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FREE STATE PROVINCE

MATHEMATICAL LITERACY

GRADE 12

SPRING CLASSES 2026

TEACHER AND LEARNER CONTENT MANUAL

MATHEMATICAL LITERACY PROGRAMME FOR 2026 SPRING CLASSES

STRUCTURE OF EXAMINATION			
PAPER	**TOPICS**	**TOTAL MARKS**	**WEIGHTING**
PAPER 1: (FINANCE & DATA HANDLING)	**Finance**	**±90**	**± 60 %**
	Data Handling	±53	± 35 %
	Probability	**±7**	**5%**
TOTAL		**± 4**	**± 32%**
PAPER 2: (MEASUREMENT, MAPS, PLANS & SCALE)	Measurements	± 83	± 55%
	Maps, Plans and Scale	± 60	± 40%
	Probability	±7	± 5%
TOTAL		**150**	**±100%**

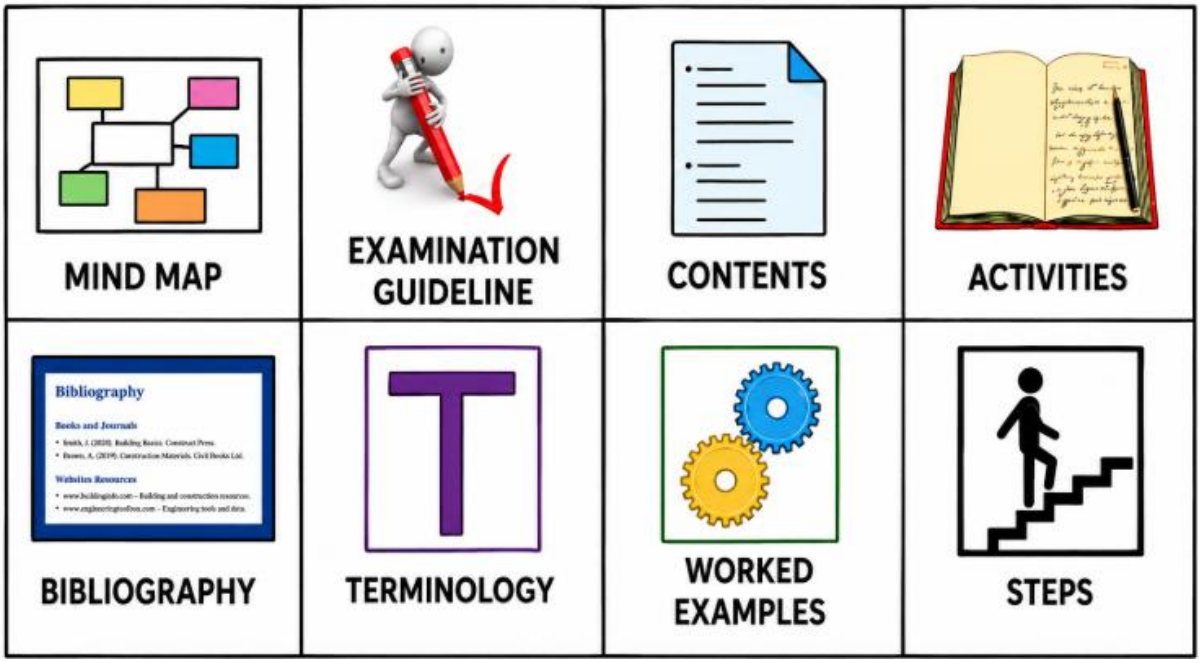
Pre-test and Post-test to be administered focuses only on financial documents, exchange rates, plans and assembly diagram

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GUIDELINES • Icon descriptions • Examination Guideline	**4 - 8**
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ICON DESCRIPTION



FINANCIAL DOCUMENTS: EXAMINATION GUIDELINES



TOPIC: FINANCE

Section	Level 1: Knowing	Level 2: Applying routine procedures	Level 3: Applying multi-step procedures in a variety of contexts	Level 4: Reasoning and reflecting
Financial Documents	• 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.	• Use a given formula to show how the amount charged for electricity consumption shown on the bill has been determined.	• Replicate the calculations/values shown on the bill for a different electricity consumption value.	• Choose an appropriate strategy (e.g. tables of values, graphs, and interpreting points of intersection.) to compare the electricity costs of two different electricity systems and make a decision about which system is the most cost effective for a user with particular needs.

EXCHANGE RATES: EXAMINATION GUIDELINES



TOPIC: FINANCE

Section	Level 1: Knowing	Level 2: Applying routine procedures	Level 3: Applying multi-step procedures in a variety of contexts	Level 4: Reasoning and reflecting
Exchange Rates	Identify the exchange rate between two currencies from a given table or rate board.	Use a given exchange rate to determine the value of one currency for a specific quantity of another currency.	Perform currency conversion. calculations, considering currency. exchange fees charged by banks and other financial institutions.	Explain how the Big Mac Index provides a tool for determining the worth of one currency in relation to another currency. Explain why it is not necessarily. accurate when a South African tourist in America exclaims that a can of cool drink those costs $2,00 (R14,00) is much cheaper in South Africa.

	PLANS, ASSEMBLY DIAGRAMS AND MODELS: EXAMINATION GUIDELINE			
	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**
Plans	• Identify the scale of a plan. • Define terms (e.g. floor plan; elevation plan; layout plan; etc.) • Read off the value (s) of a given dimensions on the plan (e.g. the length of the wall is 4 m).	• Use given key to identify the number of windows/doors/rooms shown on a plan for a building. • Identify on which plan a particular structure is shown (e.g. the door is shown on the North Elevation plan).	• Measure dimensions on a plan and use a given scale to determine actual dimensions. • Use plans in conjunction with other content, skills or applications to complete a project (e.g. interpret plans to determine the dimensions of a room in order to establish the amount of carpet needed for the floor of the room).	• Describe an item represented in a plan. • Critique the design of a structure shown on a plan. • Decide on an appropriate scale in which to draw a plan and then draw the plan. • Make connections between plans showing different views of the same structure (e.g. explain which wall shown on a floor plan is represented on a particular side view plan.

Models	• Measure the dimensions of a structure for which a model or 2D drawing will be constructed.	• Build a model using a given table of dimensions or a given net/cut-out.	• Use a given scale to determine the dimensions in which to build a model or make a 2D drawing and complete the project. • Build a model and use the model in conjunction with other conjunction with other content, skills, or applications to solve a problem (e.g. build a model of a container and use the model to investigate different types of packaging arrangements; or build a model of a container and determine the surface area and volume of the model to investigate the amount of storage space available in the container).	• Decide on an appropriate scale in which to build a model or make a 2D drawing, use the scale to determine dimensions and complete the project. • Construct and compare two models in terms of storage space and materials used and make a decision about which model will the better choice for packaging an item. • Analyse a model and critique the layout of the structure shown in the model.

LESSON OBJECTIVES

FINANCIAL DOCUMENTS:

Learners must be able to:

OUTCOMES

What is a financial document:

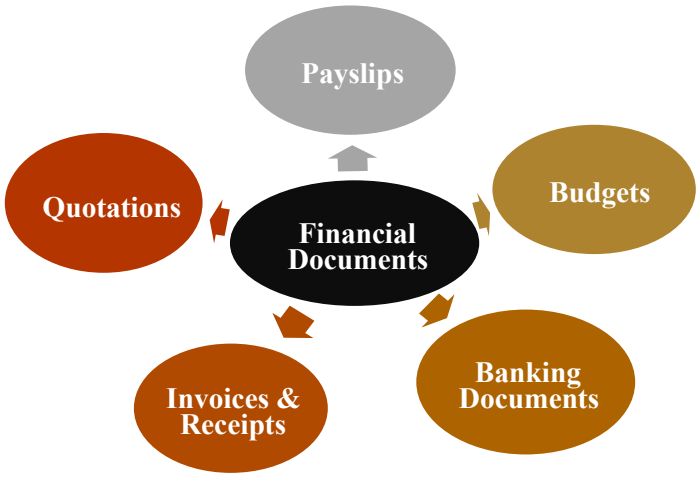
- A financial document (also known as financial statement) is a formal record of financial activities of a business, person or other entity. Relevant financial information is presented in a structured manner and in a form easy to understand.
- In this manual, we will be dealing with the following documents:
  - Payslips
  - Budgets
  - Quotations
  - Invoices and receipts
  - Banking documents

Benefits of organizing your financial documents:

- Plan and measure your financial progress
- Handle routine money matters, such as paying bills on time
- Determine how much money you will have now and, in the future,



MIND MAP



IMPORTANT TERMS AND DEFINITIONS

Term	Definition	Financial document
Financial document	A written record containing financial information	Payslip, bank statement
Payslip	A document showing an employee's earnings and deductions	Salary statement
Gross salary	Total earnings before deductions	Payslip
Net salary	Take-home pay after deductions	Payslip
PAYE	Pay As You Earn tax deducted from salary	Payslip
UIF	Unemployment Insurance Fund contribution	Payslip
Pension Fund	Retirement contribution deducted from salary	Payslip
Medical Aid	Deduction for healthcare cover	Payslip
Allowance	Additional payment for specific purpose	Payslip
Overtime Pay	Extra earning for additional working hours	Payslip
Bank statement	Record of all transactions in a bank account	Bank statement
Transaction	Any movement of money into or out of an account	Bank statement
Deposit	Money paid into an account	Bank statement
Withdrawal	Money taken out of an account	Bank statement
Balance	Amount available in an account	Bank statement
Debit order	Automatic payment from a bank account	Bank statement
Credit	Money entering an account	Bank statement
Debit	Money leaving an account	Bank statement
Service fee	Chage for banking services	Bank statement
ATM withdrawal	Money withdrawn from an ATM	Bank statement
Invoice	Document requesting payment for goods or services	Invoice
Invoice number	Unique number identifying an invoice	Invoice
Quantity	Number of items purchased	Invoice
Unit price	Cost of one item	Invoice
Subtotal	Cosy before VAT is added	Invoice
VAT	Value Added Tax charged on goods and services	Invoice
Total amount due	Final amount payable including VAT	Invoice
Receipt	Proof that payment has been made.	Receipt
Cash sale	Purchase paid immediately	Receipt
Proof of payment	Evidence that payment was made	Receipt
Quotation	Estimate of the cost of goods or services	Quotation
Validity period	Time during which quotation remains valid	Quotation
Hire purchase agreement	Contract for buying goods on credit while paying monthly instalments for a certain period	Credit agreement
Deposit	Initial payment before instillments begin.	Credit agreement
Instalment	Regular payment made towards a debt.	Credit agreement
Interest rate	Percentage charged on borrowed money.	Credit agreement
Loan statement	Record showing loan payments and balance	Loan document
Outstanding balance	Amount still owed.	Loan statement

Insurance policy	Contract between insurer and client	Insurance document
Premium	Regular payment for insurance cover	Insurance policy
Claim	Request for payment from an insurer	Insurance policy
Excess	Amount paid by the insured before the insurer contributes	Insurance policy
Budget	Financial plan showing income and expenses	Budget document
Income	Miney received	Budget document
Expenses	Money spent	Budget document
Fixed expenses	Expenses that remain the same each month	Budget document
Variable expenses	Expenses that change from month to month	Budget document
Surplus	Income greater than expenses	Budget document
Deficit	Expenses greater than income	Budget document

TIPS: FINANCIAL DOCUMENTS

- Know the difference between a **receipt, invoice and quotation.**
- Distinguish between **gross salary** and **net salary.**
- Identify **credits** and **debits** on a bank statement.
- Always check whether **VAT** is included or excluded
- Read all financial documents carefully before answering questions.

