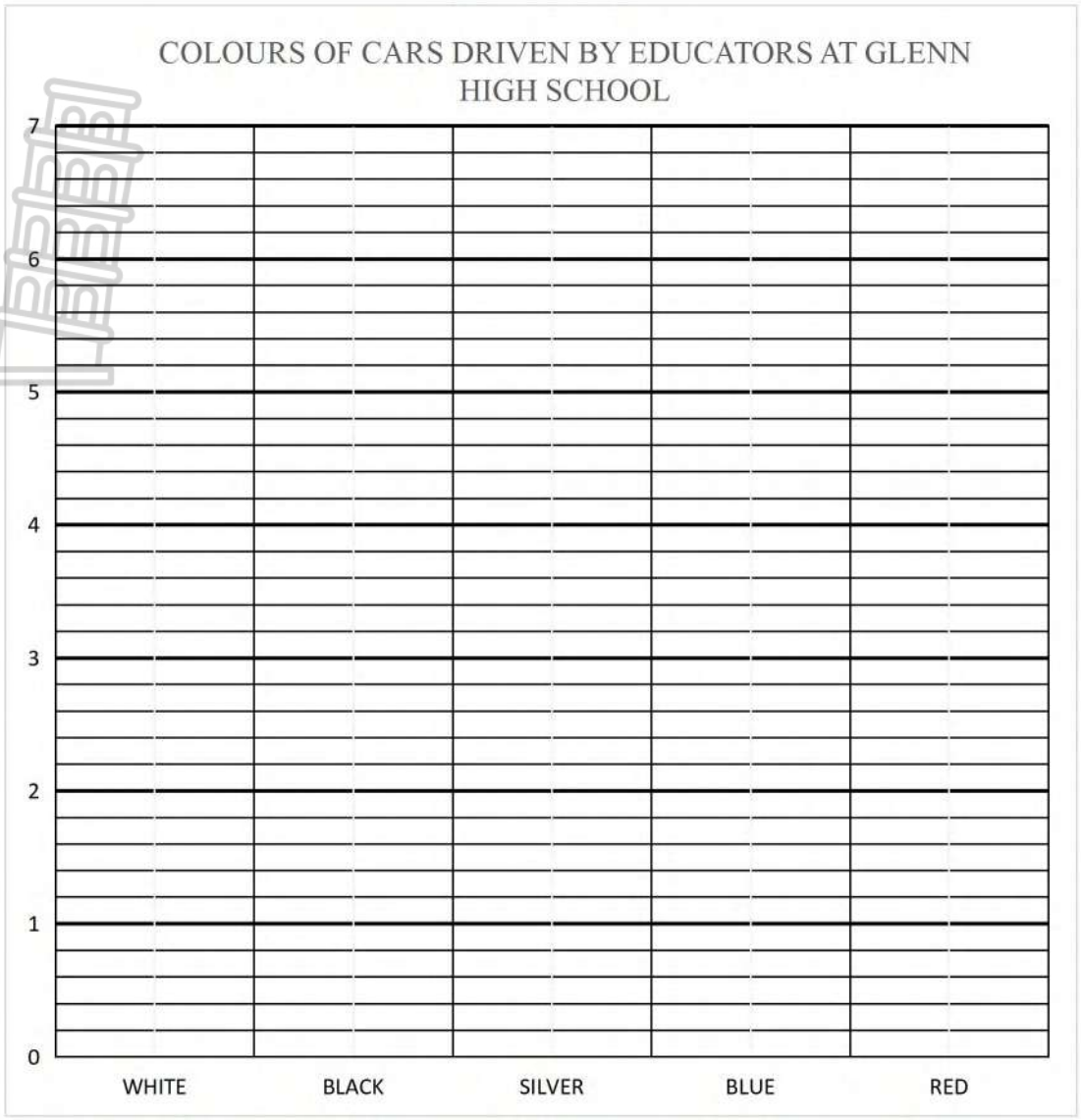
ANSWERSHEET 1



[25]

16.3

Thandi went shopping at a supermarket that has been in existence for over a century. She purchased the following items:

- 2 loaves of white bread at R15,50 each
- 3 packets of chips at R12,75 each
- 1 box of cereal at R48,50

The supermarket is running a promotion:

- Customers get **10% discount** on the total bill if they spend more than R100.

Use the information above to answer the questions that follow.

16.3.1 Determine the total number of items purchased by Thandi. (2)

16.3.2 Indicate whether R48,50 per box is a **rate** or a **ratio**. (2)

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16.3.3 How many years are there in a century? (2)

16.3.4 State whether the type of groceries Thandi bought is **numerical data** or **categorical data**. (2)

16.3.5 Find the total cost of buying 3 packets of chips. (2)

16.3.6 State the percentage discount a customer receives when buying items that cost more than R100. (2)

16.3.7 Round off the total bill of R117,75 to the nearest ten rands. (2)

16.3.8 State whether the number of items is **discrete** or **continuous**. (2)

16.3.9 Express the cost of one loaf of bread as a fraction of the cost of one packet of chips. (2)

[18]

QUESTION 17

17 Jordan High wants to launch an environmental awareness campaign. The Local municipality wants learner's help to improve waste management. Jordan High wants to launch an environmental awareness campaign.

Use the information above to answer the questions that

17.1 Identify TWO tools learners can use to gather information from the community. (4)

17.2 Suggest THREE examples of renewable resources that can be used in community. (3)

17.3 Classify TWO types of waste produced at Jordan High as either recyclable or non-recyclable. (4)

17.4 Differentiate between qualitative and quantitative data collected in a school survey. (4)

17.5 Propose TWO practical strategies in a plan to help Jordan High reduce plastic waste. (4)

17.6 Formulate a plan with TWO steps to improve water conservation at Jordan High. (4)

17.7 Develop a poster with clear slogans to inspire recycling among Jordan High learners. (2)

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[27]

QUESTION 18

18.1 North Christian Academy is planning a movie outing for Grade 10 learners. A mathematical Literacy educator, Miss Dandala is trying to find out whether the learners will be able to pay for the outing. She recorded how much money they spent on entertainment (movies, games, concerts, etc.) in one month.

The amounts (in Rands) are shown below:

120	250	300	150	200	400	350	180	220	280	250	260

Use the above data to answer the following questions.

18.1.1 Arrange the amounts recorded in ascending order. (2)

18.1.2 Calculate the mean (average) spending. (3)

18.1.3 Determine the median spending recorded. (2)

18.1.4 Determine the modal spending amount in the data set (2)

18.1.5 Calculate the range of the spending data. (2)

18.2 The spending amounts were collected and grouped into ranges to make the data easier to analyze. The information was then organized into a tally table to show the frequency of spending within each range.

Use the information above to answer the question that follow

18.2.1 **TABLE 1: SHOWING THE FREQUENCY OF SPENDING WITHIN EACH RANGE**.

