KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

CURRICULUM GRADE 10 -12 DIRECTORATE

NCS (CAPS) SUPPORT

LAST PUSH LEARNER REVISION DOCUMENT

MATHEMATICAL LITERACY

GRADE 12

2025

QUESTION 1

Bongeka received her levy statement of account from Umkomaas Properties for her rented unit at Willow Glen Villas. ANNEXURE A shows her updated statement of account.

Use ANNEXURE A to answer the questions that follow.

1.1	Define the term *credit* in the given context.	(2)
1.2	Identify the reference number she must use when she pays her account.	(2)
1.3	Give ONE reason why reference numbers are used when making payments.	(2)
1.4	Determine the missing value of **A**, the balance on 1 April 2025.	(2)
1.5	Explain the meaning of the balance determined in question 1.3 above.	(2)
1.6	The total amount due for this invoice is R 2 385, 68 inclusive of 15% VAT. Calculate the amount due, excluding VAT.	(2)
1.7	Determine the total amount of VAT paid.	(2)
1.8	Express the ratio of the meter-reading fee to the standard levy in the form of 1...	(2)
1.9	Determine as a decimal, the probability of randomly selecting in the levy statement a Debit amount in rands that is LESS than R30, 00.	(3)
1.10	Determine rounded-off to TWO decimal places the standard levy for May 2025 as a percentage of the amount due on the statement.	(4)
1.11	Write down a possible payment option Umkomaas Properties will accept.	(2)
1.12	Willow Glen Villas have 11 units in total. Calculate the total amount collected by the body corporate if all 11 units paid their levy UK1 on 1 May 2025.	(3)
1.13	The Umkomaas Properties body corporate increased the standard levy by 5, 65% p.a from 1 July 2025. Calculate the new standard levy after the increase.	(4)
1.14	Bongeka claims that the Domestic Effluent amount is 45% of the standard levy Verify, showing ALL calculations, whether her claim is VALID.	(4)
		[36]

ANNEXURE A :QUESTION 1

Umkomaas Properties

Levy Statement/Tax invoice
Miss Bongeka Ngcobo
Willow Glen Villas
25 Willow Road Umkomaas 4170
Use the following reference on your payment
UMK 2255

Statement Date : 1 May 2025
Payments Up To: 20 April 2025
Premises : UNIT 10

Amount Due:
R 2 385,68

Transactions				
Date	Details	Debit (R)	Credit (R)	Balance (R)
1 April 2025	Balance Brought forward			695,55
1 April 2025	Standard levy April 2021	1 600,00		2 295,55
1 April 2025	Insurance Additional	8,50		2 401,68
1 April 2025	Domestic Effluent	450,00		2 851,68
1 April 2025	Maintenance plan(5 years)	245,00		3 096,68
1 April 2025	Credit Settlement UMK 2255		- 3100	**A**
1 May 2025	Standard levy May 2025	1 600,00		1 596,68
1 May 2025	Meter- reading Fee Electricity	20,25		1 616,96
1 May 2025	Insurance Additional	8,50		1 625,43
1 May 2025	Domestic Effluent	450,00		2 075,43
1 May 2025	Meter- reading fee water	20,25		2 095,68
1 May 2025	Levy UK1 May 2025	45,00		2 140,68
1 May 2025	Maintenance Plan (5 years)	245,00		2 385,68
		Amount Due:		**2 385,68**
Bank Details		Strictly no cash payments		
Bank:	TYME			
Branch Code:	678910	All amounts are due on the first day of each month.		
Account Name:	Willow Glen Villas			
Account Number:	51003139103			
		[*adapted from Umkomaas Properties*]		

QUESTION 2

2. ANNEXURE A shows a summary of Cele's Vehicle and Household Insurance Policy.

Use ANNEXURE A to answer the questions that follow.

2.1 Identify the client number from Cele's insurance policy. (2)

2.2 Determine the missing value **A**, the monthly premium for the VW Polo. (4)

2.3 Express as a ratio in simplest form the value of the Hyundai premium to the value of the excess. (2)

2.4 Calculate the percentage discount that he receives if the total monthly premium before the discount was R 7 827,31 (3)

2.5 Mr Cele was involved in the motor vehicle accident during December 2024.The quotation from panel beaters was R 68 350,00
Determine the amount the insurance will pay to the panel beaters. (2)

2.6 Calculate the amount of VAT included in the total monthly premium. (3)

2.7 The premium for the Hyundai Venue is much lower than that of the VW Polo.

Give TWO possible reasons for this difference in premium amount. (4)

2.8 Mr Cele pays a Home premium for household contents cover to the value of R 250 000. After the household contents were evaluated for insurance purposes. He bought a 170 inch plasma smart TV.
Explain how the purchase of this new item will affect his Home content premium. (2)

2.9 Give ONE possible reason, why his home address, ID number and contact details are not shown in full. (2)

2.10 Determine the probability as a percentage of randomly selecting a Ford car from the insured cars. (2)

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ANNEXURE B: QUESTION 2

SUMMARY OF A HOUSEHOLD INSURANCE POLICY

Car & Household Insurance			
Client No	6662381	Start Date	1 August 2023
Policy No	2250883	Statement Date	30 June 2025
Name	P Cele	ID number	86081******
Physical Address	2* wil** um****	Work number	039 979*****
Mobile number	082625*****7		
Email address	Siz***gmail*****		

Summary of Cover		
Items insured		Premium
My Cars 1	Hyundai Venue 1.0 2019	R1 050,00
Cars 2	VW T-Cross 1.0 2021	R1 895,00
Cars 3	VW Amarok 2.0 TDI Life 4motion 2024	R 2 330,00
Cars 4	VW Polo TSI 1.6 2020	A
Home content	Cele's Residential address	R 785,56
Movables		R 68,50
Road Cover		R 48,25
Total Discount	For having the above noted multiple items	-R 850,01

Total monthly premium (including 15% VAT)		R 6 977,30
Excess value	The amount payable by you to the service provider whenever you make a claim.	R 6 500,00
Window glass only Excess		R 1 490,00

[Adapted from budget.co.za]

QUESTION 3

3.1

Mrs Mkhize works at Spar grocery shop as a cashier at a till point. Below is an extract of her bank statement for the period 1 November 2024 to 01 December 2024.

BANK STATEMENT/TAX INVOICE

ELITE CHEQUE ACCOUNT Account number: 1108 762 250 2

Details	Debits (R)	Credits (R)	Date	Balance (R)
Balance brought forward				2 169,55
Service fee ##	1,60–		11 22	2 167,95
Overdraft fees	58,25–		11 25	2 109,70
Excess interest	9,35–		11 25	2 100,35
Salary		A	11 30	10 078,41
Debicheck debit order	1 557,45–		11 30	8 520,96
ATM cash withdrawal	3 000,00–		11 30	5 520,96
ATM cash withdrawal	180,00–		11 30	5 340,96
Withdrawal service fees ##	69,00–		11 30	5 271,96
Fixed monthly service fee ##	110,00–		11 30	5 161,96
Debicheck debit order	335,62–		12 01	4 826,34
Insure PLA insurance premium	940,39–		12 01	3 885,95
Santam insurance premium	940,39–		12 01	2 945,56
Membership fee – rewards	25,00–		12 01	2 920,56
Electronic transfer credit card	1 307,76–		12 01	1 612,80

These fees include VAT at 14% until 31 March 2018 and at 15% from 1 April 2018.

KEY: 12 01 > 01/12/2024 [Adapted from November 2023]

Use the information above to answer the following questions.

3.1.1 Explain the term *Credit* from the above context. (2)

3.2.2 Identify the account number from the above statement. (2)

3.1.3 Calculate the total amount charged on service fees. (2)

3.1.4 Calculate the salary amount labelled **A** that was paid into her account. (2)

3.1.5 Mrs Mkhize, withdrew from the ATM. Use the table below to show that the withdrawal service fees amount of R69, 00 charged is correct (2)

TABLE 1: Bank charges for cash deposits and withdrawal

Cash deposit (ATM)	**R0,89 per R100 or part thereof**
Cash withdrawal (ATM	**R4, 3125 per R200 or part thereof**

3.2

Below is a portion of home loan statement and transaction history for the period 1 March 2023 to 28 February 2024.

TABLE 2: HOME LOAN STATEMENT

MR J.J.B. DU TOIT	**Date**	2024-02-28
P.O. Box 354	**Statement**	2023-03-01 to 2024-02-28
UPINGTON 8800	**period**	
Account number: 5439823498		

Name of branch	Thibault Square		
Approved loan amount	R900 000,00	**Monthly payment**	R8 527,41
Current interest rate	9,52%	**Pay date**	2024/03/03
		Payment frequency	Monthly

Date of transaction	Transaction	Debit	Credit	Balance
2024-01-09	BROUGHT FORWARD	900 000,00		900 000,00
2024-01-09	Initial fee*	**A**		906 037,50
2024-01-31	Interest	5 434,92		911 472,42
2024-02-02	Debit order		8 527,41	902 945,01
2024-02-28	Interest	6 596,06		909 541,07

* Total cost: R5 250 (15%VAT excluded) + VAT ... = **A**

NOTE: The loan period is 20 years.