KNOW THE FOLLOWING:

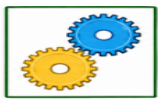
Record – Bank statement, payslip

Plan – Budget, Quotation

Proof – Receipt

Agreement – Loan contract, Insurance policy

WORKED EXAMPLE [15 Marks]



The Tennis Academy has two tennis clubs, Tennis Pro A (**Juniors)** and Tennis Pro A + **(Seniors),** where they develop and coach many players. Each tennis club has 4 courts. The academy has to purchase new stock for their clubs. The invoice of the tennis equipment is presented on ANNEXURE A.

Carlso coaches at Tennis Pro A and Lorenzo at Tennis Pro A +.

Use ANNEXURE A and the information above to answer the questions that follow.

1. Determine A, the total number of ball containers the Academy need to purchase if they need 30 balls per court. (3)

POSSIBLE ANSWER
30 × 8 ✓

= 240

240 ÷ 4 ✓

= 60 ✓

2. Calculate the unit price excluding VAT of the Yonex Pro 9 racket bag. (5)

POSSIBLE ANSWER

✓
R8 097,01 ÷ 1,15 ✓

= R7 040,88 ✓

= R7 040,88 ÷ 3 ✓

= R2 346,96 ✓

3. Lorenzo the head coach sent in an order for the two tennis clubs.

Show that the total price, VAT included, for all the items will be R67 314,09. (7)

POSSIBLE ANSWER

Tennis balls

60 × R249 ✓
= R14 940 ✓

Rolling tennis

R12 792,08

Rackets

(16 – 1 = 15) 1 for free ✓

R2 099 × 15 ✓

R31 485 ✓

Racket bags

R8 097,01

Total cost

R14 940 + R12 792,08 + R31 485 + R8 097,01 ✓

R67 314,09 ✓

ANNEXURE A
SPORTS WAREHOUSE TAX INVOICE

To: Tennis Academy PO Box 167 Rustenburg 0300	**Invoice number:** TC 123568 **Invoice Date:** 02/02/2023

DESCRIPTION	UNIT PRICE	QUANTITY	AMOUNT (VAT inclusive)
Rolling tennis ball basket	R1 390.43 (excl VAT)	8	R12 792.08
Adult tennis racket Power pro	R2 099.00 (incl VAT)	16	----------
Tennis ball TB930 4-pack - yellow	R249.00 (incl VAT)	A	----------
Yonex Pro 9 racket bag	----------	3	R8 097.01
		Tax invoice total	**R67 314.09**

Banking details: Bank/Acc. Name: ABSA Account number: 4215 *** 1202 Branch name: Rustenburg Mall Branch code: 602 556	**Term and conditions:** Payment is due within 15 days

Thank You For your Business

[source: Adapted from original tax invoice]

NOTE: Purchase more than 10 adult rackets, get one FREE.

ACTIVITY 1 [12 Marks]

Goitsimang plans to purchase a **FORD RANGER** bakkie (light delivery vehicle) from her R1,25 million investment earnings. She received the following price quotation from a car dealer on 28 February 2024:

EXTRACT OF PRICE QUOTATION FOR A BAKKIE FROM A DEALER:

		Rand (R)
Selling price (excluding VAT) without accessories (extras)		480 263,16
Discount		18 420,00
ACCESSORIES (EXTRAS)	**PICTURE OF AN ACCESSORY**	
Towbar		3 550,26
Rollbar		3 500,00
Nudge bar/Bullbar cost and fitting		6 898,25
Transaction fee		1 315,80
SUBTOTAL		**477 107,47**
VALUE-ADDED TAX		**...%**
TOTAL DUE		**548 673,59**

[Source: Group 1 Nissan and The Glen]

Use the information above to answer the questions that follow.

1. Define the term *price quotation* in the context above. (2)

2. Write R1,25 million in full, using numbers only. (2)

3. Calculate (rounded off to TWO decimal places) the percentage discount given on the bakkie's selling price, excluding VAT. (3)

4. Show with calculation how the amount of five hundred and forty-eight thousand six hundred and seventy-three rand and fifty-nine cents was determined. (3)

5. Give ONE reason why customers would prefer to install the accessory **Bullbar** as shown in the quotation. (2)

ACTIVITY 2 [32 Marks]



1. Mr S Sampson receives his monthly bank statement. An extract from his statement is provided in ANNEXURE B.

Use ANNEXURE B and the information above to answer the questions that follow.

1.1 Explain the term *debit order* according to the context. (2)

1.2 Determine the value of **A,** which has been omitted from the statement. (2)

1.3 State ONE reason why many individuals prefer to receive their bank statements via email. (2)

1.4 Calculate the total amount of all debit transactions. (3)

1.5 Calculate the percentage that the total debit transactions represent of the final balance amount of R55 748,07. (3)

1.6 Determine the probability, expressed as a simplified fraction, that a randomly selected transaction is greater than R1 000. (3)

1.7 Calculate the transaction fee for Mr. Sampson's withdrawal of R10 600 made inside the branch. (4)

1.8 Suggest ONE strategy that Mr Sampson can implement to reduce his monthly spending. (2)

2. Mr Sampson has a daughter who will enter Grade 8 in 2026. He has applied for her admission to a public school, and the breakdown of the school fees is as follows:

- Annual fees: R19 000
- Once off non-refundable admin fee: R150 (to accompany the application form)
- School entrance Levy: R750 (to be paid when confirming acceptance)
- School fee deposit: R5 850 (to be paid when confirming acceptance)
- Stationary fee: (to be paid when confirming acceptance)
- 10% discount on annual school fees if all fees are paid by end of March.

[Source: Adapted from Public School Info website]

Use the information above to answer the questions that follow.

2.1 Calculate the total amount required to conform acceptance. (3)

2.2 Determine the outstanding school fees balance after the deposit is paid to conform acceptance. (2)

2.3 Mr Sampson has organised extra Mathematics lessons for his daughter at R800 per month from January to October.

If he plans to pay the full annual school fees by the end of March, calculate the total amount he will spend on her education in 2026. (6)

ACTIVITY 3 [19 Marks]



Roadside Tours and Travel Agency made a booking at a guesthouse for their 36 employees to attend a conference in Upington.

The guesthouse offers rooms with 2 beds and 4 beds for accommodation.

ANNEXURE C shows an invoice that Roadside Tours and Travel Agency received from the guesthouse.

The total amount for accommodation and meals were paid for in advance.

Use ANNEXURE C and the information above to answer the questions that follow.

1. Write down the address of the guesthouse. (2)

2. The accommodation costs includes 15% VAT.

   Determine (excluding VAT) the price for a person per night in a 2-bed room. (3)

3. Calculate the missing value **C**, the total for the 4-bed room. (2)

4. Determine (in simplified form) the ratio of the number of guests booked in the 2-bed rooms to the number of guests in the 4-bed rooms. (6)

5. Two work colleagues who booked the 2-bed rooms cancelled as follows.

   There were two (2) cancellations of the 2 bedrooms. Cancellations were made as follows: One cancelled at 11:00, while the other one cancelled at 15:00 on the check-in date.

   The meal cost will be fully refunded, while the accommodation costs will be refunded to the conditions of the cancellation policy stated in ANNEXURE A.

   The tour operator stated that the refund would be less than R2 500.

   Verify, showing ALL calculations, whether this statement is CORRECT. (7)

LESSON OBJECTIVES

EXCHANGE RATES

Learners must be able to:

OUTCOMES
Exchange rate is the value of one country's currency compared to another country's currency. Exchange rates are used when people travel, trade internationally, import goods, export products, or send money between countries. **Knowledge** • Define the concept of exchange rates. • Identify different foreign currencies and their symbols. • Explain why exchange rates change. • Differentiating between "STRONG" and "WEAKER" currency. • Distinguish between buying and selling rates. **Skills** • Convert South African Rand (ZAR) into foreign currencies. • Convert foreign currencies into South African Rand. • Calculate travel budgets using exchange rates. • Solve real-life problems involving international travel and shopping. • Interpret exchange rate tables and financial information accurately. **Values and Attitudes** • Appreciate the importance of budgeting when travelling internationally. • Develop responsible financial decision-making skills.

IMPORTANT TERMS AND DEFINITIONS



Term	Definition	Example
Exchange rate	The value of one currency compared to another	R18.50 = $1
Currency	The money used in a country	Rand (R), Dollar ($)
Foreign currency	Currency from another country	Euro (€)
Local currency	Currency used in your own country	South African Rand (ZAR)
Conversion	Changing one currency into another	Rand to Dollar
Foreign Exchange (FOREX)	Buying and selling currencies	Currency exchange bureau
Bank Echange rate	Rate used by banks for currency conversions	Bank forex rate

Currency

Term	Symbol	Country/Region
South African Rand	**R or ZAR**	South Africa
United States Dollar	**$ or USD**	United States
Euro	**€ or EUR**	European Union
British Pound	**£ or GBP**	United Kingdom
Japanese Yen	**¥ or JPY**	Japan
Botswana Pula	**BWP**	Botswana
Namibian Dollar	**NAD**	Namibia
Australian Dollar	**AUD**	Australian

Exchange rates calculations

Term	Definition
Buying rate	Rate at which a bank buys foreign currency
Selling rate	Rate at which a bank sells foreign currency
Conversion rate	Exchange rate used for calculations
Amount received	Foreign currency obtained after conversion
Amount paid	Local currency used to purchase foreign currency
Transaction fee	Charge for converting money
Commission fee	Percentage charged for the service
Forex fee	Foreign exchange service charge

Effects of exchange rates
Strong currency

- Imports become cheaper.
- Overseas travel becomes more affordable.
- Foreign goods cost less.
- Because of stable economic markets.
- Export to the country with stronger currency.
- We get more money for our products.