Range of amount (R)	**Frequency**	**Tally**
R100–R199	3	**(a)**
R200–R299	**6**	**(b)**
R300–R399	**(c)**	II
R400–R499	1	**(d)**

(4)

Refer to Table 1 and complete the tally table to show the frequency of spending within each range

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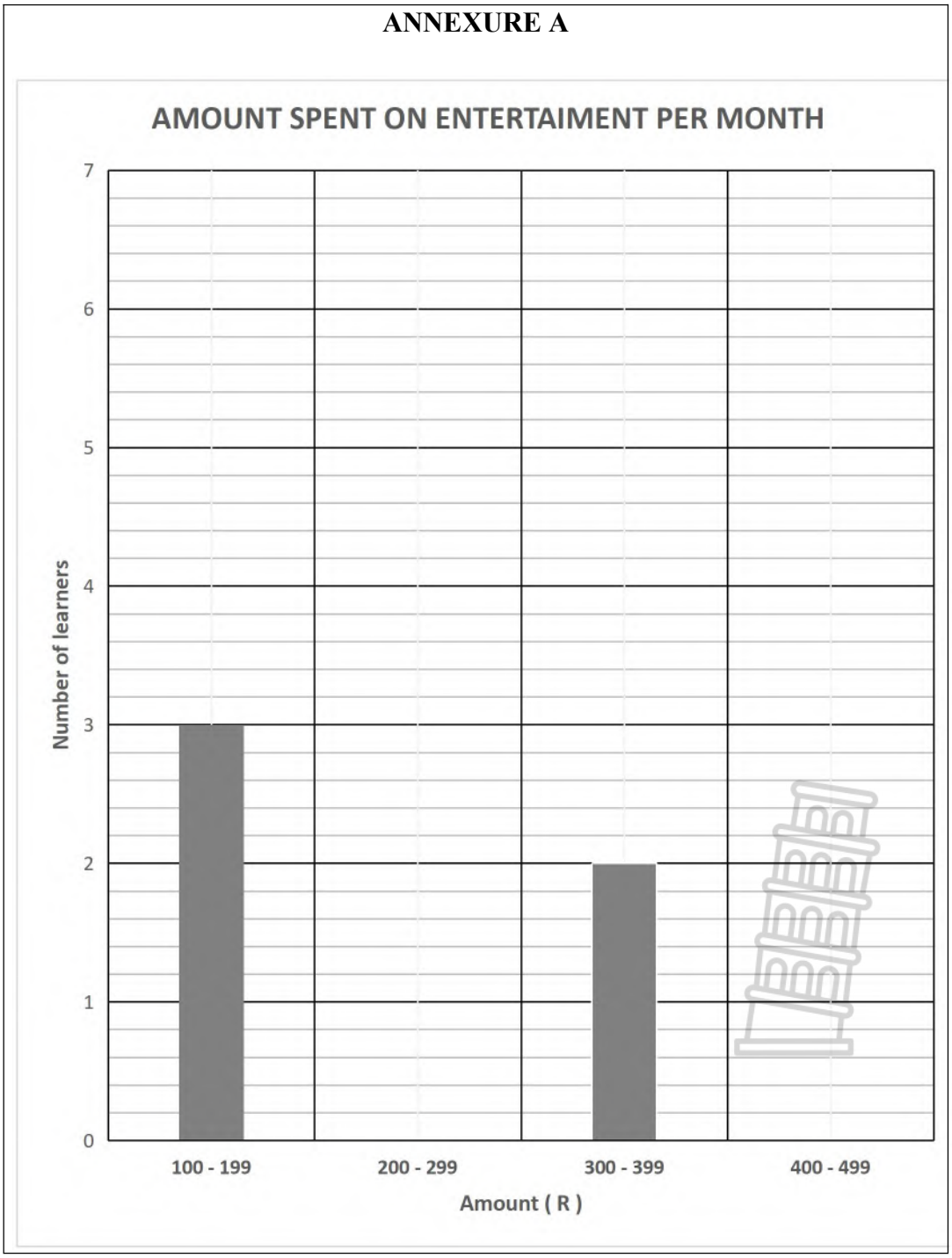
18.2.2 Write down the highest spending range from the table. (2)

18.2.3 Refer to the frequency table above and complete the bar graph on ANNEXURE A (2)

18.2.4 If the school wants to plan a movie outing costing R250 per learner. Use the measures of central tendency to determine whether the cost per school will be affordable for most of the learners. (4)

18.2.5 Suggest ONE way learners could reduce entertainment costs while still enjoying activities (2)

ANNEXURE A



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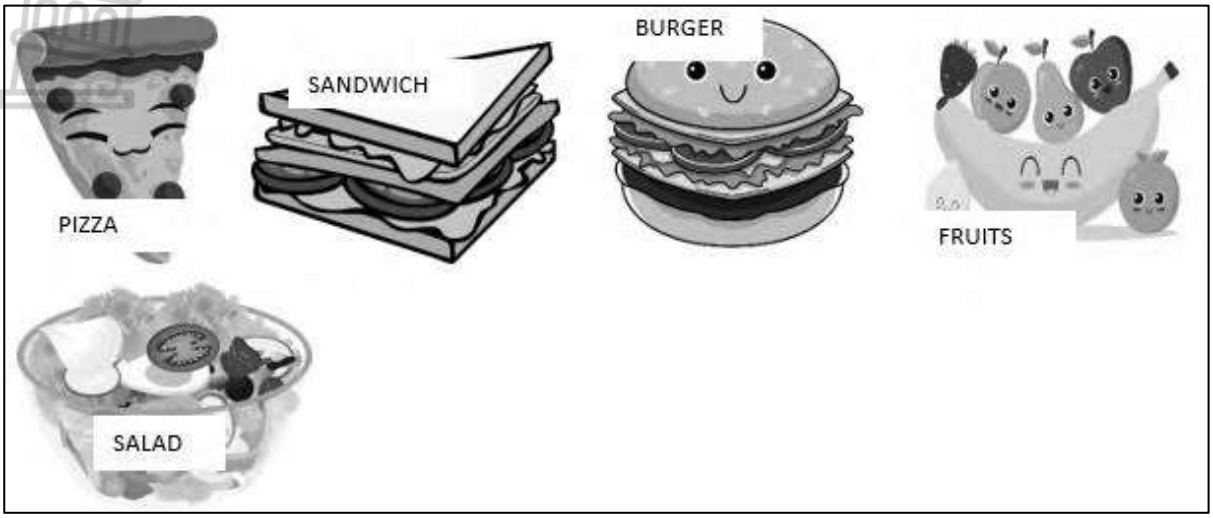
[25]

QUESTION 19

19 The Global International School cafeteria conducted a survey of 60 learners to determine their preferred lunch options.