[Adapted from: Northern Cape revision document]

Use the information above to answer the questions that follow.

3.2.1 Calculate the initial fee labelled **A** including VAT that was charged. (3)

3.2.2 Hence, show the loan amount of R906 037, 50 was calculated. (2)

3.2.3 The interest rate decreased on 1 March 2024 by 25 basis points. Determine the interest rate that is used from 1 March 2024.

NOTE: 1 % = 100 Basis points (3)

3.2.4 Calculate the amount interest owed on 31 March 2024 that will be shown on the next statement.

You may use the following formula: **Interest** $= \frac{\mathbf{B \times n \times r}}{\mathbf{365}}$

NOTE:

B = closing balance on last day of previous month

n = number of days in month

r = interest rate (3)

3.2.5 Mr. Du Toit claims that if the monthly repayment stay the same for 20 years, he will pay interest which is more than the loan amount. Justify with calculations, if his claim is correct.

You may use:

Total interest = Total monthly repayments – loan amount (4)

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QUESTION 4

4.1 Thandi is an account holder at TSD Bank. Below is the account statement for the period 09/09/2024 to 16/09/2024.

THANDI'S BABK STATEMENT

Prestige Plus Current Account Statement

TSD Bank
Cornerstone Building
Marshalltown
Gauteng 2107

From: 09/09/2024
To: 16/09/2024

Account Number: 47 962 1719

Miss T Diale
1145 Leslie Street
Vereeniging 1930

Details	Debit (R)	Credit (R)	Date	Balance (R)
Balance Brought Forward				54,31
IB Payment to Tuff Lady	20,00		09/09/20	34,31
Purchase	63,98		13/09/2024	29,67-
Salary 9282		382,14	14/09/2024	352,47
Salary 9004		22 695,98	15/09/2024	23 048,45
Salary 9234		191,07	15/09/2024	23 239,52
IB Transfer to Teboho	2 400,00		15/09/2024	20 839,52
IB Payment to Mike	1 000,00		15/09/2024	19 839,52
IB Payment to Ntsiki	600,00		15/09/2024	19 239,52
Credit Card	2 361,52		15/09/2024	16 878,00
Insurance 9847	500,00		15/09/2024	16 378,00
Insurance 9140	532,75		15/09/2024	15 845,25
STD Bank Bond	5 569,75		15/09/2024	10 275,50
Insurance 9303	801,23		15/09/2024	9 474,27
Pre-Paid Electricity	100,00		16/09/2024	9 374,27
Vehicle repayment	3 168,79		16/09/2024	6 205,48
##Pre-Paid Electricity Fee	…		16/09/2024	6 204,38
Ladies Fitness	289,00		16/09/2024	5 915,38

End

NB: Transaction means any debits or credits on the account.

IB > Internet Banking Transactions
These fees are inclusive of VAT at 15% (Statement prior to increase in VAT)

Use the information above to answer the questions that follow.

4.1.1 Determine the number of days covered by this statement. (2)

4.1.2 Determine the total number of transactions made on this account. (2)

4.1.3 Thandi's account was overdrawn on a particular day. Identify the overdrawn amount from the statement. (2)

4.1.4 Calculate the Pre-Paid Electricity fee on 16/09/2024. (3)

4.1.5 Calculate the percentage of the total amount deposited into account that was paid towards TSD BANK BOND. Round your answer to TWO decimal places. (4)

4.1.6 Calculate as a percentage, the probability of debit amounts that are less than R1 000, 00. (3)

4.2

Simphiwe borrowed R10 000, 00 to pay for his municipality rates from ABC LOANS, the interest rate is 7, 5% simple interest per annum. The loan amount with interest amounts will be paid over a period of three years.

Use the information above to answer the questions that follow.

4.2.1 Define the term *simple interest* in the above context. (2)

4.2.2 Calculate the interest rate per month. (2)

4.2.3 Calculate the total interest that will be paid over the loan period. (3)

4.2.4 Simphiwe will pay back the money in monthly instalment. Calculate how much he will pay per month. (3)

4.2.5 Simphiwe made a statement that he will save some money with simple interest than compound interest option with the same interest rate and repayment period. Verify using calculations if his statement is correct. (5)

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QUESTION 5

5.1

Mr. Mokoena is 60 years old and has just retired from a company where he worked for 30 years. Upon retirement, he receives the following:

- A gratuity (once-off lump sum) of R600 000
- A monthly pension of R22 000
- He contributed R3 000 per month to a pension fund for the past 10 years
- He pays R4 000 per month to a medical aid scheme for himself and one dependant

ANNEXURE A below shows the 2025 Personal Income Tax Table.

NOTE: According to retirement rules, the first R500 000 of a gratuity is exempt from tax.

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

5.1.1 Define the term *tax bracket*. (2)

5.1.2 South Africa uses a progressive tax system. Explain how it affects individual tax payers. (3)

5.1.3 Determine how much of Mr. Mokoena's gratuity will be taxed. (2)

5.1.4 Calculate the total amount he contributed to the pension fund. (2)

5.1.5 Use the 2025/2026 SARS tax table to calculate the tax he would pay on his annual income, before rebates and medical tax credits. (3)

5.1.6 Determine his final tax payable after rebates and medical credits. (3)

5.1.7 Explain the impact of medical tax credits and tax rebates on the total amount of tax owed to SARS. (2)

5.1.8 Critically discuss whether the tax system treats the retirees like Mr. Mokoena, fairly. Give a reason for your answer. (3)

5.1.9 Mr. Mokoena is offered an annuity plan that will reduce his monthly pension to R19 000 in exchange for lifetime health cover. Calculate how much less tax he would pay annually if he accepts this offer. (7)

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ANNEXURE A - QUESTION 5 and QUESTION 6

TABLE 1: SARS PERSONAL INCOME TAX FOR 2025/2026

TAX RATES INDIVIDUALS - 2026

Taxable income	Rates of tax
R 0 - R 237 100	18% of each R1
R 237 101 - R 370 500	R 42 678 + 26% of the amount over R 237 100
R 370 501 - R 512 800	R 77 362 + 31% of the amount over R 370 500
R 512 801 - R 673 000	R121 475 + 36% of the amount over R 512 800
R 673 001 - R 857 900	R179 147 + 39% of the amount over R 673 000
R 857 901 - R1 817 000	R251 258 + 41% of the amount over R 857 900
R1 817 001 +	R644 489 + 45% of the amount over R1 817 000

TAX THRESHOLDS

	Taxable income 2025	2026
Persons under 65	R 95 750	R 95 750
Persons 65 and under 75	R148 217	R148 217
Persons 75 and over	R165 689	R165 689

TAX REBATES

Amounts deductible from the tax payable	2025	2026
Persons under 65	R17 235	R17 235
Persons 65 and under 75	R26 679	R26 679
Persons 75 and over	R29 824	R29 824

MEDICAL AID TAX CREDITS

Monthly amounts deductible from tax payable	2025	2026
Main member	R364	R364
Main member with one dependant	R728	R728
Main member with two dependants	R974	R974

Each additional dependant qualifies for a credit of R246 (2023 : R234) per month.

[Source: www.sars.gov.za]

QUESTION 6

6.1

Thabo is 45 years old and earns a gross monthly salary of R45 000. He pays medical aid contributions for himself and two dependants. He also receives an annual bonus of R50 000. SARS (South African Revenue Service) uses a tax table to calculate the annual personal income tax payable.

Use ANNEXURE A and the information above to answer the following:

6.1.1 Define the *tax threshold*. (2)

6.1.2 Calculate Thabo's annual gross salary. (2)

6.1.3 Show how the tax rebate amount for persons 75 and over was calculated. (2)

6.1.4 Use the SARS income tax table below to calculate the total tax payable per year by Thabo. (5)

6.1.5 Calculate Thabo's monthly net salary after tax deductions, including the bonus. (3)

6.1.6 Describe how rebates and medical tax credits impact Thabo's tax liability and discuss why SARS includes them in the tax system. (2)

6.1.7 Show how R251 258, the minimum tax payable on the tax rate table, was calculated. (4)

6.1.8 Thabo wants to save 15% of his monthly net salary for a holiday determine how much he will save in 6 months. (5)

6.1.9 Show how a tax threshold amount of R95 750 was calculated. (2)

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QUESTION 7

TABLE 1 below shows the stepped water tariff rates (sliding scale) for residential properties in Cape Town.