Weak currency

- Imports become more expensive.
- Overseas travel becomes more expensive.
- Exports may benefit because South African goods become cheaper internationally.
- Because of unstable economic markets
- Import from the country with a weaker currency
- We get more products for our money

Tips: EXCHANGE RATES

Local currency – foreign currency = Divide
Foreign currency – Local currency = Multiply
Multiple currency conversions – moving to two or more currencies to determine

WORKED EXAMPLE [08 Marks]



1. The Nox MM2 Hybrid Pro padel racket is priced at R2 499 in Sout Africa. A similar racket is available in the United States for USD 180. A padel player claims that it will be cheaper to purchase the racket in the United States. Verify, showing all calculations, whether the player's statement is valid if the current exchange rate is 1 USD = ZAR 18,19. (4)

POSSIBLE ANSWER

✓

180 × 18,19 ✓

=R3 274,20 ✓

Cheaper to purchase the racket in South Africa ✓

2. Neo earns an annual salary of €18 000.

The official currency in the Ivory Coast is the France of the West African communities (XOF).

On 16 March 2024, the exchange rate was €1 = 656 XOF.

Calculate Neo's monthly salary in XOF. (4)

Annual salary

€18 00 = 18 000 × 656 XOF ✓

= 11 808 00 XOF ✓

Monthly salary

$= \frac{11\,808\,000\ XOF}{12}$ ✓

= 984 000 XOF ✓

ACTIVITY 1 [23 Marks]



1. The pie charts on ANNEXURE D show the Indian Union budgets for income and expenditure for 2023/2024. Some values have been omitted.

   The currency used in India is the rupee. Inda also has different denominations for the larger currency amounts.

   NOTE: 100 000 rupees = 1 lakh
   100 lakhs = 1 crore

Use ANNEXURE D and the information above to answer the questions that follow.

1.1 Choose the correct word from those given in brackets. Write down only the word next to the question number (1.1).

A budget is a (deficit/surplus/balanced) budget when the income is less than expenditure. (2)

1.2 General sale tax (GST) is a tax that is similar to VAT in South Africa.

Calculate the missing percentage for GST on the pie chart. (3)

1.3 Calculate, in lakh crores, the amount spent on defence in India. (3)

1.4 List THREE sources of income shown on the pie chart where the total percentages add up to the borrowing percentage value. (3)

1.5 Sanji calculated, in lakh crores, the amount spent on interest payments.
He rounded off his answer to the nearest whole number.

Sanji stated that the rounded answer he calculated did not make much difference in rupee when compared to the non-rounded answer.

Verify showing ALL calculations, whether his statement is valid. (6)

2. In 2024, South Africa received R302,4 billion from corporate income tax.

   NOTE: R1 000 000 = 4 447 989,1 rupees
   4 447 989,1 rupees = 44,4479891 lakhs

[Source: Adapted from www.wise.com/, 10 June 2024]

2.1 Convert R302,4 billion to mullion rands. (2)

2.2 Hence, convert the South African corporate income tax to lakh crore. (4)

ACTIVITY 2 [07 Marks]



Terry wants to visit his brother who is staying in Canada. Before he leaves, he wants to exchange R1 670,00 for Canadian dollar.

TABLE 7 below shows the currency conversion factors for Countries as at 23 February 2025

TABLE 7; CURRENCY CONVERSION FACTORS FOR FUVE COUNTRIES AS AT 23 FEBRUARY 2025

CURRENCY	UNITES PER ZAR	ZAR PER UNIT
Canadian Dollar (CAD)	0,077572	12,891276
Swiss Franc (CHF)	0,048928	20,438165
Indian Rupee (INR)	4,720072	0,211861
Botswana Pula (BWP)	0,750625	1,332224
Libyan Dinah (LYD)	0,266678	3,749838

[Source: Adapted from www.x-rates.com]

Use TABLE 7 to answer the questions that follow.

1. Define the term *Exchange rates.* (2)

2. Identify the currency that is weaker than the South African rand. (2)

3. Calculate the amount Terry will receive in Canadian Dollar (CAD). (3)

ACTIVITY 3 [15 Marks]



A local rugby team is planning a tour to four countries: the United States, the United Kingdom, Australia, and Ireland. Below is a summary of the exchange rates for these countries

TABLE 3: NEDBANK EXCHANGE RATES

Country	Bank Buy	Bank Sell
US Dollar ($)	0,0571	0,0541
British Pound (£)	0,0425	0,0400
Euro (€)	0,0507	0,0475
Australian Dollar (AUSD)	11,0619	12,2100

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

Use TABLE 3 and the information above to answer the questions that follow.

1. Identify the country in the table where the exchange rate is given as rand per unit of foreign currency. (2)

2. Using the Bank Buy rate, calculate the value of £1 in rands.
   Express your answer in the form:

   £1 = R….. (3)

3. A rugby player plans to exchange R25 000 for euros. Identify the exchange rate the bank will apply and calculate the amount of euros he will receive. (4)

4. At the end of the tour, a rugby player has 27 AUD and 105 USD to convert to rands.
   Calculate the total amount he will receive in rands. (6)

LESSON OBJECTIVES

PLANS

Learners must be able to

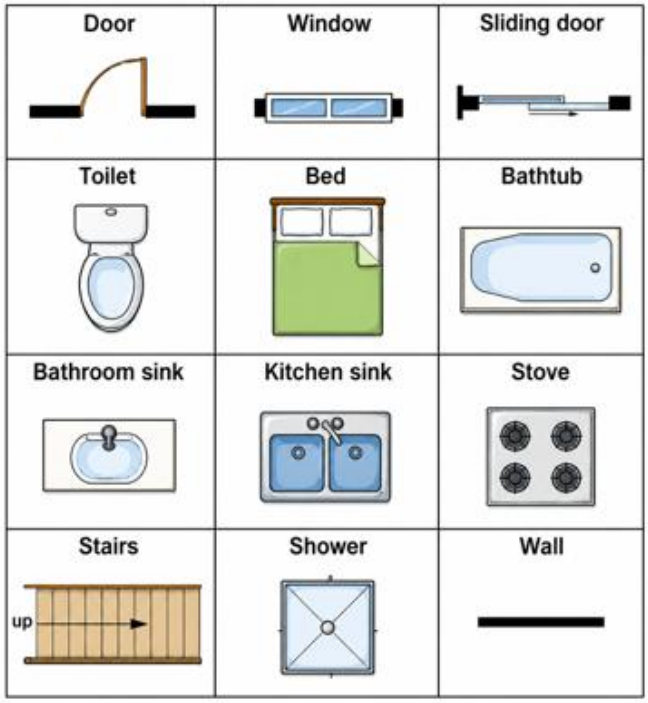
OUTCOMES

What is a floor plan?
A floor plan is a diagram which shows a two-dimensional view of a building from above excluding the roof of a building.

The following information may be obtained from the floor plan:

- The size and shape of a building/house including all the dimensions of each room.
- The position of all the features of the building, the doors, windows, basins, toilets cupboards, showers etc.

Symbols that are used for floor plans:



What are Elevation plans?
They are 2-dimensional pictures of the outside of the building showing side views of the house or building.

We have four elevations:

North Elevation The side view of the building from the northern side	**South elevation** The side view of the building from the southern side
East elevation The side view of the building from the eastern side.	**West elevation** The side view of the building from the western side



- Elevation plans shows the information about the height of the building and the external features.
- These plans are named using compass directions.
- The information about the dimensions of the rooms are not shown

Knowledge

- Define a house and elevation plans and explain their purposes.
- Identify common symbols used on a house plan.
- Identify elevation plans of a house.
- Understand the concept of scale drawings.
- Recognize different rooms and structural features.

Skills

- Interpret house plans correctly.
- Calculate actual dimensions using the given scale.
- Calculate perimeter and floor area of rooms.
- Calculate flooring, painting and tiling costs.
- Compare room sizes and determine total floor area.
- Interpret measurements and construction information accurately.

Values and Attitudes

- Appreciate the importance of accurate planning in construction.
- Develop problem-solving skills using real-life building plans.

IMPORTANT TERMS AND DEFINITIONS

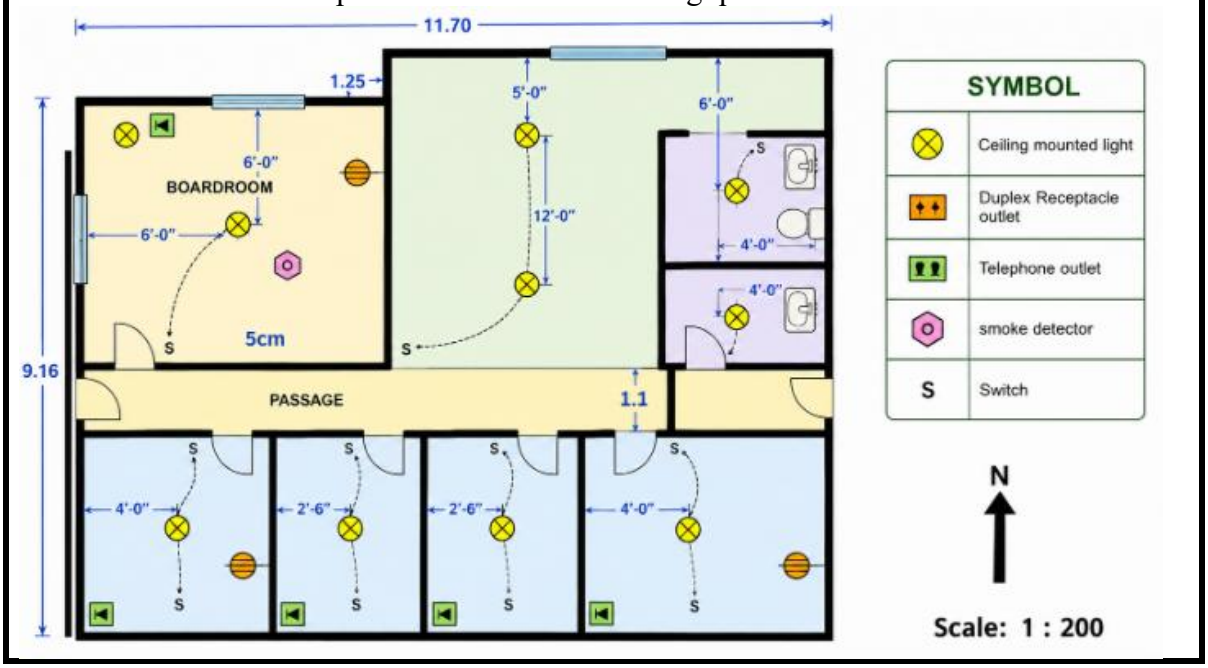
Term	Definition	Example
House plan	Drawing showing the layout of a building	Floor plan
Floor plan	View from above of the inside of a house	Bedroom layout
Scale	Relationship between drawing and actual size	1 : 100
Dimensions	Measurement of length or width	5 m
Boundary	Outside edge of property	Fence line
Wall	Structure diving rooms	Brick wall
Partition wall	Internal wall	Bedroom divider
Exterior wall	Outside wall	Front wall
Interior wall	Wall inside the house	Kitchen wall
Room	Enclosed area	Loung
Passage	Corridor connecting rooms	Hallway
Entrance	Main access point	Front door
Window	Opening for light	Bedroom window
Door	Entrance into a room	Bedroom door
Builtin cupboard	Fixed storage space	Bedroom cupboard
Kitchen unit	Fixed cupboards in a kitchen	Cabinets
Garage	Space for vehicle	Double garage
Patio	Outdoor paved area	Entertainment area
Veranda	Roofed open area	Front veranda
Bathroom	Room with bath/shower	Bathroom
Ensuite	Bathroom attached to bedroom	Main bedroom ensuite
Dining room	Eating area	Dining room
Lounge	Living room	TV room
Study	Office room	Home office
Utility room	Laundry area	Washing room