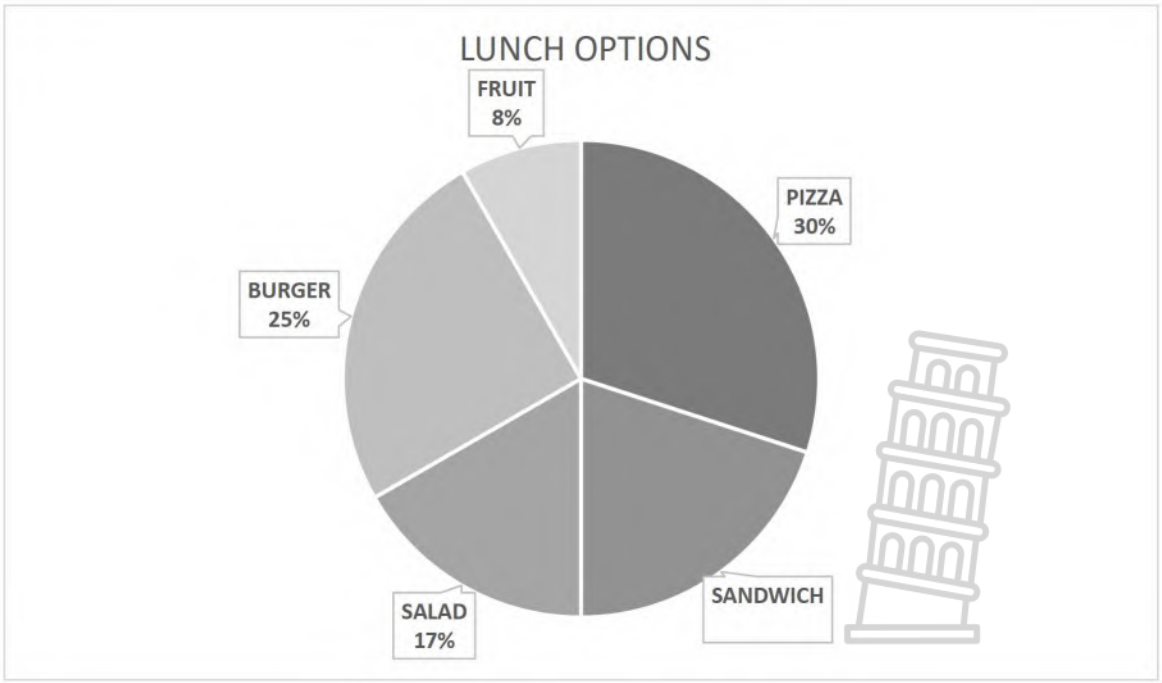
LUNCH PREFERENCES



[Source: www.123rf.com]

The pie chart below shows the percentage of learners in each category.

PIE CHART SHOWING PREFERENCES FOR LUNCH OPTIONS



Use the information above to answer the following questions

19.1 Calculate the percentage of learners who prefer sandwiches as their lunch option. (2)

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19.2 Calculate the number of learners on each food option. (10)

19.3 Complete a frequency and tally table showing each food option and the number of learners who chose it.

TALLY TABLE SHOWING FOOD OPTIONS.

Lunch option	Frequency	Tally
Burger		
Salad		
Sandwich		
Fruit		
Pizza		

(10)

19.4 Calculate the range of learners' food choices from the given data. (2)

19.5 Determine the difference in preference between sandwiches and burgers. (3)

19.6 If a learner selects a lunch option at random, calculate the probability (as a decimal fraction) of choosing fruit as the lunch option (3)

19.7 Identify the most popular food option and explain why it might be preferred. (2)

19.8 Write the least popular food option and give ONE possible reason for your answer. (2)

19.9 Identify and promote the healthier eating option in the cafeteria (4)

[36]

QUESTION 20

20.1 At Ubuntu Secondary School, learners participated in an inter-house athletics event. The Mathematics Literacy teacher recorded the number of laps completed by 9 learners during a 10-minute fitness challenge. The data is shown below.

TABLE: SHOWING THE SCORE OF EACH LEARNER

NAME	**Sipho**	**Thandi**	**Anele**	**Nomsa**	**Jabu**	**Lerato**	**Sizwe**	**Ayanda**	**Bongani**
SCORE	5	8	7	6	5	9	6	8	10

Use the information above to answer the questions that follow

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20.1.1 Construct a frequency table for the data above (4)

20.1.2 Identify the modal number of laps completed (3)

20.1.2 Calculate the mean number of laps completed (3)

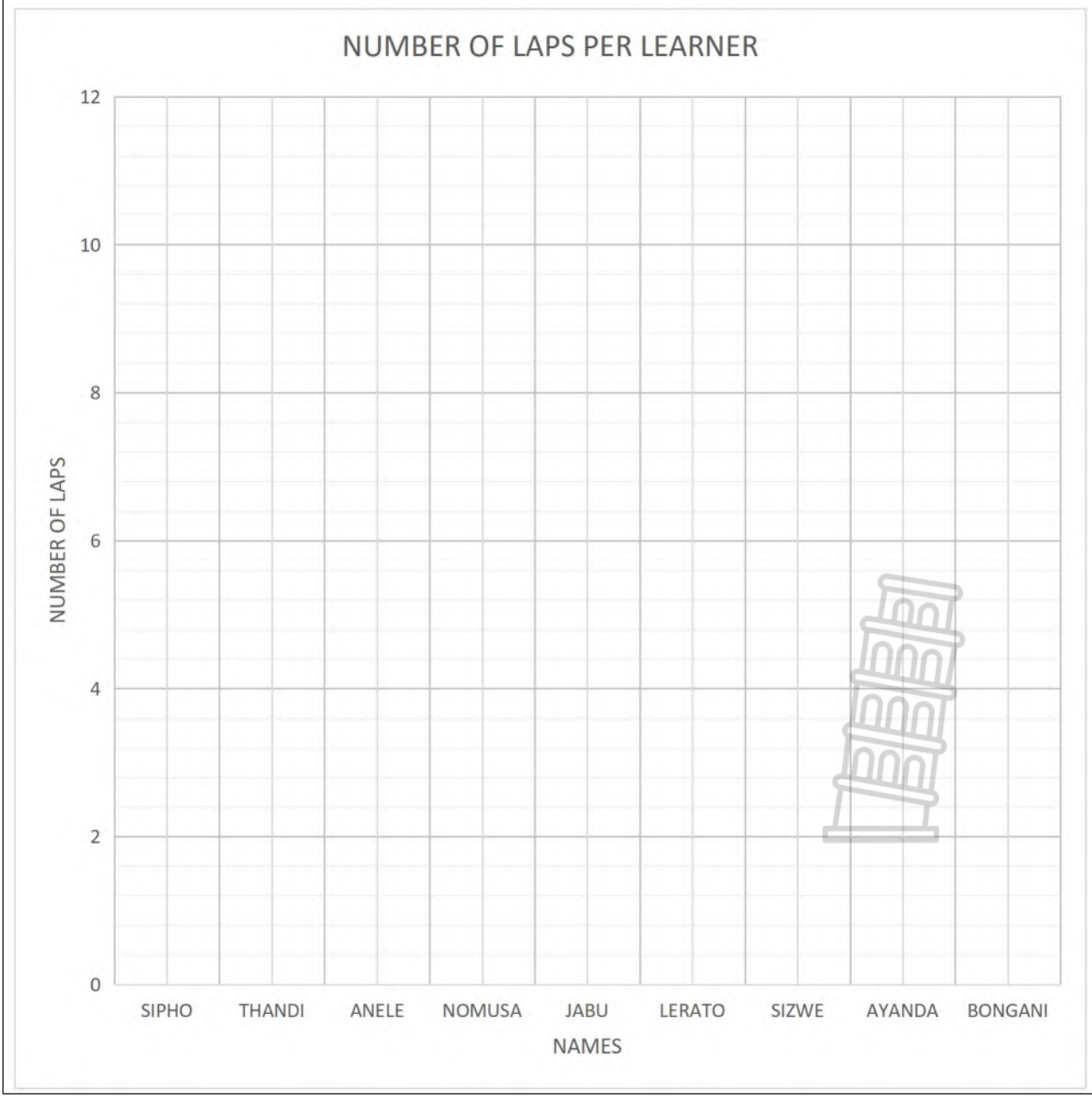
20.1.3 Determine the median number of laps completed (3)