As of 1 February 2024, Level 6 tariffs were applied.

TABLE 1: Stepped water tariff rates (sliding scale) for residential households in Cape Town.

STEP	VOLUME/AMOUNT OF WATER USED (1 kℓ = 1 000 LITRES)	LEVEL 4 R/kℓ (INCLUDING VAT – 15%)	LEVEL 6 R/kℓ (INCLUDING VAT – 15%)
1	more than 0 kℓ to 6 kℓ	R4,65	R29,93
2	above 6 kℓ to 10 kℓ	R17,75	R52,44
3	above 10 kℓ up to 20 kℓ	R25,97	R114,00
4	above 20 kℓ up to 35 kℓ	R43,69	R134,00
5	above 35 kℓ up to 50 kℓ	R113,99	R912,00
6	more than 50 kℓ	R302,24	R912,00
	Volume/Amount of water used (1 kℓ = 1 000 Litres)	Level 4 R/kℓ (Including VAT – 15%)	Level 6 R/kℓ (Including VAT – 15%)

[Source: https://Capetown.gov.za]

Use TABLE 1 above to answer the following questions:

7.1.1 Identify the LEVEL 4 tariff for a household consuming between 20 kℓ and 35 kℓ of water (in Step 4). (2)

7.1.2 Determine the VAT-exclusive tariff for step 1 of Level 6. (3)

7.1.3 At which step or interval will you pay R52,44 on Level 6? (2)

7.1.4 Determine the amount a household must pay on Level 4 for consuming 15 kℓ. (4)

7.1.5 Use the table to calculate how much a household will pay at Level 6 for consuming 23 kℓ. (4)

7.2 TABLE 2 below shows the household tariffs for 20Amp for 2022 and 2023.

TABLE 2: HOUSEHOLD TARIFFS FOR 20 AMP

Electricity purchase blocks for 20 Amp Tariffs		**Tariff (cent / kWh)**	
		2022	**2023**
Block 1	0 – 350 kWh	104.26	106.56
Block 2	More than 350 kWh (>350)	118.00	120.60
		Source: https://www.google.com	

Use TABLE 2 above and answer the questions that follow.

7.2.1 (a) State the maximum number of kWh in bracket 1. (2)

(b) Calculate the number of kWh used if a person paid an amount of R420.00. (4)

7.2.2 Calculate the percentage increase in electricity charges for Block 2 tariffs from 2022 to 2023. (4)

[25]

QUESTION 8

8.1 The advertisement below shows the different charges on a cell phone contract.

Samsung Galaxy Flip7 FE 256GB 5G

COSTS	OPTION 1	OPTION 2
Fixed monthly fee	R799	R999
Duration	36 months	36 months
Tariff per minute of call time	R1.00	R1.50
Free minutes	**Nil**	**200 minutes**

Source: https://www.samsung.com

Study the information above and answer the questions that follow.

8.1.1 Define the term *tariff* according to the given context. (2)

8.1.2 Option 2 includes 200 free minutes. Explain how this will affect the monthly charges for this option. (2)

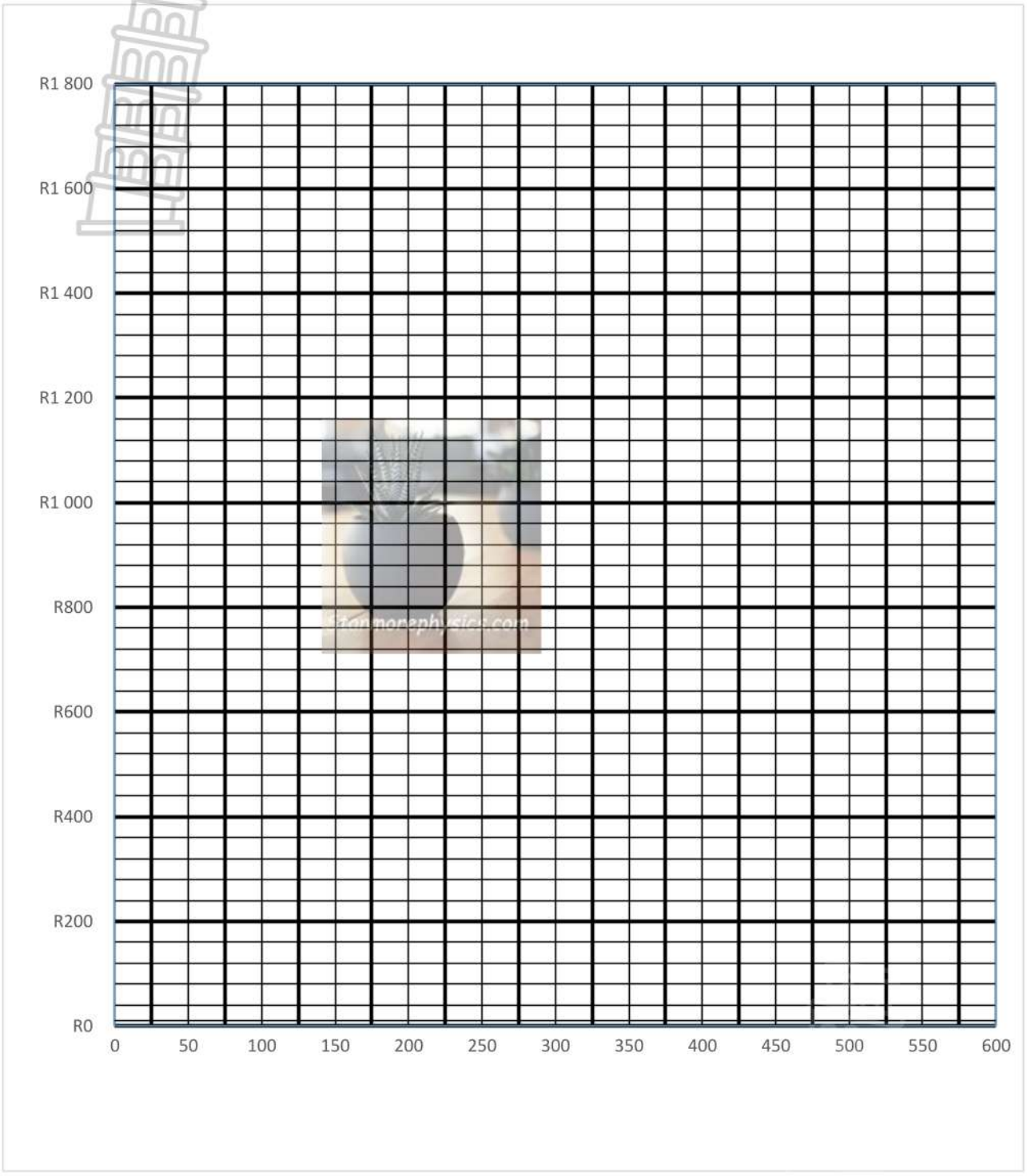
8.1.3 Miss Nkosi claims she will pay less per month under option one if she makes calls lasting no more than 200 minutes. Verify her claim using the required calculations. (5)

8.1.4 Use the ANSWER SHEET provided below to draw TWO graphs on the same set of axes to represent the monthly cost of each option. (6)

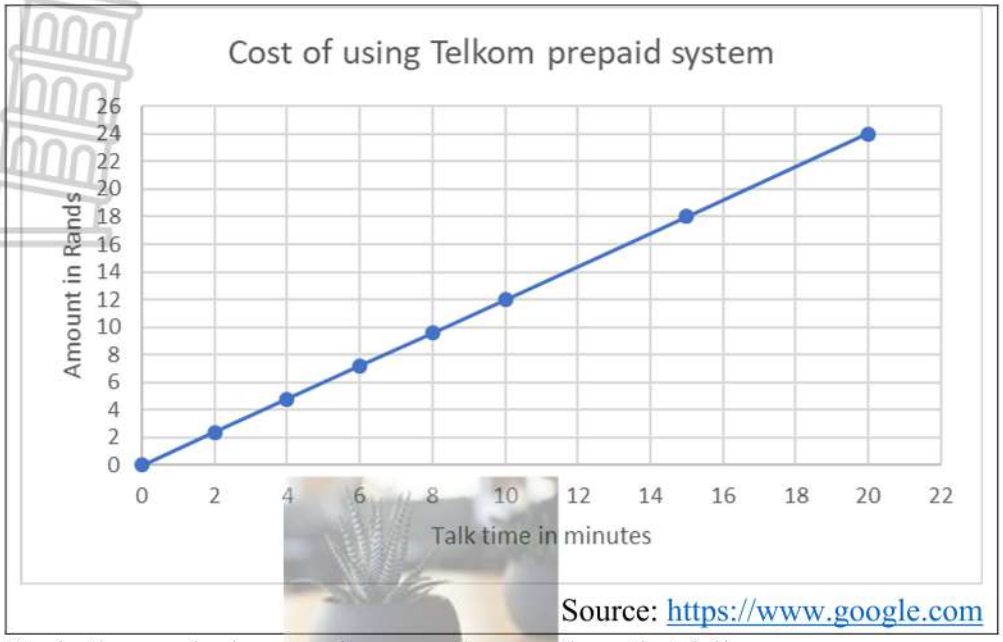
8.1.5 Explain why the two graphs begin on the y-axis rather than at the origin. (2)

8.1.6 Identify the region where Option 1 is cheaper than Option 2. (2)

ANSWER SHEET QUESTION 8.1.4



8.2 Many householders in KwaZulu-Natal use the Telkom prepaid system. The graph below shows the current cost to make Telkom prepaid calls.