Conversion: Metric

Convert from	Convert to	Multiply/Divide
mm	cm	÷ 10
mm	mm	× 10
cm	m	÷ 100
m	cm	× 100
cm^2	m^2	÷ 10 000
m^2	cm^2	× 10 000

WORKED EXAMPLE [29 Marks]

1. A floor plan for offices is given below. The length of the building on the plan is 11,70 cm, and the width is 10.4 cm. an electrical plan is also attached to the floor plan. Use the information on the floor plan to answer the following questions.



1.1 Determine the number of telephone outlets in the building. (2)

POSSIBLE ANSWER: 05 ✓✓

1.2 Write down the ratio of the outside doors to the inside doors in simplest form. (2)

POSSIBLE ANSWER
2 : 6 ✓
1 : 3 ✓

1.3 Explain the meaning of the scale on the plan. (2)

POSSIBLE ANSWER
One unit on the map represents 200 units in reality. ✓✓

1.4 Use the given scale to determine the actual dimensions of the building. (4)

POSSIBLE ANSWER

Length = 11,7 × 200 ✓	**width = 10,4 × 200** ✓
= 2 340 cm	**= 2 080 cm**
= 23,4 m ✓	**= 20,8 m** ✓

1.5 Determine the probability of finding a window on the eastern wall of the offices. (2)

POSSIBLE ANSWER: 0% ✓✓

2. Jane and Tom are the newly-weds. They plan to build a house using the floorplan and elevations shown in ANNEXURE E.

Use the information above and ANNEXURE D to answer the questions that follow.

2.1 How many bedrooms are shown on the floorplan? (2)
POSSIBLE ANSWER: 03

2.2 The elevations are numbered from 1 to 4. Match the elevation with the correct number e.g. West elevation 3.

(a) North elevation
(b) South elevation
(c) West elevation
(d) East elevation (4)

POSSIBLE ANSWER:
North elevation – 2 ✓
South elevation – 1 ✓
West elevation – 4 ✓
East elevation – 3 ✓

2.3 Is this plan for a single or double storey house? (2)

POSSIBLE ANSWER
Double storey ✓✓

2.4 The actual length of the northern wall is 20 metres. Calculate the length on the floorplan. (3)

POSSIBLE ANSWER
Length on the floorplan
1 : 250
1 cm : 250 cm
20 cm × 100 ✓

$= \frac{2\,000\ cm}{250}$ ✓
= 8 cm ✓

2.5 How many doors are found on the first floor? (2)

POSSIBLE ANSWER: 5 doors ✓✓

2.6 Give the compass direction of the kitchen from the garage. (2)

POSSIBLE ANSWER: EAST ✓✓

2.7 Which symbol represents a door on the floorplan? (2)

POSSIBLE ANSWER: Quarter circle OR drawing of a quarter circle. ✓✓

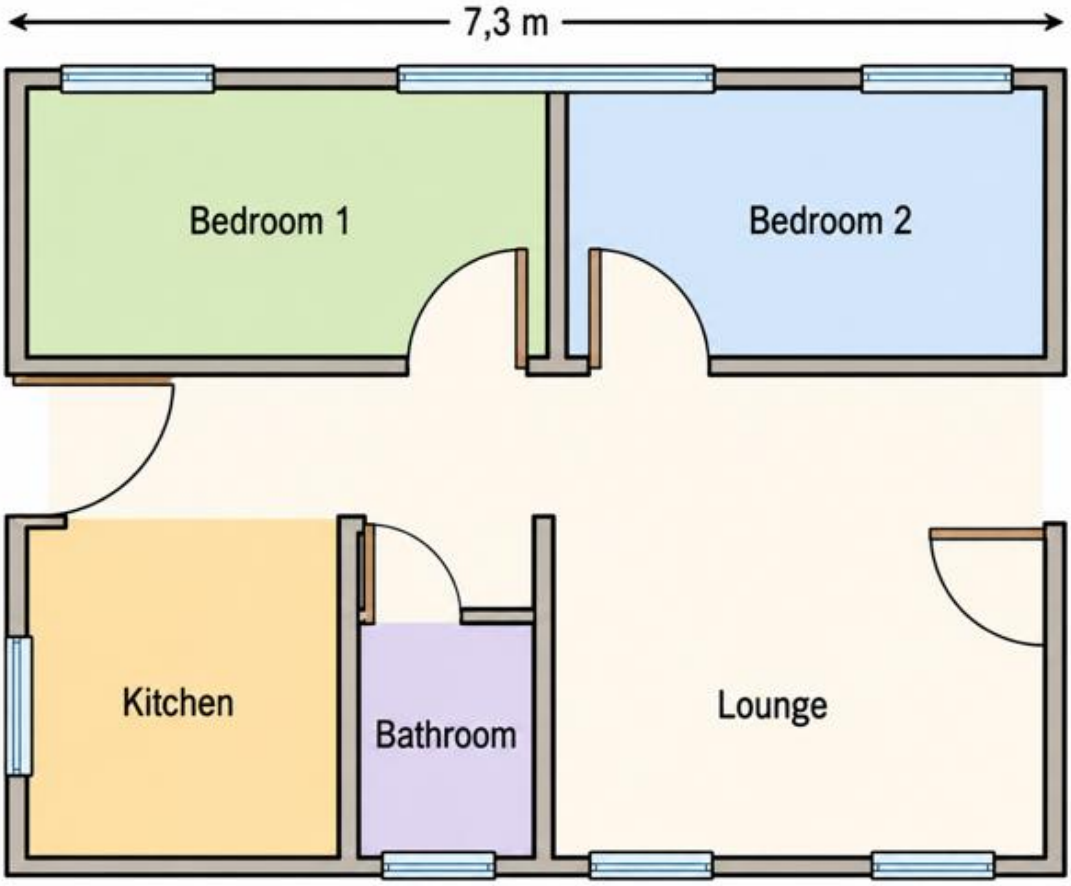
ANNEXURE E



[Source: Adapted from www.floorplans.com]

ACTIVITY 1 [28 Marks]

1. Siya owns a company that was hired to build RDP house for families. Below is the floor plan of one of the RDP houses that were build.



Use the plan above to answer the questions that follow:

1.1 Explain the term floor plan. (2)

1.2 Determine the number of windows on the above plan (2)

1.3 Give the general direction of bedroom 1 from the lounge. (2)

1.4 The actual length of the house is 7,3 m and, on the plan, it is 133 mm. determine the scale used in the form 1:… (4)

1.5 If the width of the house is 7,1 m. calculate the area covered by the house.

You may use the following formula:
Area of a rectangle = length × width (2)

1.6 Does the door leading to the bathroom open to the right or the left? (2)

2. The layout and elevation plans are shown on ANNEXURE F.

Use the following information:
1 foot = 0,3048 m
1 inch = 2.54 cm
50’ represents 50 feet
10’’ represents 10 inches

Study ANNEXURE F and answer the questions that follow.

2.1 If the outer door of the waiting room is facing north, determine the direction the window of the break room is facing. (2)

2.2 The width of the clinic is 29 feet and 10 inches. Convert the width to metres. (4)

2.3 Calculate the scale of the plan if the length of the clinic is 50 feet as indicated on the plan and the measurement on the plan is 135 mm.

Express your answer in the form 1 : … (5)

2.4 Which one of the elevation plans is incorrect? Justify your answer. (3)

ACTIVITY 2 [14 Marks]

The farm owner has four houses that he uses to accommodate guests. The plan for one of the houses is shown in ANNEXURE G.

Use the plan shown in ANNEXURE G to answer the following questions.

1. Write down the number of windows shown on the northern side of the house. (2)

2. One of the guests claimed that both bedrooms would receive sun in the morning. Is the claim true or false? (2)

3. Use the actual length shown on the plan to determine the scale of the plan in the format 1 : ... Round your answer to the nearest whole number. (4)

4. Pulane states that this is an open-plan design. Explain why she is correct. (2)

5. Possible elevation plans for the house are also shown in ANNEXURE F.

   (a) Explain the term *elevation plan.* (2)

   (b) The elevations are indicated using letters A and B. write down the elevation for letter A. (2)

ACTIVITY 3 [12 Marks]



Mr Bartman is a businessman who owns a printing company. He bought a two-bedroom house and turned it into an office space.

ANNEXURE H shows a floor plan of the house he bought.

Use the information above and ANEXURE H to answer the questions that follow.