20.1.4 Calculate the range of the data. (3)

20.1.5 Classify the data as discrete or continuous, and give a reason. (4)

20.1.6 Use Annexure B to complete a bar graph that represents the data from the frequency table. (9)

ANNEXURE B



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[29]

20.2.

Mr Maharaj recorded the prices of 2-litre bottles of milk that he bought over a period of seven weeks. During this time, he purchased a total number of 20 different items, and 7 of them were milk. The prices of milk are as follows:

3 095 cents	2 500 cents	3 115 cents	3 090 cents	3 255 cents	3 240 cents	**A**

Use the information above to answer the questions below.

20.2.1 The mean price of a 2 litre bottle of milk is 3 077,142857cents. Calculate the value of **A**. (3)

20.2.2 Determine the **mode** of the prices, in the data above. (2)

20.2.3 State the highest price of a 2-litre bottle of milk in rands. (3)

20.2.4 Calculate the range of the prices in cents. (3)

20.2.5 Find the median price of a 2-litre bottle of milk in cents. (3)

20.2.6 Study the data and decide whether the **mean** or the **median** is the better measure to use to summarise the data.
Give a reason for your choice. (3)

20.2.7 Give ONE reason why the recorded milk prices are different. (2)

20.2.8 Write the number of 2-litre bottles of milk in the sample as a percentage of the total number of items bought by Mr Maharaj. (4)

[23]

20.3.

Experts say that a Grade 10 learner should read about 250 words per minute on average. In Term 1 and Term 2 of 2025, some Grade 10 learners took part in a reading competition where they had to read 1 000 words.
Table 2 below shows the reading times of a group of learners, rounded to the nearest minute.

TABLE 2: TIME TAKEN (in Minutes) TO COMPETE THE READING TEST FOR READING TERM 1 AND TERM 2

	Thuli	Derrick	Zinhle	Bongani	Philani	Mzotho	Xolani	Nonto	Cole
Term 1: Minutes	7	6	8	9	3	10	5	3	6
Term 2: Minutes	5	4	7	6	5	6	4	6	5

Source: scholorwithin.com

Use the information above to answer the questions below.

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20.3.1 Name the learner(s) who took the longest time to read in Term 2. (2)

20.3.2 Calculate the average reading time for Term 1. (3)

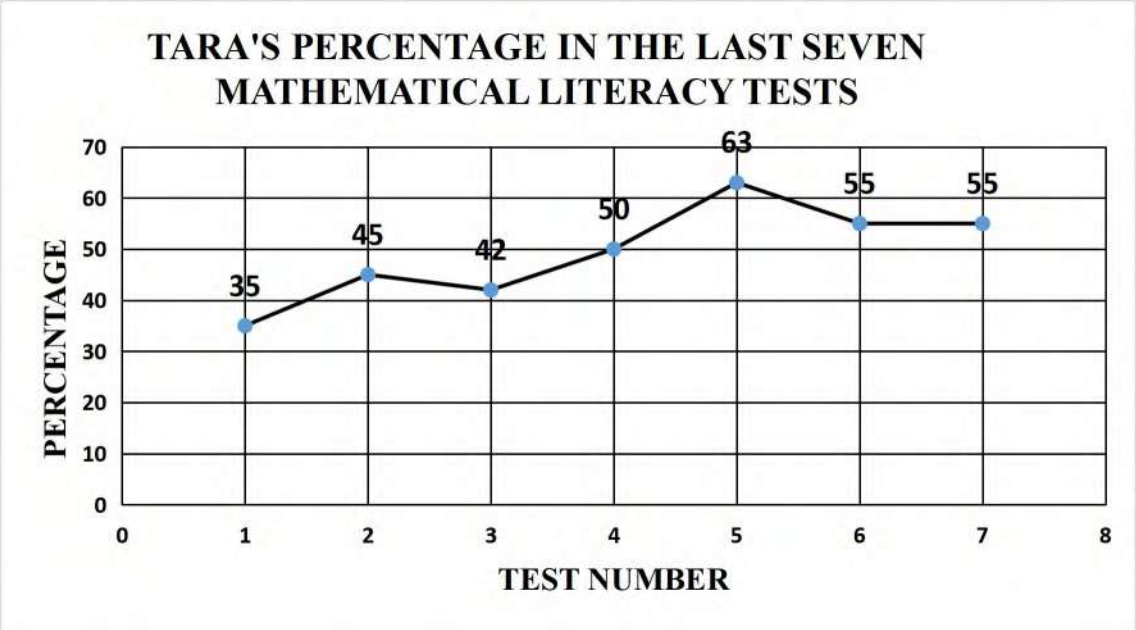
20.3.3 State Xolani's reading rate in Term 1. (3)

20.3.4 Compare Nonto's reading rate in Term 1 with her reading rate in Term 2, and comment on what you notice. (3)

20.3.5 State whether the data above is **discrete** or **continuous**, and explain your answer. (3)

[14]

20.4.2 Tara is a learner in Grade 10 A. She drew a graph to track her performance in Mathematical literacy for the last seven tests.



Study the graph above and answer the questions that follow:

20.4.1 Calculate Tara's average (mean) of the seven tests. (3)

20.4.2 Determine the median mark of the seven tests. (2)

20.4.3 State which measure of central tendency, mean or median, best describes the above data set. (3)

20.4.4 Comment on the trend of Tara's test marks as indicated in the line graph above. (3)

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QUESTION 4 [32]

20. 4 . TABLE 1 below shows the percentages obtained for a mathematical literacy test by learners in grade 10A at Gemini High School.