Source: https://www.google.com

Study the graph above and answer the questions that follow.

8.2.1 Use the graph to determine the cost of a one-minute call with the prepaid system. (2)

8.2.2 Use your answer from question 8.2.1 to create an equation representing the Telkom prepaid system, and then use that equation to calculate the cost of a 50-minute call. (4)

[25]

QUESTION 9

9.1 The parking tariffs at Quill City Mall are given below. The rate is charged per hour or part thereof.

TABLE 1: QUILL CITY MALL PARKING TARIFFS

QUILL CITY MALL PARKING TARIFFS	
OPEN PARKING – WEEKDAY RATES	
0 – 1 hr	FREE
More than 1hr – 4 hrs	R10
More than 4 hrs – 5 hrs	R12
More than 5 hrs	R20
WEEKENDS, PUBLIC HOLIDAYS & AFTER 6 PM RATES	
0 – 1 hr	Free
Flat rate after first hour	R10

COVERED PARKING – WEEKDAY RATES	
0 – 2 hrs	R8
More than 2 hrs – 3 hrs	R10
More than 3 hrs – 4 hrs	R14
More than 4 hrs – 5 hrs	R20
More than 5 hrs	R25
WEEKENDS, PUBLIC HOLIDAYS & AFTER 6 PM RATES	
Flat rate	R15

[Adapted _from_crestashoppingcentre.co.za/services/]

- Lost tickets R50, credit card facility available- Visa, Mastercard & SnapScan

Use TABLE 1 and the information above to answer the questions that follow.

9.1.1 Write down the amount that a customer who spends 3,5 hours at the mall will pay for parking in an open parking space on Monday. (2)

9.1.2 Quill City Mall Employees receive a voucher of 20% discount for parking. Calculate the amount payable if they park for 5 hours and 20 minutes in a weekday covered space. (3)

9.1.3 Given that a customer paid R14, identify the possible time intervals they could have parked for and the type of parking space. (2)

9.1.4 If a driver's ticket is lost after a stay of 4 hours and 30 minutes on Christmas Day, Determine the difference he has to pay compared to the correct tariff for 3 hours and 30 minutes in a covered parking space. (3)

9.1.5 Give ONE advantage of parking in a covered parking space. (2)

9.2 Nassim owns a nursery garden and transports plants weighing up to 1 000 kg with his truck company.

Gardenvale will not be held responsible for any theft or damages to your parcel.

THIRD-PARTY COURIER

Item	Rate (R)
Fuel Price Used (R/litre)	**21,79**
Average Running Cost (R/km)	1,57
Average Fixed Cost (R/km)	2,28
Total AA Rate (R/km)	**3,85**

[Source: www.https://www.gardenvale.co.za]

Use the information above and answer the questions that follow.

9.2.1 Write down the maximum distance Nassim's truck can travel to deliver parcels. (2)

9.2.2 Determine the total cost of transporting parcels for 7 km and 35 km trips separately. (3)

9.2.3 Show by calculation how the total AA amount of R3,85 was calculated. (2)

9.2.4 The third-party add on 30% profit margin on the total cost rate. Calculate the amount the third-party charges per km. (3)

9.2.5 A competitor uses an electric vehicle with an average running cost of R 2,50 per km and a fixed cost of R1,80 per km.
Thabo states that the difference in cost of a one-way trip of 75km between a third-party and a competitor is R160. Verify showing ALL calculations, whether his statement is correct.
You may use the formula:
Total operating cost = fixed cost + running cost
(5)

9.2.6 Determine the unit ratio of the total rate to fuel price, rounded to one decimal for the third-party. (3)

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QUESTION 10

10.1 Thabo runs a small catering business in Mpumalanga. Each month, he processes transactions through his primary bank, Capitec Global One, but he's considering switching to Discovery Bank.

TABLE 1 shows the tariff schedules and Thabo's typical monthly activity.

TABLE 1: CASH WITHDRAWAL BANK FEES FOR FIVE RSA BANKS

CASH WITHDRAWAL TRANSACTIONS			
Bank	2023 Fees	2024 Fees	2025 Fees
Absa Transact	R8,00 per R1 000	R10,00 per R1 000	R10,00 per R1 000
Capitec Global One	R7,50 per R1 000	R9,50 per R1 000	R10,00 per R1 000 or part thereof
Discovery Bank Gold PAYT	N/A	R5,50 + 2.25%	4 free, R5,00 + 2.50%
FNB Easy PayU	R7,00 per R1 000	R7.00 per R1,000 up to R2,000 then R2.30 per R100	R10,00 per R1 000 up to R2 000 then R14,00 per R1 000
Standard Bank MyMo PAYT	R8,00 per R1 000 or part thereof	R8,00 per R1 000 or part thereof	R9,00 per R1 000 or part thereof
TymeBank EveryDay	N/A	N/A	N/A

[source: https://businesstech.co.za/news/banking]

Thabo's monthly cash withdrawals

- R2 000 at the beginning of the month for transport.
- R5 900 to pay his child's school fees.
- R300 is his child's pocket money.

Use TABLE 1 and the information above to answer the following questions.

10.1.1 Explain the meaning of the term *part thereof* in the given context. (2)

10.1.2 Determine the bank charges he will pay for ALL withdrawals at Discovery Bank in 2025. (2)

10.1.3 Calculate Thabo's total monthly bank fees at his current bank in 2025. (4)

10.1.4 Thabo's client, who banks with Discovery Bank, wanted to determine how much had been withdrawn, as the transaction bank charge was R95,50. (3)

10.1.5 Identify the bank that is more cost-effective for Thabo's business. Justify with a recommendation based on the bank charges or services compared. (3)

10.1.6 Calculate how much more he can pay in 2025 bank charges if he were banking with FNB, compared to Capitec Global One, for a withdrawal amount of R3 000. (5)

10.2 TABLE 2 below shows Thabo's bill for the electricity he used in June 2025.

TABLE 2: THABO'S MONTHLY ELECTRICITY BILL

Charge for kWh	Amount in c/kWh
First 50 kWh	121,456
Next 250 kWh	152,87
Remaining 170kWh	207,78
ALL COSTS INCLUDE 15% VAT	

[Adapted_from_the city of Tshwane municipality_]

- **NB**: Monthly compulsory surcharge @ R60

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

10.2.1 Convert the tariff of 121,456 to rand. (2)

10.2.2 Hence, calculate the cost in rands for the first 50 kWh. (2)

10.2.3 Determine the total number of kWh Thabo used in June 2025. (3)

10.2.4 Calculate the total amount Thabo will pay for electricity in June 2025. (4)

10.2.5 Show by calculations that the VAT amount added to the surcharge is R7,83 (2)

10.2.6 Give ONE valid reason for the municipality to include a surcharge on the bill. (2)

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QUESTION 11

11.1 Daniel is a South African content creator with channels on *YouTube* and *TikTok*. He has 1,2 million followers on *YouTube*. He plans to go on holiday to an overseas destination and intends to create content for his channels.

He downloads the *FNB Foreign Exchange (FOREX)* table to determine which country he can get the best value from for his budget of R25 000.

Table 1 shows an extract from the *FNB Foreign Exchange* table.

TABLE 1: *FNB FOREIGN EXCHANGE RATE TABLE*

		Rand per Foreign Currency unit		**Foreign Currency per rand unit**	
		Bank Selling	Bank Buying	Bank Selling	Bank Buying
CURRENCY	**CODE**				
Euro	EUR	21.1653	20.5672	.0472	.0486
British Pound	GBP	24.2577	23.5050	.0412	.0425
US Dollar	USD	17.9690	17.5707	.0557	.0569
Botswana Pula	BWP	1.2877	1.2062	.7766	.08277
Mauritian Rupee	MUR	.3821	.3602	2.6168	2.7765
Namibian Dollar	NAD	1.0000	1.0000	1.0000	1.0000
Indian Rupee	INR	.2099	.2010	4.7633	4.9748
Singapore Dollar	SGD	14.1844	13.5685	.0705	.0737
Swiss Franc	CHF	23.8311	22.8818	.0438	.0457

Adapted from: *fnb.co.za/rates/forex*

Use the information above to answer the questions that follow.