1. State the probability of randomly selecting a window on the western side of the house. (2)

2. Give one reason why the plan is referred to as an open floor plan. (2)

3. Mr Bartman wanted to change the master bedroom to be a boardroom where he can be able to hold meetings. He removed everything so that he can change the flooring of the room and use carpet tiles.
   The cost involved for carpet tiles:
   - Carpet glue: 5ℓ for every 3 m^2
   - One tin has 5ℓ of glue.
   - Carpet glue price: R359,00 per tin
   - Carpet tile: R550 per m^2
   - Cost for labour: R400 per m^2

   A) Calculate the number of 5ℓ carpet glue tins that Mr Bartman must buy to cover the whole room.
   You may use this formula:
   Area of a rectangle = length × width (4)

   B) Determine the total cost to install the new flooring. (4)

ASSEMBLY DIAGRAMS

OUTCOMES

Assembly diagram are drawings showing how different parts fit together to make one complete object.

Examples include:

- Furniture
- Bicycle
- Cupboard
- Bookshelf
- Wheelbarrow
- Children's toys

Learning outcomes:

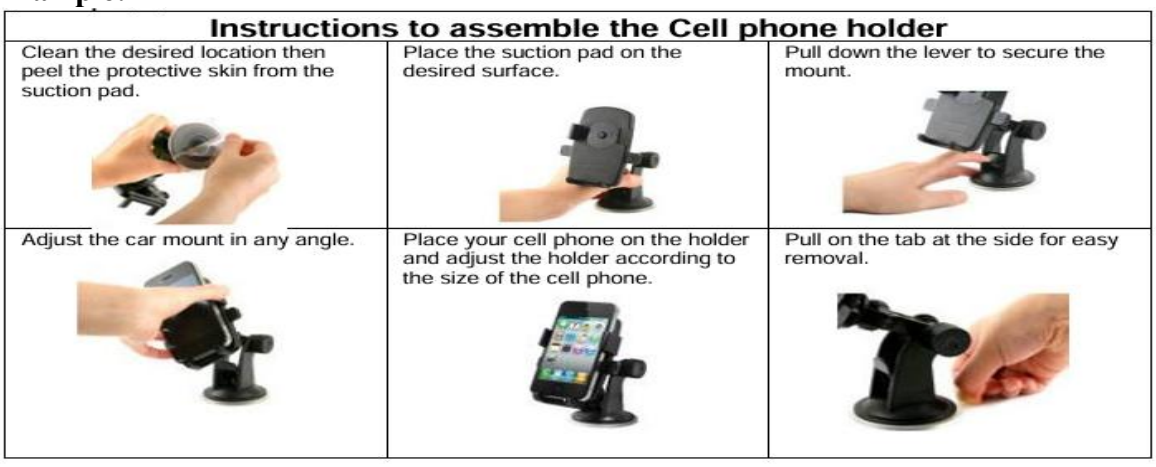
- Interpret assembly instructions.
- Identify parts.
- Follow assembly order.
- Count components.

It is important to make sense of the instructions if you want the optimal use from the item that you have bought. Failing to follow the instructions might lead to the equipment not been able to work properly.

Note to learners:

- Use short and clear sentences.
- Use precise and descriptive words.
- Numbering, arrows, and dotted lines help to show the measurement and direction.
- Diagrams and pictures should be clear, large and easily understandable.
- Colourful diagrams are very effective.

Example:



IMPORTANT TERMS AND DEFINITIONS

Term	Definition	Example
Assembly diagram	Drawing showing how parts fit together	Bookshelf
Exploded diagram	Parts shown separated	Bicycle
Component	Individual part	Bolt
Fastener	Item joining parts	Screw
Bolt	Metal fastener	M8 bolt
Nut	Fits onto bolt	Hex nut
Washer	Flat disc used with bolt	Steel washer
Screw	Threaded fastener	Wood screw
Allen key	Tool for hex bolts	IKEA furniture
Spanner	Tightens nuts	Open spanner
Phillips screwdriver	Cross-head screwdriver	Furniture
Flat screwdriver	Flat-head screwdriver	Cabinet
Instructional manual	Guide to assembly	Manual
Label	Identification letter/number	Part A
Step	Assembly stage	Step 3
Diagram key	Explains symbols	Legend
Orientation	Direction of parts	Vertical
Slot	Groove for fitting	Shelf slot
Hinge	Allows opening	Cupboard door
Bracket	Supports parts	Shelf bracket

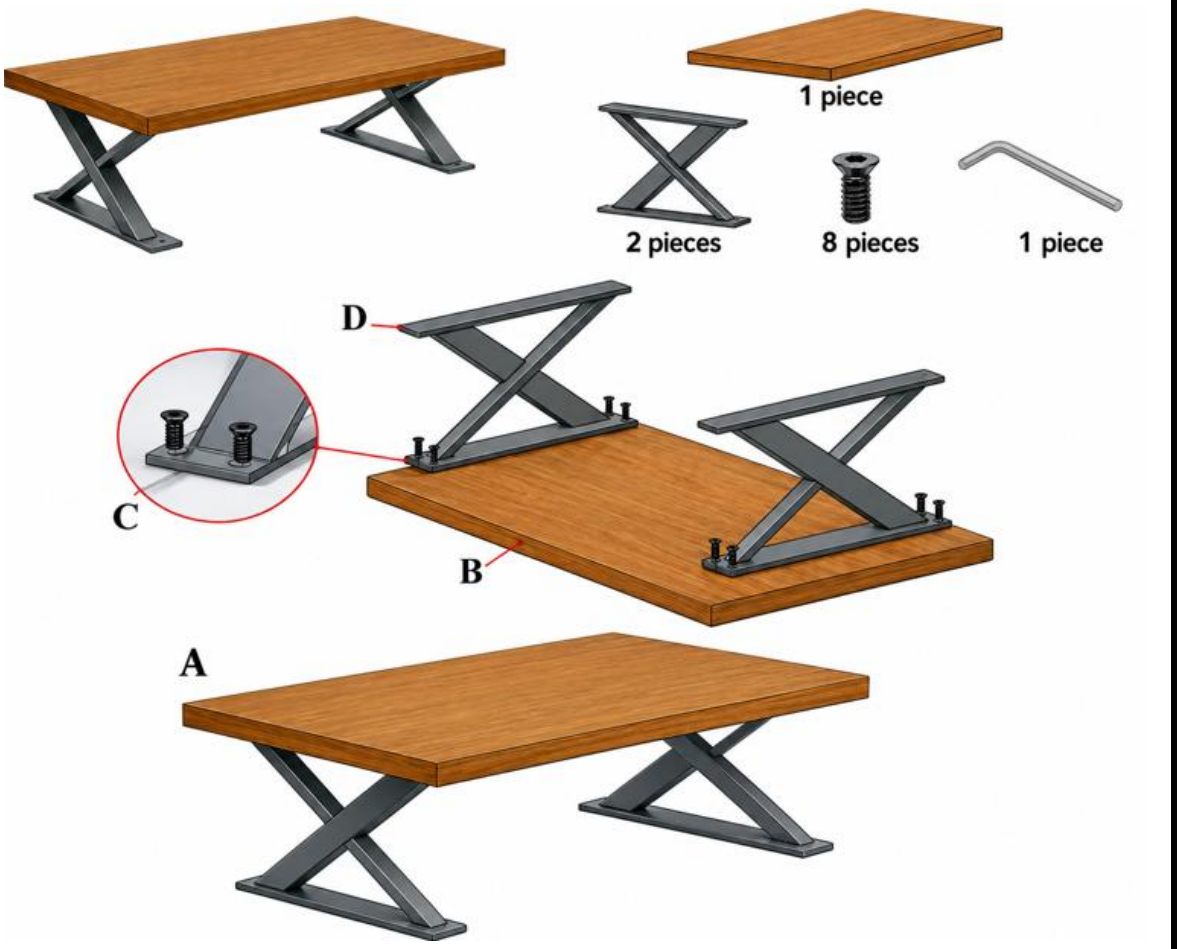
Tips: Assembly diagram

Always identify:

- Part numbers
- Quantity
- Direction
- Order of assembly
- Tools required

WORKED EXAMPLE [07 Marks]

1. The diagram below show the pieces that can be assembled to make a table that Anathi bought.



Study the diagram above and answer the questions that follow.

1.1 Determine the number of pieces needed to assemble this table. (2)

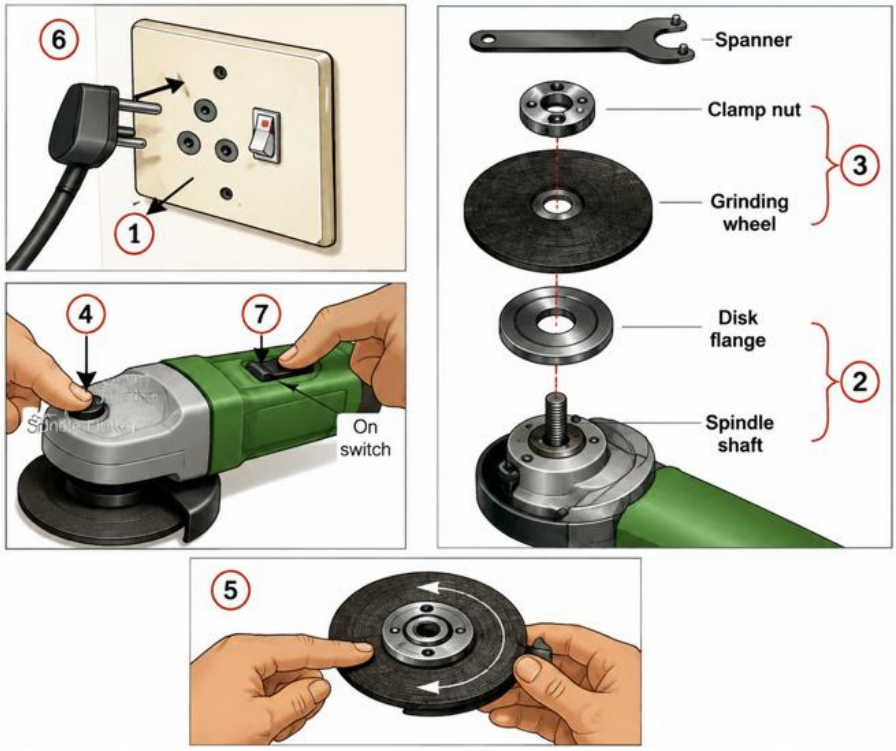
POSSIBLE ANSWER

1 piece + 2 pieces + 8 pieces + 1 piece ✓
=- 12 parts ✓

1.2 Arrange the given steps (using A to D) to show Anathi how this table can be assembled. (4)

POSSIBLE ANSWER
B ✓
D ✓
C ✓
A ✓

2. The school maintenance supervisor had to install a new grinding disc onto an angle grinder.



Write the instructions below (A to G) in the correct order.