TABLE 1: TEST PERCENTAGES OF GRADE 10A

35	**40**	**65**	**33**	**55**	**71**	**41**	**25**
88	**20**	**39**	**79**	**92**	**74**	**42**	**75**
75	**57**	**66**	**70**	**82**	**75**	**75**	

Use the table above and answer the questions that follow:

20.4.1 State the number of learners that wrote this test. (2)

20.4.2 Calculate the mean (average) mark for the class. (3)

20.4.3 State the number of learners in the class that obtained a mark that was below the average. (2)

20.4.4 Arrange the test marks in ascending order. (2)

20.4.5 Determine the median mark of the class. (2)

20.4.6 Identify the mode of the above data set. (2)

20.4.7 In your own words, explain why the mode is not a good measure for the average of this class. (2)

20.4.8 The median is higher than the mean. Explain what caused the mean to be lower. (2)

20.4.9 Calculate the range of the marks. (2)

20.4.10 Comment on the performance of this class by stating whether they are a weak or strong class. Give a reason to support your answer. (2)

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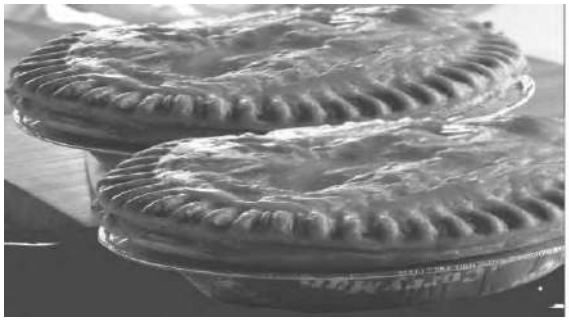
20.5 The owner of the tuckshop at Greenbury Secondary School used a calendar to record the number of pies sold each school day during February 2025.

PICTURE OF PIES



SOURCE: *https://www.facebook.com*

Study the data below and answer the questions that follow:

FEBRUARY 2025						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3 **55 PIES**	4 **40 PIES**	5 **45 PIES**	6 **32 PIES**	7 **40 PIES**	8
9	10 **40 PIES**	11 **46 PIES**	12 **40 PIES**	13 **32 PIES**	14 **84 PIES**	15
16	17 **30 PIES**	18 **28 PIES**	19 **42 PIES**	20 **36 PIES**	21 **35 PIES**	22
23	24 **22 PIES**	25 **50 PIES**	26 **47 PIES**	27 **39 PIES**	28 **46 PIES**	

Adapted from Greenbury School Tuckshop

Use information above and answer the following questions.

20.5.1 Identify the minimum and maximum number of pies sold in February 2025. (2)

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20.5.2 Determine the modal number of pies sold. (2)

20.5.3 Arrange the number of pies sold in ascending order. (2)

20.5.4 State whether the number of pies sold is discrete or continuous data. Provide a reason for your answer. (3)

20.5.5 Define the term *median* according to the given context. (2)

20.5.6 Determine the median number of pies sold in February 2025. (3)

20.5.7 Calculate the range of the number of pies sold. (2)

20.5.8 Calculate the total number of pies sold in February 2025. (2)

20.5.9 The Principal states that the mean number of pies sold is 20. Verify, showing ALL calculations whether his statement is valid. (3)

QUESTION 21

21.1

Sizwe works part-time at a car wash. He earns a basic salary of R1 200 per month. In addition to his salary, he earns a commission of R35 for every car he washes.
Below is a list of Sipho's monthly expenses:

- Transport: R450
- Cellphone Data: R150
- Lunch: R400
- Savings: R200

Use the above information to answer the following questions.

21.1.1 Distinguish between a fixed income and a variable income in the above context. (4)

21.1.2 Determine Sizwe's total expenses for the month. (2)

21.1.3 Calculate Sizwe's total income if he washes 22 cars in a month. (2)

21.1.4 Define the term *surplus.* (2)

21.1.5 If Sizwe washes 30 cars in a month, calculate his surplus.
You may use the following formula: (4)
Surplus = Total income – Total Expenses

21.1.6 Sizwe's transport cost increased by 15% due to a petrol price hike. Calculate his new transport expense. (3)

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21.2

21.2.1 Sizwe wants to buy a pair of sneakers worth R1 100. If he maintains a surplus of R275 every month, how many months will it take him to save enough for the sneakers? (2)

21.2.2 Suggest one way Sizwe could increase his income. (2)

21.2.3 Sizwe is offered a new payment structure; he can now choose to earn no basic salary but receive R80 per car washed.
If Sizwe usually washes an average of 25 cars per month, should he choose the new payment structure? Justify your answer with calculations. (4)

Question 22

22.1

Samkelo is working at KNG company as a packer of woodern pallets. Pallets are delivered to different factories with a single flat deck truck. The dimensions of the pallet and truck are given below

Cylindrical paper	**Flat deck delivery truck**
	
Each Side = 1,2 m ***Thickness = 15 cm***	***Dimensions of the loading part*** ***Length: 8 m*** ***Width: 3 m***

Use the information above to answer the following questions.

22.1.1 Determine the thickness of the pallet in ***m*** (2)

22.2.2 Calculate the volume of the pallet in $\boldsymbol{m^3}$. (2)
You may use the formula:
$\boldsymbol{V = Side^2 \times thickness}$

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22.1.3 Calculate the area of the flat deck truck where pallets are loaded.

You may use the formula: (2)