11.1.1 Identify the currency that is second weakest compared to the SA rand. (2)

11.1.2 Rank the top three currencies in order of currency strength. (2)

11.1.3 Distinguish between the terms Bank Selling Rate and Bank Buying Rate. (4)

11.1.4 The difference between the Bank Selling Rate and the Bank Buying Rate is known as the *spread*. Calculate the Rand per Foreign Currency spread for the Indian rupee. (2)

11.1.5 Give a possible reason why the Bank Selling Rate is higher than the Bank Buying Rate. (2)

11.1.6 Explain what you understand about the strength of the Namibian dollar relative to the strength of the SA rand. (2)

Daniel has R25 000 to spend on his holiday all inclusive.

He did the following calculation to see which country between Singapore and Mauritius would offer him better value for money.

SA rand converted to Singapore dollars

Amount in SGD =R25 000 ÷ 13.5685

= SGD 1842,502 856

SA rand converted to Mauritian rupee

Amount is MUR=R25 000 ÷ 2.6168

= MUR 9 553,653317

$$\frac{MUR\ 9553{,}653317}{SGD\ 1\,842,502\,856}$$

= 5,185149801

Therefore, the Mauritian rupee offers more than 5 times the value of the Singapore dollar.

11.1.7 Critique Daniel's statement and calculations and explain where he went wrong. (10)

11.2

YouTube's top- earning individual for 2024 was Mr Beast (Jimmy Donaldson) with a net worth estimated at $USD 500 million, according to *MoneyLion.* Known for his elaborate challenge videos, giveaways and philanthropic stunts, Mr Beast has grown in popularity in recent years.

YouTube typically pays content creators between $3 and $10 per 1 000 views, depending on the number of subscribers to the channel. Mr Beast earned an estimated $85 million from *YouTube* and related content in 2024. This equates to R1, 558 billion in earnings.

IMAGE OF MR BEAST PROMOTING HIS *amazon PRIME* TV SHOW *BEAST GAMES*

Adapted from *amazon PRIME VIDEO*

11.2.1 Write 1, 558 billion in numbers in full. (2)

11.2.2 Calculate the minimum a *Youtuber* earns per 1 000 views in 2025 if the rate is expected to increase by 2,4% from the previous year. (3)

11.2.3 Convert your answer in 11.2.2 to rands using the exchange rate of $1 = R18,3294. (2)

11.2.4 If a South African *Youtuber* earns a minimum of R45 per 1 000 views in 2024, determine how much less a South African *Youtuber* will earn compared to a *Youtuber* from the US. Use the exchange rate provided in 11.2.3. (4)

11.2.5 Using his estimated US earnings and equivalent SA earnings in 2024, calculate the average dollar to rand exchange rate in the form $1 = R…for 2024, rounded to the nearest 3 decimal places. (4)

[39]

QUESTION 12

12.1 A Japanese hospital plans to purchase a high-resolution MRI scanner from a new supplier. The scanner is valued at ¥28 000 000 in 2024.

The hospital is comparing costs across different years using inflation rates in Japan over the past few years. The goal is to determine if buying the scanner now is financially wise or if they should have purchased it earlier—or should they even wait for future savings based on projected inflation. TABLE 2 shows Japan's Inflation rates from 2019 to 2024

NOTE: ¥ is the symbol for the Yen, the currency of Japan.

IMAGE OF A HIGH- RESOLUTION MRI SCANNER

Source: ***BEYOND RADIOLOGY***

***TABLE 2*: JAPAN'S INFLATION RATE FROM 2019 TO 2024**

YEAR	INFLATION RATE (%)
2024	2,0
2023	3,2
2022	2,5
2021	0,8
2020	-0,1
2019	0,5

Adapted from https://chatgpt.com

Use the information above to answer the questions that follow.

12.1.1 Define the term *inflation rate* according to the context. (2)

12.1.2 Identify the year that inflation in Japan was at its peak. (2)

12.1.3 State whether the following statement is *True or False*. If *False*, correct the statement.

The negative sign for the 2020 year's inflation rate shows that prices of goods were still increasing compared to 2019, but at a lower rate. (3)

12.1.4 Show by calculation that the price of the MRI scanner in 2022 did not exceed ¥26 600 000. (3)

12.1.5 Determine the difference between the 2021 and 2020 inflation rates. (3)

12.1.6 If the hospital waits until 2026, and the projected inflation rates for 2025 and 2026 are 1.8% and 2.2% respectively, calculate the expected cost of the MRI scanner in 2026. (3)

12.1.7 The hospital has a limited budget of ¥30 000 000. Based on the expected price in 2026 as calculated in 12.1.6, explain whether waiting until 2026 is a financially viable option. Provide a calculation to support your answer. (3)

12.1.8 Discuss two financial risks of postponing such a high- value purchase based on inflation projections. (4)

12.1.9 Write, as a percentage, the probability of selecting a year in which deflation occurred. (3)

[26]

12.1.9 Write, as a percentage, the probability of selecting a year in which deflation occurred. (3)

QUESTION 13

13.1 Nozipho invests in an ice-cream stall on the beach front. She is a full-time educator and this is an extra income for herself. In order to ensure that the stall remains open during the week and weekends, she employs a helper who works during the week and on some weekends.

The picture of ice cream she will sell is shown below

Her **first month's** income and expenditure statement looked like this:

Start Up Costs		**Production Costs**	
Ice cream machine 20 litre	R 3 357,00	Milk	R3 000,00
Counters & furniture	R15 000,00	Cones	R1 875,00
Freezer	R 2 899,00	Sauces	R3 517,40
Total	**R21 256,00**	**Total**	**R8 392,40**
Operating Costs		**Income**	
Stall Rental	R2 500,00	Ice cream sales	R14 250
Security Guard Company	R 200,00		
Electricity	R 800,00	**Total income**	**R14 250**
Loan Repayment for Start-up costs	R 750,00		
Wages	R5 000,00		
Total	**R9 250,00**		
Total Expenditure	**R17 647,40**		

Refer to the income and expenditure statement and answer the following questions .

13.1 Show how the total expenditure amount was calculated. (2)

13.2 The start-up costs do have an effect on the total expenditure. In what way do they affect total expenditure? (2)

13.3 One learner from Nozipho's class claims that she makes a profit during this month. Show by calculations whether the learner's claim is VALID. (4)

13.4 Ice creams were sold at a price of R20,00 per ice cream. Determine the number of ice cream sold during this month. (2)

13.5 The production costs include the extra ingredients that have not been used yet. The production costs for one ice cream is R8,00. Using the answer from Question 13.4, calculate the value of the ingredients that have not yet been used (3)

13.6 The formula for calculating the total expenditure can be given as:

Total Expenditure = R9 250,00 + R8,00 × no. of ice creams sold.

Use the formula above and the formula for the total income to complete the following table:

TABLE 2:

NUMBER OF ICE CREAM SOLD ,TOTAL EXPENDITURE AND TOTAL INCOME

No. of ice cream sold	0	300	1000	1600	**B**	2400
Total expenditure (R)	9 250	**A**	17 250	22 050	25 250	28 450
Total income (R)	**C**	4 500	**D**	24 000	30 000	36 000

(5)