A. Push down on the spindle lock bottom to lock the spindle before tightening the clamp nut with the spanner.

B. Put the disc flange on the grinder spindle shaft and then put the grinding wheel on top.

C. Plug the three-pin plug onto the power socket.

D. Isolate and remove the angle grinder plug before assembling the grinding disc.

E. Put the clamp nut on top of the grinding wheel and screw until tight onto the spindle shaft.

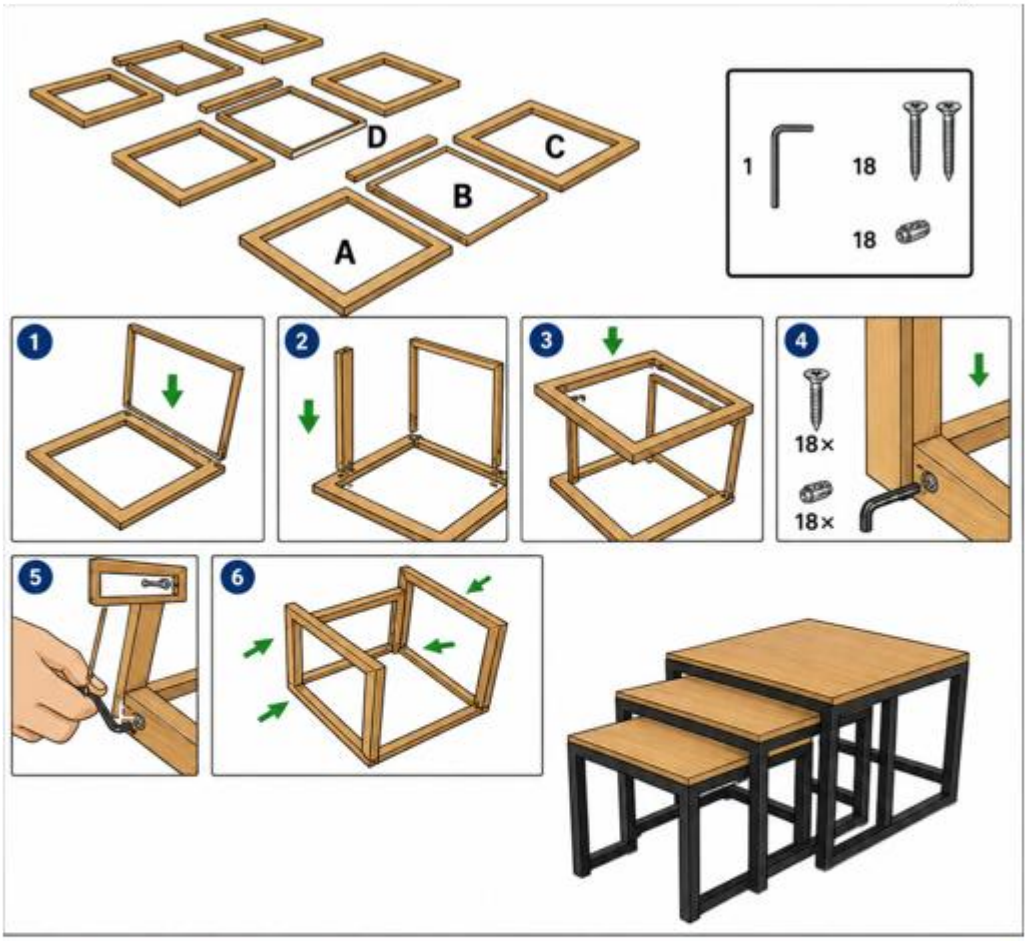
F. Once the spindle lock button is pressed, tighten the clamp nut to the grinding disc with spanner, turning clockwise.

G. Push the ON switch forward to test the grinder. (7)

POSSIBLE ANSWER
A = 4 ✓
B = 2 ✓
C = 6 ✓
D = 1 ✓
E = 3 ✓
F =5 ✓
G =7 ✓

ACTIVITY 1 [17 Marks]

1. An assembly plan for a set of side tables can be seen below. This assembly plan has no instructions.



COMPONENTS USED TO ASSEMBLE THE TABLES		
1 ALLEN KEY	18 BIG SCREWS	18 SMALL BOLTS
1	18	18

Use the information above to answer the following questions.

1.1 Determine the total number of parts that must be used to make up all the tables. (3)

1.2 Identify the part of the table that will help to reinforce or support the table. (2)

1.3 Name the step of the assembly diagram which will secure the screws and small bolts. (2)

1.4 Write a set of instructions for Steps 1 to 3 of the assembly diagram. (3)

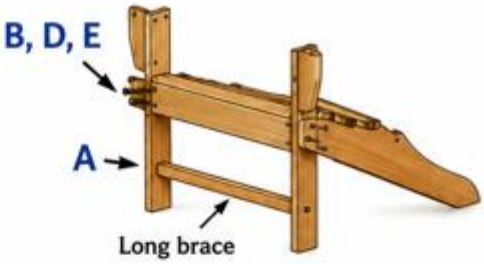
2. Illustrated below are steps and some instructions to assemble a deck chair. To assemble the deck chair, the wooden pieces are joint together using fasteners (screws, bolts, washers and nuts). There are 32 pieces in the packet of fasteners. Each bolt is screwed by a nut and washer.

STEPS TO ASSEMBLE A DECK CHAIR

STEP 4
COMPLETED CHAIR



STEP 1



Attach the seat using bolts (B), nuts (E) and washers (D) to the two front legs.
Attach the long brace using the screws (A).

STEP 3



Attach the back to the seat and arms using the screws (A).

STEP 2



Attach the arms to the two front legs using the bolts (C), nuts (E) and washers (D).

	TYPE OF FASTENER				
	A Screw	B Bolt	C Bolt	D Washer	E Nut
					
Quantity	8	6	---	8	8

[Source: Adapted from www.bin.com]

Use the information above to answer the questions that follow.

2.1 Determine the number of type C bolts used to assemble the deck chair. (2)

2.2 State the number of nuts left over after step 1 is complicated. (2)

2.3 Name the piece required to complete the assembly of the deck chair. (2)

ACTIVITY 2 [15 Marks]

1. One of the students bought a foldable laptop stand to use for his laptop.

Shown below are the pictures of the package box and the dimensions of the stand.

PACKAGE BOX	DIMENSIONS OF THE FOLDABLE STAND
	

Use the information above to answer the questions that follow

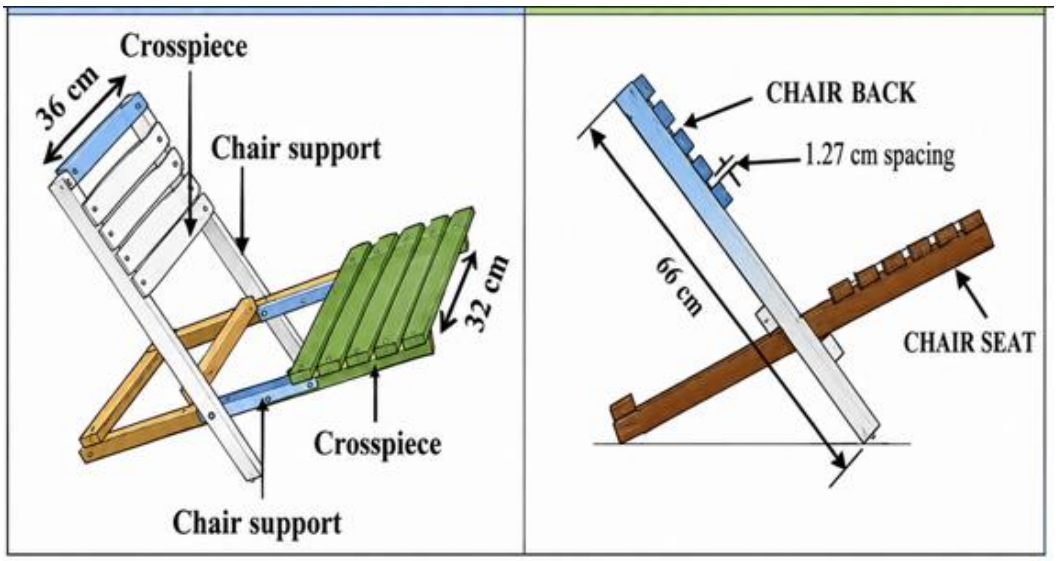
1.1 Calculate, in cm, the total length of the upper part of the stand. (2)

1.2 Write down the colour of the stand the student bought. (2)

1.3 Explain the phrase 'No assembly required'. (2)

1.4 Convert the height of the desk to mm. (2)

2. The fold-up chair is a beach chair that folds into itself. A 3D sketch, a side view, a material list, the assembled chair and a folded-up chair are shown below.



MATERIAL LIST

#	Wooden Item	Dimensions (in cm)
4	Chair supports	1,9 × 3,8 × 66
13	Crosspieces	1,9 × 3,8 × 36
1	Seat back, bottom crosspiece	1,9 × 3,8 × 32

NOTE:

- The thickness of the wood is the smallest dimension.
- # is the number of item(s).

ASSEMBLED CHAIR AND FOLDED-UP CHAIR



[Source: Adapted From www.instructable.com]

Use the information above to answer the questions that follow.

2.1 Write down the total number of wooden items needed to assemble this chair. (2)

2.2 Determine the number of crosspieces found on the seats of THREE chairs. (3)

2.3 Name the item in the material list with the longest dimension. (2)

2.4 Identify which dimension of the chair support will represent the thickness of the wood. (2)

2.5 Write down, in millimetres, the length of the spacing between the crosspieces of the back of the chair. (2)

ACTIVITY 3 [16 Marks]

1. Joanita bought a cabinet which needed to be assembled as in the picture below.

ANNEXURE B shows steps for assembling the cabinet.

Picture of assembled cabinet



[Source: Adapted from www.siyavula.com]

Use the information above and match the pictures on Annexure B with the explanations on 1.1 to 1.5. Write only the letter A to E next to the explanation numbers e.g. 1.5 B.