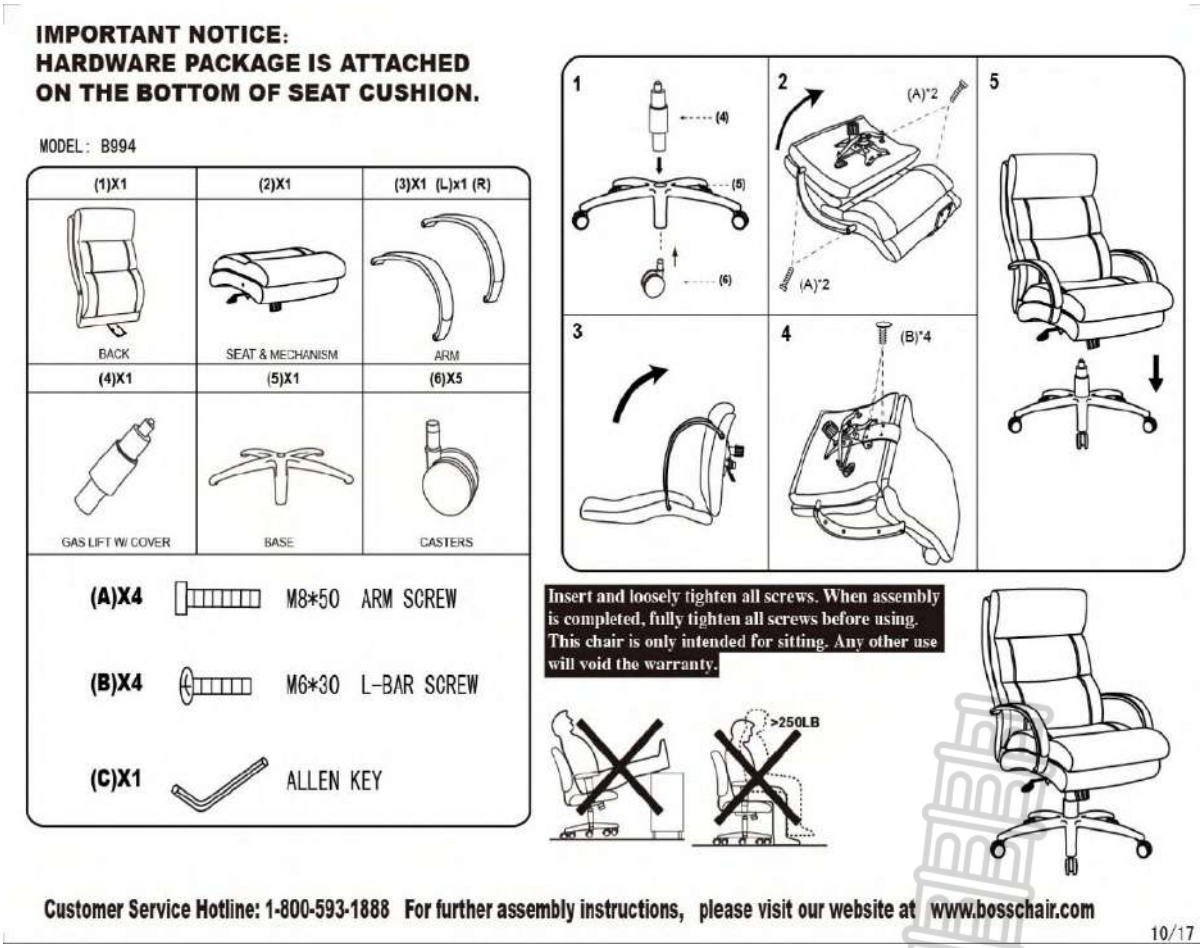
$$A = l \times w$$

22.1.4 Determine how many pallets that can fit at the base of the truck. (5)

22.1.5 Traffic officer told Samkelo that the required maximum height of pallets in the truck must not exceed 2, 8 meters. Samkelo state that, he needs to load 18 layers of pallets to comply with the requirement. Use necessary calculations to verify if Samkelo's statement is correct. (4)

22.1.6 Hence determine the total number of pallets the delivery truck can load. (2)

22.2



Study the diagram above and answer the questions that follow.

22.2.1 Name the item being assembled (2)

22.2.2 Determine the total number of screws needed to assembly the item (2)

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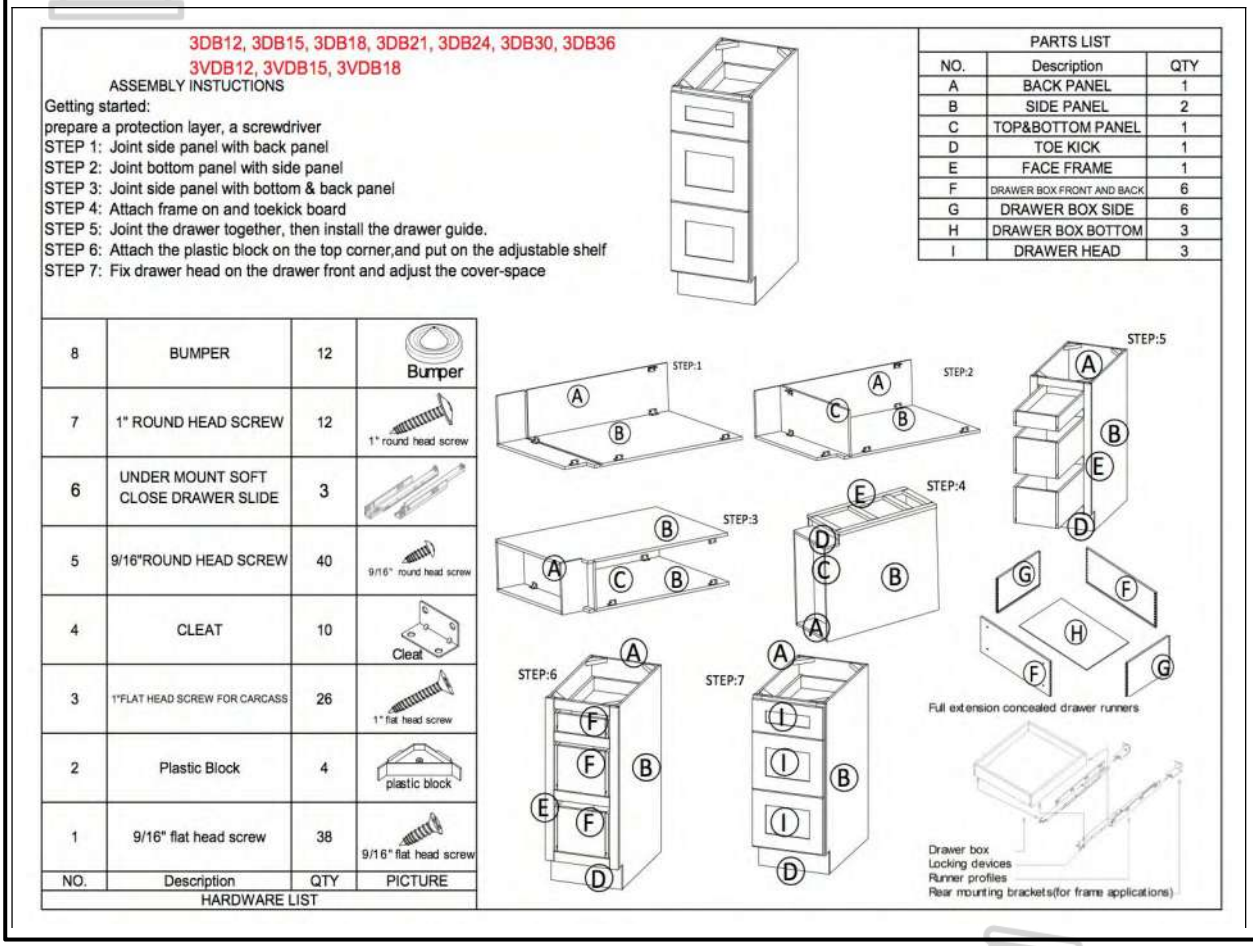
22.2.3 Identify the tool used tighten the screws. (2)

22.2.4 Give two possible cautions while using the chair (2)

[25]

22.3 Mrs Msomi bought a cupboard to keep important files of her customers, and she will ask his boy to assembly it.



Use the diagram and instructions above to answer the questions that follow.