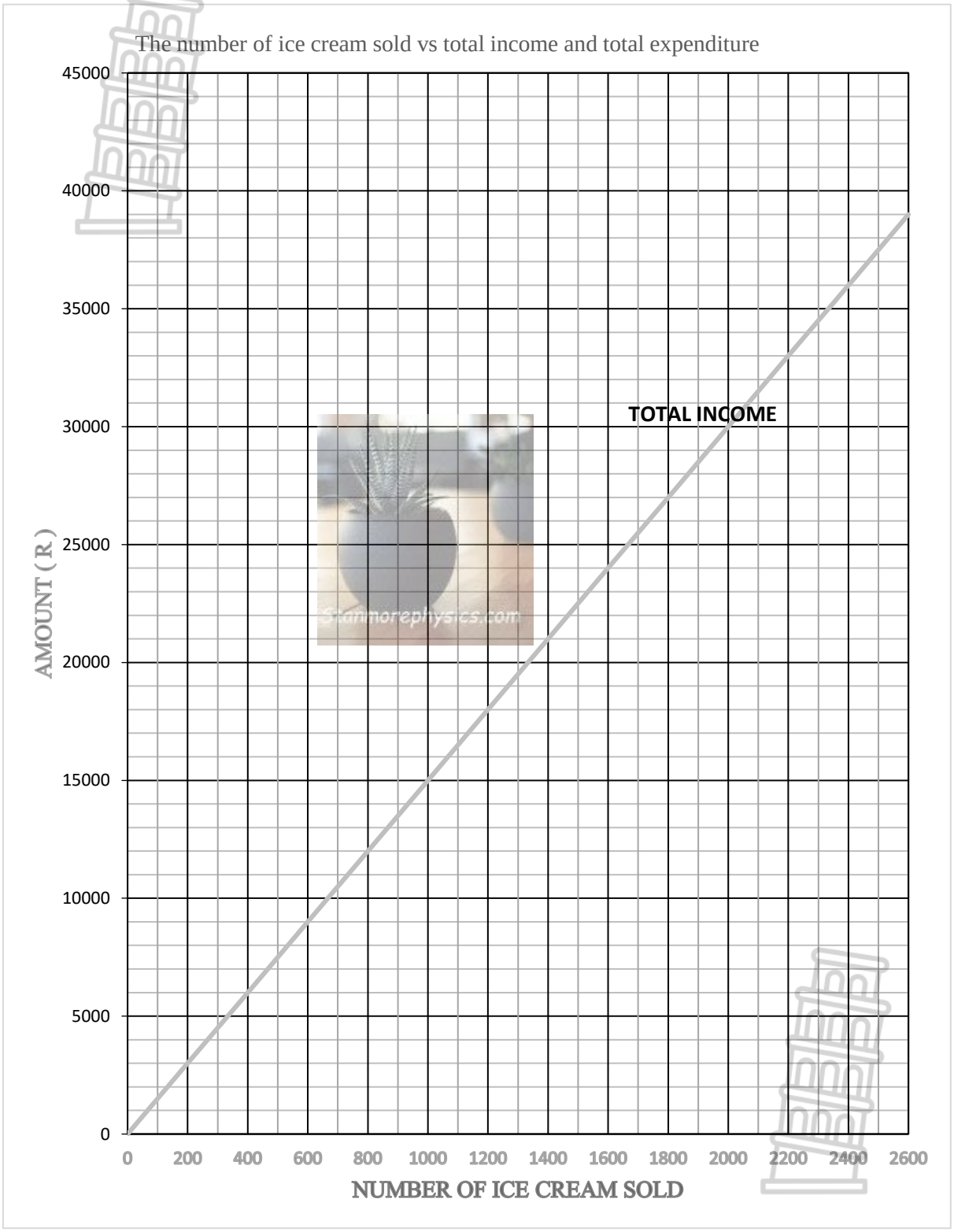
13.7 Use ANNEXURE A and the values from TABLE 1 to draw a graph of total expenditure . (4)

13.8 Refer to the graphs and state the break-even point in units that need to be sold. Round your answer to the nearest 100 ice creams. (2)

13.9 Give TWO other ways of making more income besides selling more soft serve ice creams. (2)

[30]

ANNEXURE A



QUESTION 14

14.1 Mzamo is running a driving school business. The name of his driving school is Siyazama Driving Academy.

[Source : www.dreamstime.com]

The table below shows an income and expenditure for Siyazama Driving Academy

	Jan 2024	Feb 2025
INCOME REVENUE	**R**	**R**
New Registration	15 760,00	34 000,00
Late Registration	11 400,00	14 400,00
Car Hire	2 500,00	4 500,00
GROSS PROFIT	**29 660,00**	**52 900,00**
TOTAL EXPENSES	**23 687,05**	**43 708,05**
OPERATING PROFIT	**5 972,95**	**9 191,95**

Use the above information to answer the following questions

14.1.1 The operating profits for Jan 2024 and Feb 2025 are R5 972,95 and R9 191,95 respectively. Show how these amounts were determined. (2)

14.1.2 Mzamo has decided to budget for 2026 by adding 6% to the current income and expenditure. One of the drivers' instructors claim that if that is the case, the Driving Academy will make double the current operating profit.
Verify , showing ALL calculation whether the instructors' claim was VALID. (8)

4.2 Siyazama Driving Academy offers the following rates for students:

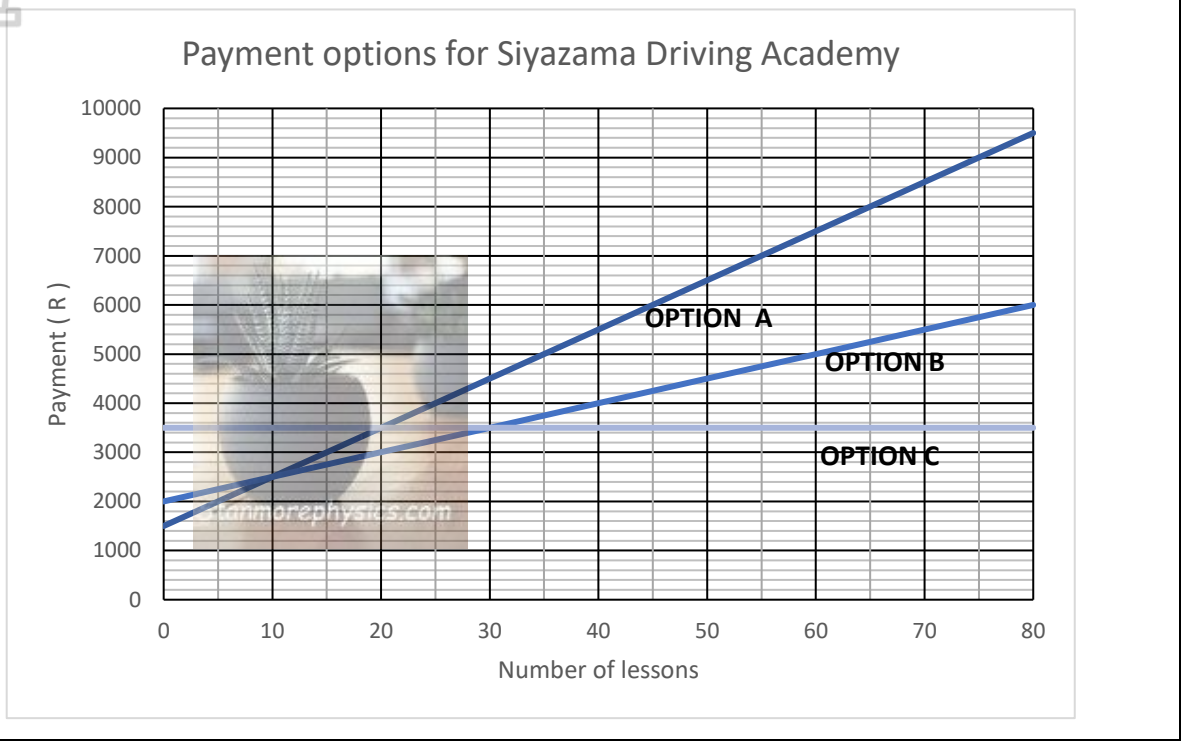
- Option A: Package of 15 lessons at R1 350 (including free learners' licence lesson)
- Option B : R150 for 1 hour lesson or part -thereof

Answer the following questions using the information above

14.2.1 Determine the total profit the company will earn if they train ONE student for 7 hours 30 minutes on Option B and 10 students on Option A. (5)

14.2.2 Calculate profit that was made on each Option in 14.2.1 if profit on Option A is 15% and on Option B is 20% (3)

14.3 The graph below shows three ways that drivers' instructor can be paid.



Use the graph above to answer the following questions

14.3.1 Write down the amount that the instructor will earn if s/he trained for 60 lessons on Option A (2)

14.3.2 One of the instructors stated that it is better to use Option C. Write down ONE advantage of using that Option. (2)

14.3.3 Write down the formula that can be used to calculate the income for the instructor under option B

Income = ……. + ……. x ……. (3)

14.3.4 If there were no lessons, how much will the instructor earn on each Option (3)

14.3.5 If you were Mzamo, which payment Option will you prefer. Provide a reason for your answer. (2

[30]

QUESTION 15

15.1

Mr. Kheswa is having a business of selling goats in Estcourt town. His business operates from Monday to Saturday every week. On the 1st of every month he takes his truck to a farm in Kimberly to buy goats in bulk.

- The transport cost of R3 000 is paid for a single trip to Kimberly.
- The normal cost price of a goat is R1 450 and the cost price for each goat is R950 when buying more than 10.
- Mr. Kheswa hired a salesman and pays him R2 500 every month.
- Mr. Kheswa sells each goat for R1 800.

The picture of the goat is given below and Table 1 that shows the number of goats Mr Kheswa buys and the total monthly cost.

TABLE 1: NUMBER OF GOATS AND TOTAL MONTHLY COST

Number of goats bought	0	2	4	6	8	10	20	30
Total monthly costs (R)	8500	10400	**A**	14200	16100	18000	27300	37000

Source: *www.google.com/image*

Use the information and **Table 1** above to answer the questions that follow.