1.1 Attach the top of the cabinet, screw it in. (2)

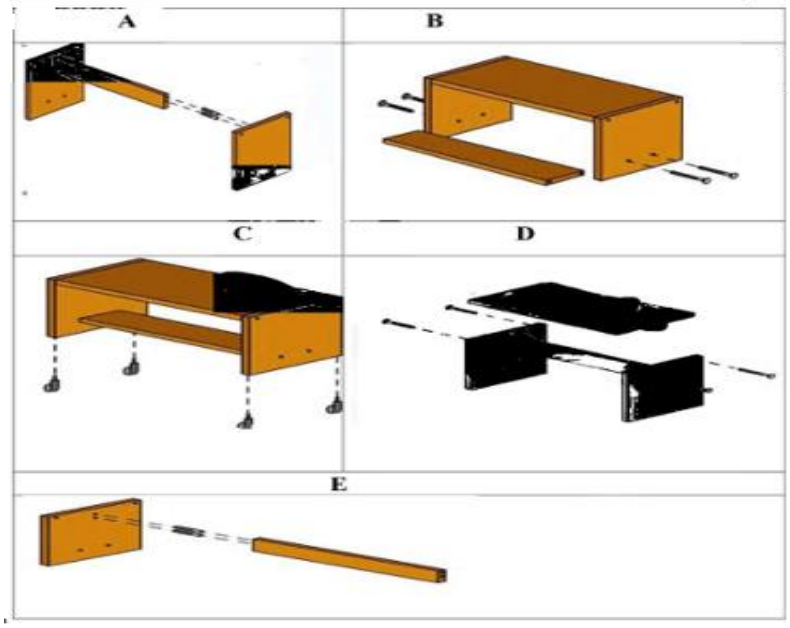
1.2 Screw the top piece into the right side of the cabinet. (2)

1.3 Slide the bottom piece into the cabinet, screw it in place. (2)

1.4 Attach the wheels to the base of the cabinet. (2)

1.5 Screw the cabinet top support piece into the left side panel of the cabinet. (2)

ANNEXURE B STEPS FOR ASSEMBLYING THE CABINET



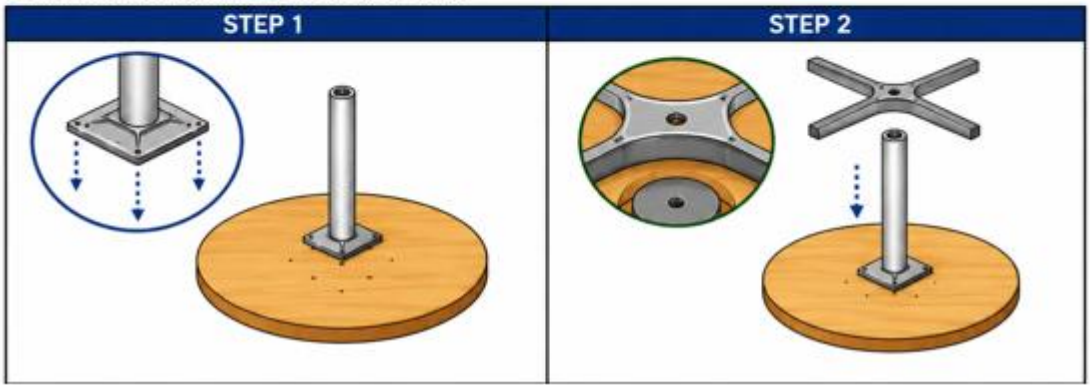
[Source: Adapted from www.siyavula.com]

2. Miss Ndoe, the manager of the theatre bought a table for her home. The pieces needed to assemble the table comes in a box and the assembly instructions areas shown below.

DIAGRAM 2: TABLE & JOINING PIECES AND TOOLS NEEDED



DIAGRAM 3: ASSEMBLY INSTRUCTIONS



[Source: Adapted from www.globalindustrial.com]

Use DIAGRAM 2 and DIAGRAM 3 above to answer the questions that follow.

2.1 Determine the number of screws that are provided to assemble this table. (2)

2.2 Name ONE tool that must be used to assemble the table. (2)

2.3 Identify the STEP (give number only) in the ASSEMBLY INSTRUCTIONS that represents the following instruction:

"Use the bolt and the washer to install the table base to the table support pole." (2)

Financial Documents

Activity 2: Number 1

ANNEXURE B

Statement from 15 January 2025 to 15 February 2025

BANK STATEMENT/TAX INVOICE

PRESTIGE CURRENT ACCOUNT

Details	Service fee	Debits	Credits	Date	Balance
Balance brought forward					65,532,72
Lottery purchase		7.50 -		01/23	65,525.22
VAS00102070381 LOTTO Fee lottery purchase	##	2.95-		01/23	65,522.27
IB Payment to Sibongiseni		10,600-		01/23	54,922.27
Cheque card purchase C*Ackerman E 5326*4903 21 Jan		880.35-		01/23	54,041.92
Cheque card purchase C*Superspar E 5326*4903 21 Jan		87.01-		01/23	53,954.91
Magtape Credit JWS			21,455.95	01/23	**A**
Debicheck debit order Indreamrewec8771934 250124		135.00-		01/24	75,275.89
Cheque card purchase C*JWS 5326*4903 22 Jan cheque		995.00-		01/24	74,280.89
Card purchase C*John Wesely 5326*4903		1,250.00-		01/24	73,030.89
22 Jan IB Payment NNxumalo		400.00-		01/24	72,630.89
IB Payment to Intuitive PDA LT Debit Care		13,00.00-		01/24	59,630.89
Lottery purchase VAS00102334747 Powerball		7.50-		01/24	59,623.39
Fee Lottery Purchase Immediate payment	##	2.95-		01/24	59,620.44
223612048 Easton-Berry Trust		2,209.87-		01/24	57,410.57
Fee Immediate Payment	##	50.00-		01/24	57,360.57
223612048 Capital Data		673.66-		01/25	56,686.91
Fee Immediate payment cheque card payment	##	7.00-		01/25	56,679.91
C*PNP FAM ESH 5326*4903 23 Jan		133.15-		01/25	56,546.76
Cheque Card purchase		433.60-		01/25	56,113.16
Cheque Card purchase		365.09-		01/25	55,748.07

[Source: Adapted from Sampson's account statement]

Financial Documents

Activity 3: Annexure C

INVOICE FOR BOOKING A GUESTHOUSE



On the Hill Guesthouse
125 Bossie Street, Upington
Tel: +27(0)54 333 9870
Cell: +27(0)82 477 2695
E-mail: admin@onthehill.lodge.co.za
Web: www.onthehill.lodge.co.za

Tax Invoice THB 3940
15/05/2022

To: Roadside Tours and Travel Agency	**Address:** Rooms 3-12, Ground Floor
	Rosey Graden Office Park, 22 Bush Street
	Industria Park 0157 Centurion
	South Africa

Tel: +27(0)87 005 4942
Fax: +27(0)86 445 4916
Cell: +27(0)82 885 0089
VAT No: 444 457 8896

Voucher No: THB 3950
Check in: 16 May 2022
Check out: 18 May 2022
Number of Guests: 36

ITEM DESCRIPTION	DURATION	PRICE PER PERSON PER NIGHT	TOTAL
4-bed room	2 nights	R850,00	**C**
2-bed room	2 nights	R900,00	R28 800,00
36 × lunch meals	2 nights	R80,00	R5 760,00
36 × dinner meals	2 nights	R90,00	R6 480,00
		TOTAL:	**R75 040,00**

BANK ACCOUNT DETAILS
Account name: On the Hill Guesthouse
Bank: Standard Bank
Branch Code: 050002
Account Number: 418985565

NOTE:
Arrival/Check-in time: 14:00
Departure/Check-out time: 10:00

CANCELLATION POLICY
Cancellation will attract the following charges, which will automatically be debited to the tour operator's account:

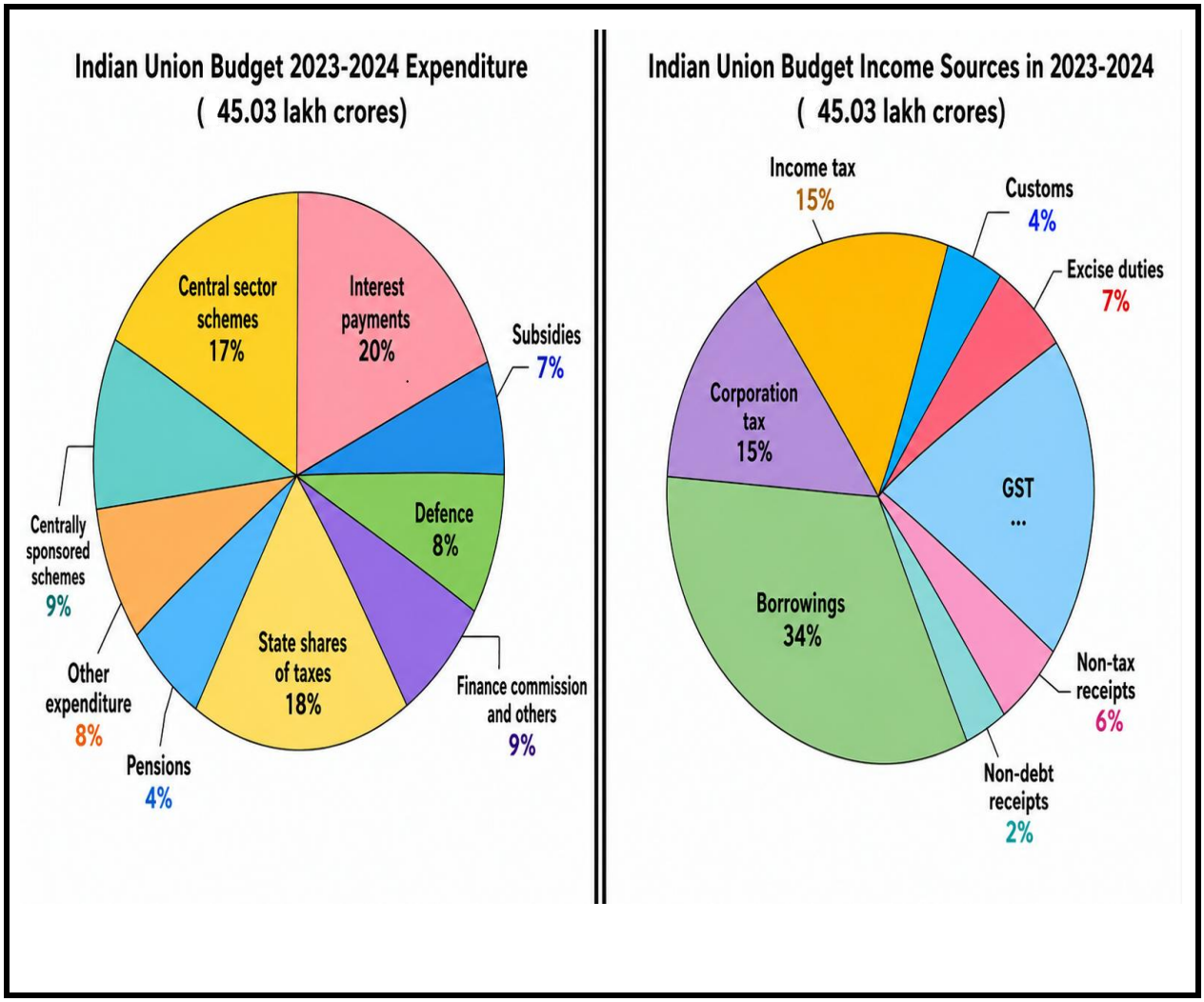
- 25% of accommodation cost if booking is cancelled before check-in time on the check-in date.
- 75% of accommodation cost if booking is cancelled after check-in time on the check-in date.