22.3.1 Determine the number of drawers the cupboard has (2)

22.3.2 Give two reasons why it is important to use the plastic blocks (2)

22.3.3 Determine the total number of part list needed (2)

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ELABORATION OF THE CONTENT FOR GRADE 10 (CAPS)

Taxonomy levels according to topics

The intention of this section is to provide greater clarity about the types of questions, calculations, applications and/or contexts that fall into the different levels of the Mathematical Literacy taxonomy. **It is essential to emphasise that the tables below do not provide a comprehensive or definitive list of all possible questions, calculations and/or tasks associated with the four levels of the taxonomy. They contain examples of a *small selection* of questions, calculations and/or tasks from the different topics in the curriculum that can be associated with the different levels.** These examples are meant to illustrate more clearly the difference between the demands of a question at the different levels of the taxonomy.

TOPIC: FINANCE				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Financial documents	* Read information from different household bills, shopping documents, banking documents and household budgets.	* Understand terminology used in various documents	* Explain and calculate how different values have been determined * Explain how different costs in the bill have been calculated	* Analyse a household bill
Tariff systems	* Read information directly from an electricity bill (e.g. *date; name of account holder; electricity consumption for the month).* * Show how the 'Total Due' on the electricity bill has been calculated by adding together all items listed on the bill.	* Complete a table of values to show the cost of various quantities of electricity consumption. * Use the table of values to construct a graph to represent the cost of electricity consumption.	* Calculate costs using given tariff and/or formulae	* Draw and interpret graphs of different tariff systems * Use a table of values and a graph to verify with calculations the cost payable by a user with particular needs.
Income, expenditure, profit/loss, incomeexpenditure statements and budgets	* Classify items on an income and expenditure statement as fixed, variable and occasional income and expenditure.	* Show how total income, expenditure and profit/loss values on an income and expenditure statement or budget have been determined	* Construct an income and expenditure statement for an individual or a household. * Construct a budget for a small household project. * Draw up an income statement for a household.	* Analyse a budget for an individual or a household or a trip or personal projects and make recommendation as to how the expenditure should be changed to improve the finances of the household /small businesses * Analyse the statement and suggest how the financial position of a household can be changed..

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TOPIC: FINANCE				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Interest, bank loans and investments	* Define 'interest' and the 'interest rate'. * Identify interest rate values quoted on bank statements.	* Investigate through calculations how interest values are calculated using interest rate values.	* Interpret banking documents and fees brochures and understand the following terminologies, opening and closing balance, debit, credit, stop order, bank charge/transaction fee, debit order, ATM, electronic transfer , etc.	* Investigate different banking accounts such as savings account, cheque/current account, fixed deposit account, credit account and a debit account

TOPIC: FINANCE				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Taxation	* Identify the name of the shop listed on a till slip or name of account holder on bills (electricity, water and telephone) and the date on the slip or the month for which the bill was issued * Write the acronym "VAT" in full.	* Perform simple calculations of "VAT"	* Calculate "VAT inclusive" and "VAT exclusive" prices of items.	* Investigate through calculations how a final price has been determined by adding "VAT" to the "VAT exclusive" prices * Investigate through calculations the amount of "VAT" that have been added to "VAT inclusive" prices

TOPIC: MEASUREMENT				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Conversions	* Convert between mm, cm, m and km. * Convert between g and kg. * Convert between ml and litres.	* Convert between different systems using given conversion factors	* Convert when doing simple tasks like baking, cooking or catering projects	* Decide on the amount of paint needed to paint a wall in litres than m^2

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TOPIC: MEASUREMENT				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Measure length, weight, volume and temperature	* Measure accurately using appropriate measuring instruments (e.g. *ruler; tape measure; kitchen scale; jug).*	* Measuring out quantities to complete a task (e.g. Baking a cake)	* Calculate the cost of a certain amount of product (e.g. Calculate the cost of 2.5*kg* of Oranges at R8.99 per *kg*)	* Make decisions about the need for accuracy when performing a measurement in a particular context. * Interpret a measured value and make a decision based on the value
Perimeter, area and volume	* Define terms (e.g. *'area', 'perimeter', 'volume', 'radius').* * Identify from a list of given formulae which formulae relate to perimeter calculations, which relate to area calculations, etc. * Determine the radius of a circle from a given diameter. * Know that area is expressed in units^2 (e.g. cm^2) and volume in units^3 (e.g. cm^3).	* Determine how far apart vegetables must be planted in a vegetable garden and how many can be accommodated.	* Perform preliminary calculations to determine dimensions required in perimeter/area. * Calculate the area and perimeter of rectangles, triangles and circles using known formulae * Determine a required budget for a given project.	* Use perimeter and area calculations to complete a project, where it is not stated specifically what type of calculation is required. * Using appropriate maps, plans and models to inform calculations and decisions
Time	* Read time values on a clock or watch. * Converting between seconds, minutes and hours	* Record time values and perform calculations with time.	* Interpret time values on a study timetables and television time tables. * Perform calculations in the context of simple tasks such as household baking, cooking and catering projects.	* Perform time calculations in study timetables and television time tables. * Perform calcula tions on planning and complete projects such as arriving at school on time, baking a cake, drawing up an exam study timetable, making sense of school time table.

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TOPIC: MAPS, PLANS AND OTHER REPRESENTATIONS OF THE PHYSICAL WORLD				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Scale	* Explain the meaning of a given scale (e.g. *explain what the scale 1:100 means in terms of the measurements on a plan and actual dimensions).*	* Use a given scale to determine actual measurements when given measured values, or measured values from given actual values.	* Calculate the actual length and distance when map and/or plan measurements are known.	* Investigate what happens if you resize a map and/or plan * Investigate the effect of resizing a map or plan with a number scale has on the scale of a map or a plan * Investigate the effect of resizing a map or plan with a bar scale has on the scale of a map or a plan * Discuss the advantages and disadvantages of using number and bar scales on maps and plans.
Maps	* Identify the labels/names of seating plans, layout of a classroom, buildings, shopping centre cinemas, stadiums, etc. * Identify the scale of a map.	* Describe the position of an object, buildings, furniture, seats in relation to surrounding objects. * Describe the position of a building in relation to other surrounding buildings	* Find locations, follow directions and develop directions for travelling between two or more locations using directional indicators (left, right, along, straight up and down), house and building numbering systems and numbering systems used in stadiums.	* Estimate distances using measurement and given scales (number or bar scales) * Use a given map to find your way to a destinations. * Select seats with the best view for an event from remaining seats.
Plans	* Identify the scale of a plan.* Define terms (e.g. *floor plan; elevation plan; layout plan; etc.)* * Read off the value(s) of given dimensions on the plan (e.g. *the length of the wall is 4* m*).*	* Describe what is represented in plans. * Determine quantities of materials needed by using the plans , perimeter, Area and volume	* Assemble diagrams for an appliance and write detailed instructions in words to accompany and/or explain the diagrams * Use instructions to assemble diagrams, containing words or pictures	* Analyse the layout of the structure shown on the plan and suggest alternative layout options * Determine actual lengths of objects shown on plans using measurements and a given scale. * Determine quantities of materials needed by using plans and perimeter and area calculations.
Models	* Determine a number of cans that can be packaged in a box	* Determine appropriate ways to package cans/or boxes for optimal use of space	* Determine the most cost effective way to package a number of cans and/or boxes.	* Work with actual tins and boxes to explore packaging arrangements