15.1.1 Differentiate between cost and selling price. (2)

15.1.2 Calculate Mr. Kheswa's total cost for the return trip. (2)

15.1.3 Show how the total monthly fixed costs of R8 500 was calculated. (3)

15.1.4 Determine the equation that Mr. Kheswa will use to calculate his total monthly costs.

$$\textbf{\textit{Total monthly cost}} = \ldots$$ (2)

15.1.5 Use the equation in 15.1.4 to determine the missing value **A** for the total monthly cost. (3)

15.2 Mr. Kheswa want to know the number of goats to be sold to reach the break-even point and how much money he makes a month. The table below shows the number of goats sold and the total monthly income received.

TABLE 2: NUMBER OF GOATS SOLD AND TOTAL MONTHLY INCOME

Number of goats sold	0	2	4	6	8	10	20	**C**
Total monthly Income (R)	0	3 600	7 200	**B**	14 400	18 000	36 000	54 000

Use the information **TABLE 2** above and information given with **TABLE 1** to answer the questions that follow.

15.2.1 Define the term *break-even* in the given context. (2)

15.2.2 Determine the missing values **B** and **C** in the TABLE 2 above. (4)

You may use the formulae

$$\textbf{\textit{Income}} = \mathbf{1800} \times \boldsymbol{n}$$ where n = number of goats sold

15.2.3 A claim was made that, a profit received from the sale of 9 goats bought at a normal cost price is 6,9% of the profit received from the sale of buying 14 goats in a reduced cost price when buying in bulk.

You may use the formulae

$$\textbf{\textit{Profit = income – cost}}$$ (10)

15.2.4 The graph for the monthly cost has been drawn on the ANSWER SHEET provided. Use the same ANSWER SHEET provided to draw the graph for the monthly income. (4)

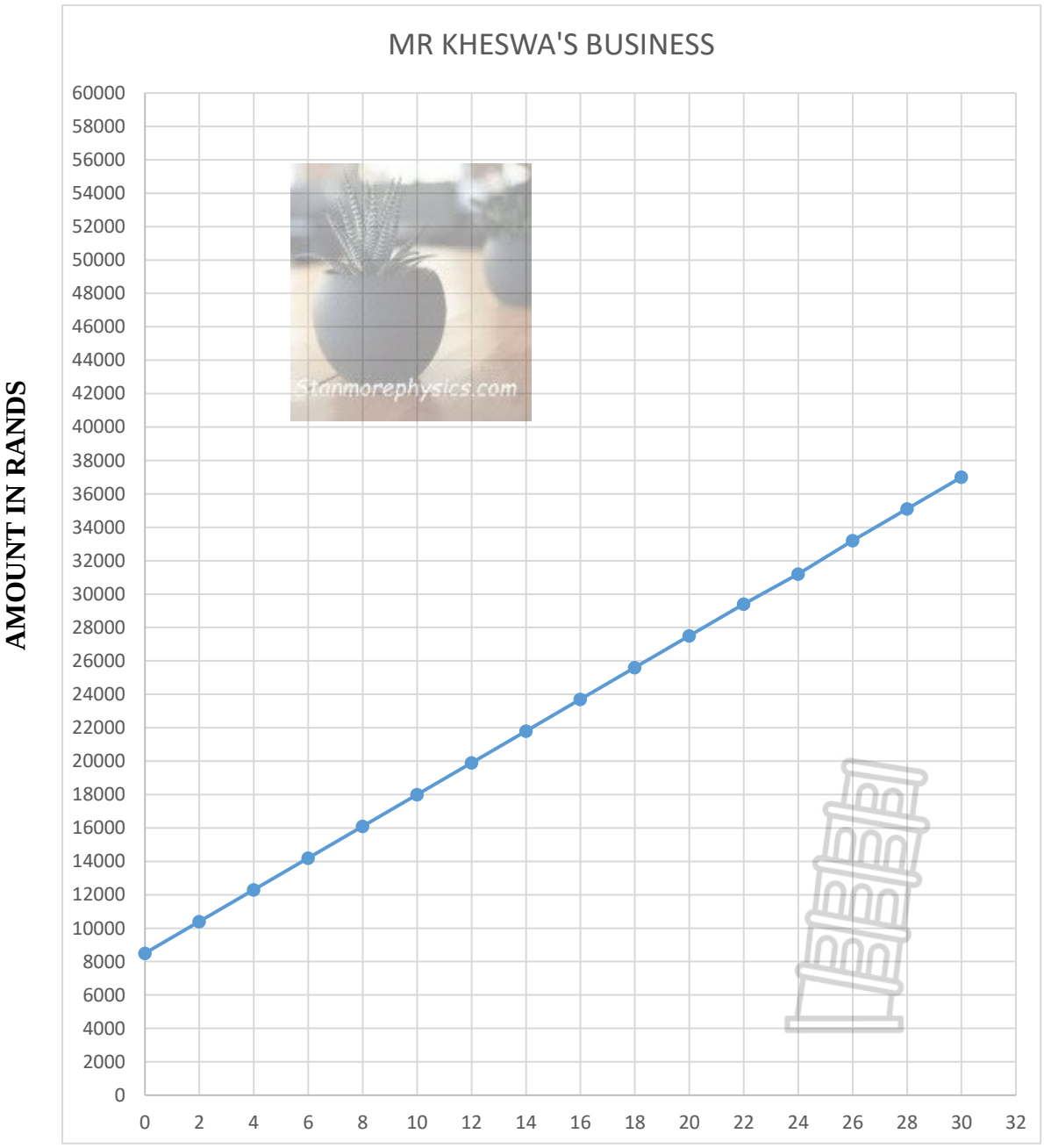
15.2.5 Write down the co-ordinates of the break-even point. (2)

15.2.6 Mr. Kheswa's wife claimed that the profit made when 15 goats are sold is R4 200. Verify showing all calculations if her claim is VALID. (6)

[40]

QUESTION 15.2.3 ANSWER SHEET

Name of the Learner: …….



QUESTION 16

Njabulo is a tailor for church's garments. He is renting a place in Pietermaritzburg town where he is running his business. The rent is R1 500 per month. He buys a 50m fabric for R2 000 and is enough for 20 people. Njabulo sells each garment for R350.

The pictures of the garments tailored by Njabulo is given below and TABLE 1 showing the total cost and income received from the garments sold.

TABLE 1: COSTS AND INCOME RECEIVED

NUMBER OF GARMENTS	0	1	2	3	4	5	**B**	7	8	9	10	…	20
TOTAL COST (R)	**A**	1600	1700	1800	1900	2000	2100	2200	2300	2400	2500	…	3500
INCOME (R)	0	350	700	1050	1400	1750	2100	2450	2800	3150	3500	…	**C**

NOTE: ***TOTAL MONTHLY COST = R1500 + R100 × number of garments***

Source: *www.google.com/zion*uniform

Use the information above, TABLE 1 and a graph on ANNEXURE A to answer the questions that follow

16.1 Identify a fixed cost in the context above. (2)

16.2 Determine the cost of fabric per metre. (2)

16.3 Show how the amount R100 in the equation was calculated (2)

16.4 Determine the equation that can be used to calculate the income received. (2)

16.5 Calculate the missing values **A**,**B** and **C** in the table above. (7)

16.6 Njabulo draws the two graphs on ANNEXURE A to make the analysis on the break-even from the total cost on the garments made and the income on the garments sold.