[Source: Adapted from original invoice]

Exchange rates

Activity 1

Annexure D



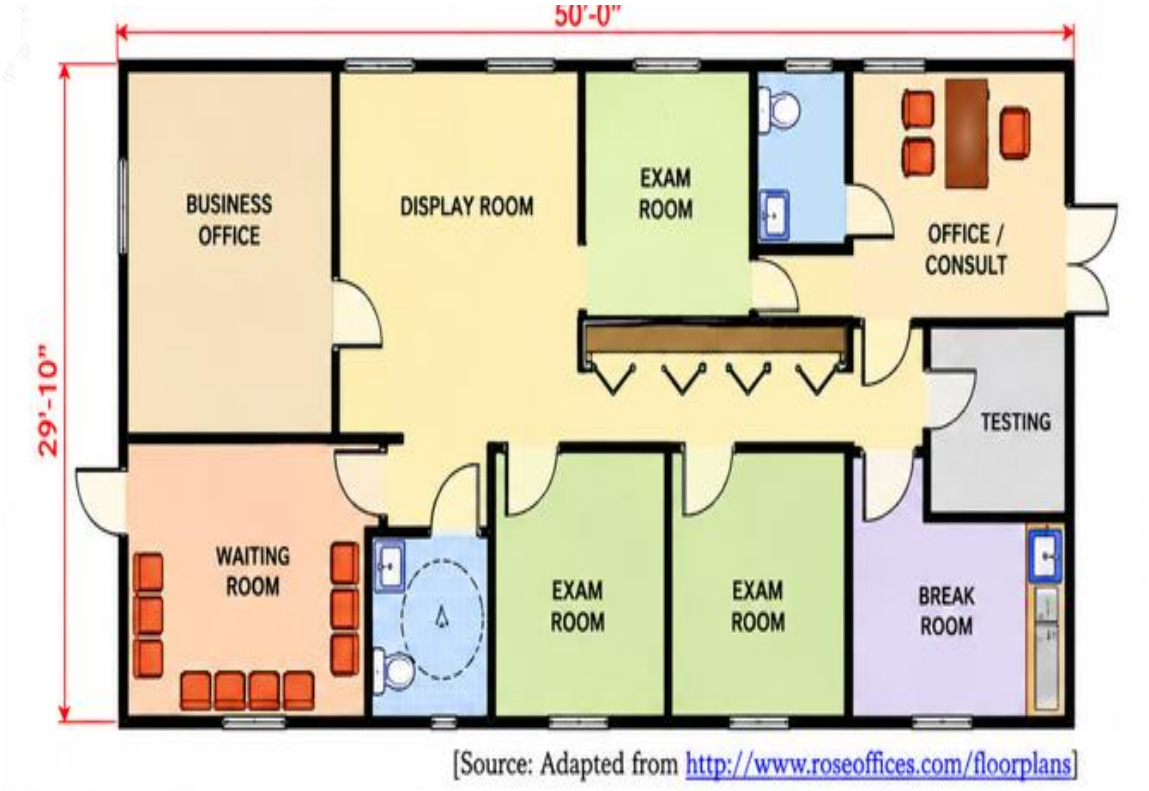
[Source: Adapted from https://www.equentis.com]

Plans

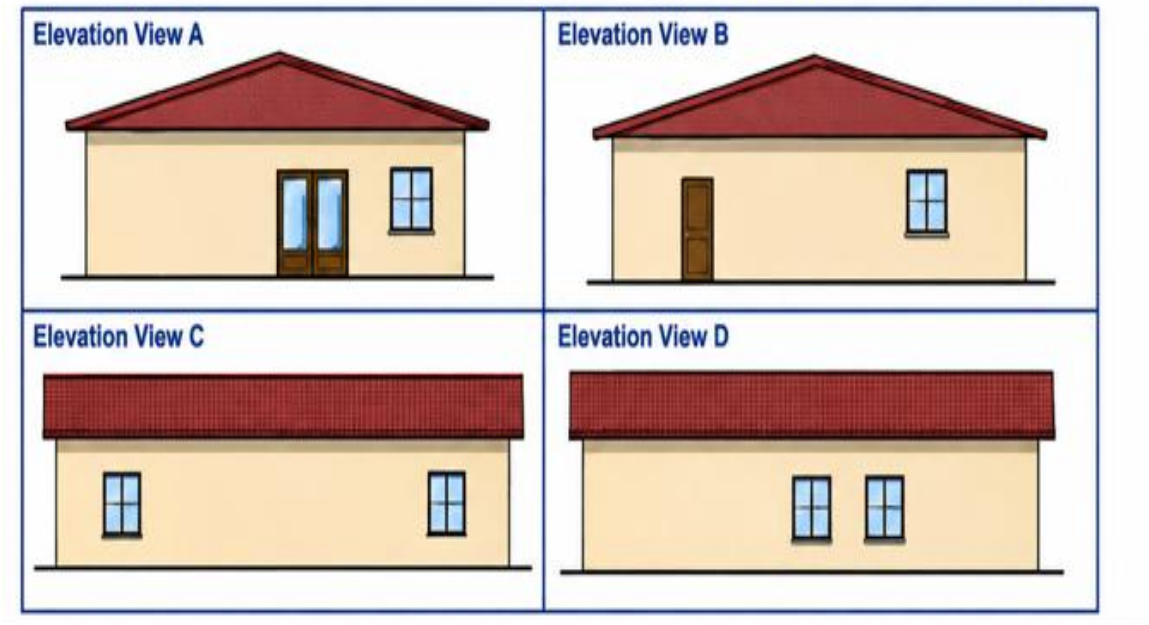
Activity 1

Number 2

Annexure F



[Source: Adapted from http://www.roseoffices.com/floorplans]



[Source: Adapted from https://www.roseoffices.com/floorplan]

Plans

Activity 2

Annexure G

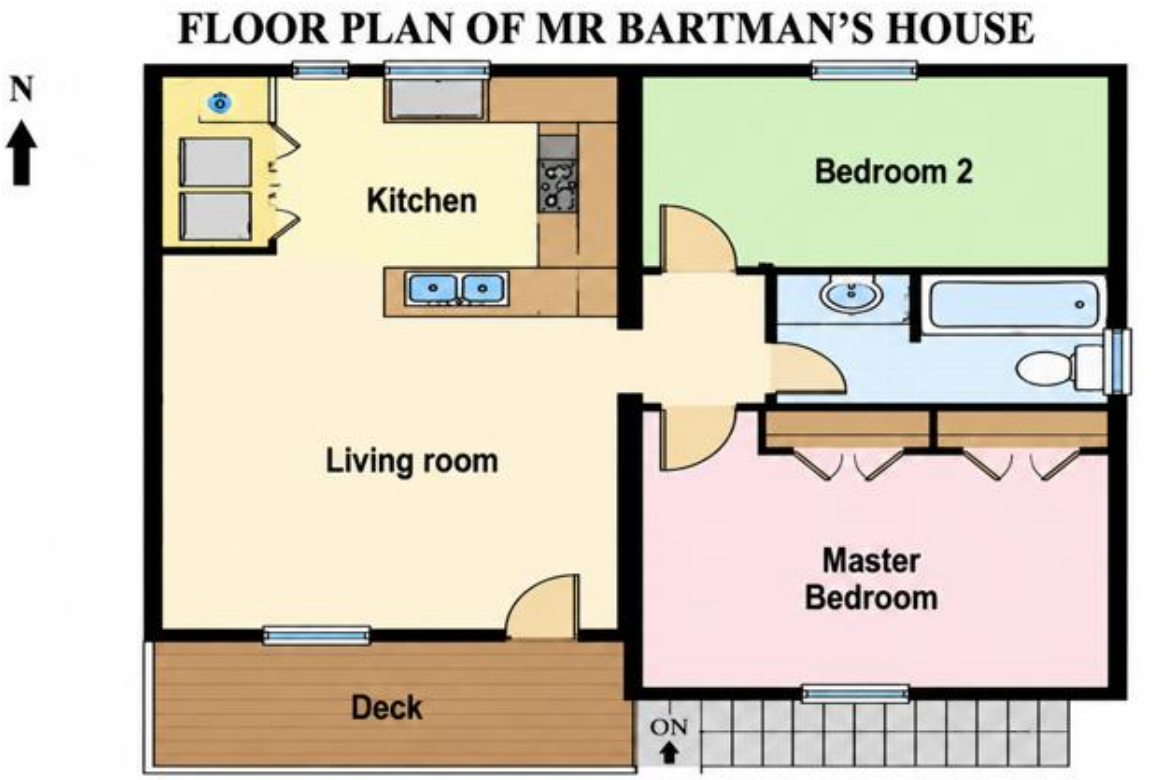


Plans

Activity 3

Annexure H

FLOOR PLAN OF MR BARTMAN'S HOUSE



KEY:	
Window	
Door	

Dimensions of Bedroom 2	Dimensions of Master Bedroom
Length = 3 m	Length = 3 m
Width = 2,6 m	Width = 3 m
Height of the wall = 2,4 m	Height of the wall = 2,4 m

[Source: Adapted from nethouseplans.com]



BIBLIOGRAPHY

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2	Free State September preparatory examination 2025
3	Kwazulu-Natal September preparatory examination 2025
4	Limpopo September preparatory examination 2025
5	Northwest September preparatory examination 2025
6	Gauteng September preparatory examination 2025
7	May/June examination 2025 and 2026
8	Jenn Autum and Spring Material 2025