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TOPIC: DATA HANDLING				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Developing questions and collecting data	* Read information directly from a given questionnaire/survey (e.g. *the name of the organisation for which the questionnaire is being conducted*). * Complete a given questionnaire.	* Conduct a given questionnaire/ survey with a group of people. * Differentiate between population and a sample	* Decide on appropriate questions to include on a questionnaire/survey, construct and then conduct the questionnaire/survey.	* Recognise that the way in which questions are phrased can impact on the data collected.
Classifying and organising data	* Sort data from smallest to biggest. * Count the number of values in a data set. * State the difference between categorical data and numerical data; discrete and continuous data. * Read information from frequency tables.	* Sort data according to one category *., e.g., heights of learners in the class or test scores* * Complete a given frequency table. * Calculate percentage values to represent the relative sizes of different categories of data.	* When given a raw set of data, sort the data, decide on appropriate intervals (if necessary) * Organise data using tallies and frequency tables.	* Make a deduction about whether collected information is biased or valid based on the structure of instrument used to collect the data and the way in which the data was collected. * Explain with justification whether data is discrete or continuous. * Analyse data organised in tables and make deductions about trends in the data.
Summarising data	* Identify the maximum and minimum values in a set of data. * Identify the mode for arranged data. * Identify the median for odd data that has already been arranged.	* Calculate mean and range. * Calculate the median for even data. * Calculate the median if the data is not arranged.	* Calculate the mean, median and modal average for a set of data and decide with reasons which average provides the most accurate representation of the data. * Use data presented on a graph to determine the mean, median, mode and range of a data set.	* Analyse calculated and or given measures of central tendency and make deductions about trends in the data.
Representing data	* Read values directly from the values provided on graphs.(Pie Charts, graphs, Histograms, line and broken Single line Bar graphs)	* Draw a specified graph from a given table of data. * Estimate values from given graphs.	* Organise data using an appropriate table, decide on the most appropriate format for representing the data (that is, actual values or percentages), and decide on the most appropriate graph needed to represent the data.	* Analyse graphs and make deductions about trends in the data and predictions for the future. * Identify and describe the use and misuse of statistics and make justified recommendations.
Interpreting and analysing data	* Read and select data from representations, in order to answer questions related to the data	* Answer questions related to, the size of the sample, the representivity of the sample, methods used for collecting data, the neutrality of the data collective processes, whether the data collected was fact or opinions, the type of measure to determine the average of the data,	* Identify and describe trends/patters in data represented in tables/graphs and explain what the data indicates about the question/problem for which the data was collected	* Investigate how the choice of representation of the data impacts on the impressions created and conclusions that can be drawn, taking in to account using percentages, actual data comparing different categories of data, the choice of scale on the axes, etc.

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TOPIC: PROBABILITY				
Section	**Level 1: Knowing**	**Level 2: Applying routine procedures in familiar contexts**	**Level 3: Applying multi-step procedures in a variety of contexts**	**Level 4: Reasoning and reflecting**
Expressions of probability/ Prediction/Evaluate expressions of probability	* Identify the percentage chance of rain for a particular town from a weather report in a newspaper. * State the meaning of terms associated with probability (e.g. *event; outcome/ result*).	* Express the probability of an event using fraction, percentage and decimal notation. * Identify all of the possible outcomes of a particular event (e.g. *rolling a dice; gambling game).* * Explain whether or not a particular rainfall prediction indicates that it is more or less likely to rain.	* Understand the difference between the relative frequency and the theoretical probability of an event. * Conduct an experiment to compare the experimental probability of an event. * Develop a game involving probability and play the game with another learner in the class.	* Analyse a table of rainfall data for a town and make predictions about the chance of rain in that town during a particular month during the year. * Analyse a game involving probability and make a deduction about the fairness of the game.

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SOME FAMILIAR TOPICS		
TOPIC	**SECTION**	**CONTEXT**
FINANCE	**Financial documents and tariff systems**	Household bills; shopping documents; banking documents; household budgets Electricity tariffs, water tariffs, sewage tariffs, telephone tariffs; transport tariffs and bank fees
	Income, expenditure, profit/loss, income- and expenditure statements and budgets	Personal income and expenditure Salaries, wages and commission Gifts and pocket money. Bursaries and loans Savings Inheritance Living expenses Accounts (Electricity and water) Telephone
	Interest bank loans and investments	Savings accounts Cheque/ current account Fixed deposit account Credit account Debit account
	Taxation	VAT
MEASUREMENTS	**Conversions**	Household baking, cooking/ catering projects
	Measure length, weight, volume and temperature	"Rule of thumb" method Rulers/ measuring tape, trundle wheels Odometer Scales (bathroom, kitchen scales ,electronic scales) Household, baking, cooking/ catering projects Fertiliser to be used in a garden. The cost of certain amount of products
	Perimeter, area and volume	Household baking, cooking/ catering projects (Direct measurement using rulers, grids, measuring jugs etc.)
	Time	Household baking, cooking/ catering.)

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MAPS, PLANS AND OTHER REPRESENTATION OF THE PHYSICAL WORLD	**Maps and Scales**	Maps showing: • Seating plan and/or layout of a classroom • Layout of buildings and or sports fields at a school • Layout of stores in shopping centres • Seating plans in cinemas and sport stadiums, examinations, weddings, matric dances, etc.
	Plans	Instruction and assembly diagrams containing words and/or pictures (Plugs, plastic models, cell phones, children's toys, etc.) 2D floors plans/ layout plans showing top view perspective. Familiar structure: e.g. classroom/ room in a house) Also all the contexts covered in Maps and Scales
	Models	Packaging containers – fruit juice containers, chocolate boxes, etc.
DATA HANDLING	**Developing questions**	• Test and exam results School sports results • Height and weight of learners in a class • School statistics • Data about electricity consumption • Pocket money data • Accidents • Population
	Classifying and organising data	
	Summarising data	
	Representing data	
	Interpreting and analysing data	
PROBABILITY	**Expressions of probability/Prediction/ Evaluate expressions of probability**	• Games with coins and dice • Weather prediction