16.6.1 Define the term *break-even* in the given context. (2)

16.6.2 How many garments must be sold to break-even. (2)

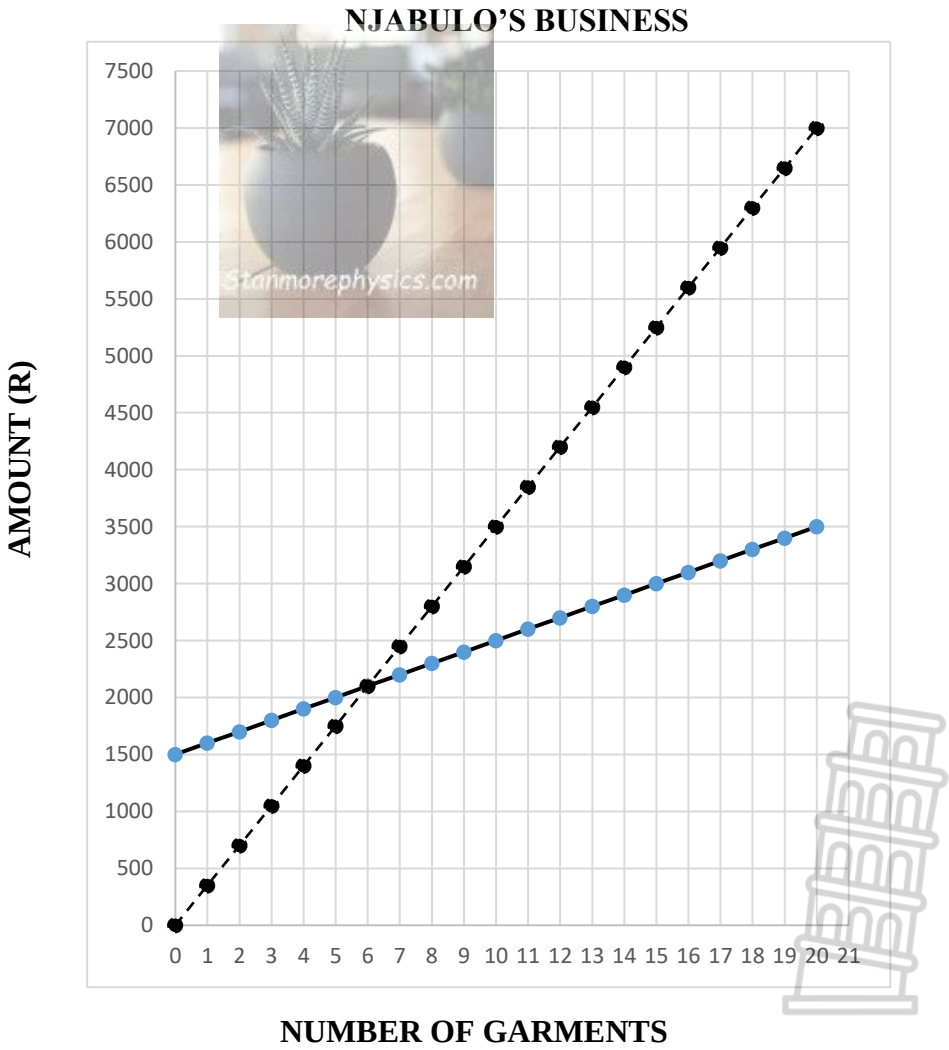
16.6.3 Describe the graph that represents the income received. (2)

16.6.4 Njabulo bought a 250m roll of fabric. His friend claims that this material will be enough for 100 people and the profit he will make will be more than R23 200. Verify, showing ALL calculation whether the claim is VALID. (5)

16.7 In July 2025, Njabulo's sewing machine broke and hired an electrician to fit it. He then decided to increase the selling price of each garment from R350 to R400. Determine the percentage increase. (4)

[30]

ANNEXURE A - QUESTION 16.6



QUESTION 17

17.1 The first step in the process of data handling is developing questions. Mr Jojo the Principal of Meyisi High School wanted to gather information on favourite food from his learners, so he decided to create various questions for his research. Different scenarios of designing a questionnaire are given in th TABLE below.

TABLE 1: DIFFERENT SCENARIOS OF DESIGNING A QUESTIONNAIRE

Scenario 1	**Survey Question**: Meyisi High School wants to determine the favourite food for the learners. One possible survey question is: Don't you agree that pizza is the best food for learners in the school tuck shop?
Scenario 2	**Sample Question:** Mr. Jojo, the principal of Meyisi High School, wants to determine the average amount of time learners spend on homework. a) Mr. Jojo randomly samples only learners from one of the grade 12 classes. b) Mr. Jojo randomly samples learners from all Grades 12 classes in the school.

Use the information above and answer the following questions.

17.1.1 Rephrase the question in scenario 1, so that it is correct. (2)

17.1.2 Determine which sample selection method is unbiased and why? (3)

17.2 **Questionnaire Design:** The Spar manager where the school purchases stock for the tuckshop in the school, wanted to get an opinion from learners about one of the discounted products. Two possible questionnaire designs were based on the following product:

PICTURE OF DISCOUNTED PRODUCT

Source: www.spar.co.za

(a) State whether you like the fact that discounts are exclusive to Spar rewards customers? Choose either Yes or No by ticking one of the boxes below:

- ☐ **Yes**
- ☐ **No**

(b) Give an explanation on what you think about discount being exclusive to Spar rewards customers, whereas all customers buy this product regardless of being members of Spar rewards?

Use the information above and answer the following question**.**

17.2.1 State which questionnare design is user friendly and why? (3)

[08]

QUESTION 18

18.1 Meyisi High School principal collected data on the favourite fruits for learners in order to make profit in the school tuckshop. The data is represented in the list below: Apple, Banana, Orange, Apple, Mango, Banana, Apple, Orange, Grapes, Banana, Apple, Mango, Orange, Banana.

Source: *www.giftlasdy.co.za*

Use the information above and answer the following questions.

18.1.1 Define the term *Tally*. (2)

18.1.2 Classisify the data into different categories. (5)

18.2 TABLE 2 below shows the tally and frequency table for different types of fruit.

TABLE 2 : TALLY AND FREQUENCY TABLE FOR DIFFERENT TYPES OF FRUIT

FRUIT	Tally	Frequency
Apples	**A**	4
Grapes	/	1
Mangoes	//	**B**
Bananas	////	4
C	///	3

Use the information above and answer the following questions**.**

18.2.1 Detemine the missing values **A, B** and **C.** (6)

18.2.2 Identify the most popular fruit to the learners. (2)

18.2.3 State whether the data is Numerical or Categorical. Give a reason for your answer. (3)

18.2.4 If the school population is made up of 500 learners, and this data represents a sample of 14 learners, state whether the sample chosen was proper or not, and then explain what limitations might be there in drawing conclusions about the entire school population based on this data. (3)

18.3 A survey of learners from Meyisi High school on their favourite sports, yielded the following results:

TABLE 3 : Tally and Frequency Table for different types of sporting activities

SPORT	TALLY	FREQUENCY
Soccer	𝍸 𝍸 𝍸	15
Basketball	𝍸 𝍸	10
Netball	𝍸 ///	8
Tennis	𝍸	05
Other	𝍸 𝍸 //	12
	TOTAL	**A**

Use the information above and answer the following questions**.**

18.3.1 State the number of learners involved in this survey. (2)

18.3.2 Determine the value of **A**, the total frequency. (2)

18.3.3 Write down the probability as a decimal fraction of randomly choosing netball from the sports. (2)

18.3.4 Draw a bar graph to represent the data. (7)

18.3.5 Determine the percentage of learners that prefer tennis? (4)

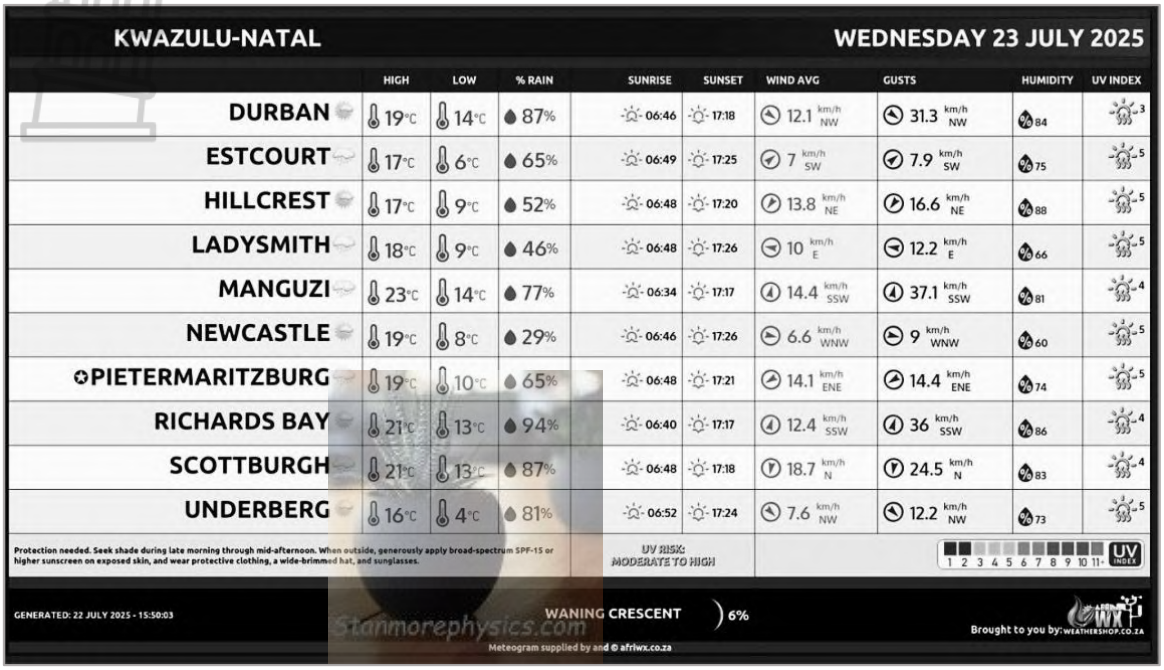
18.3.6 Write down the ratio of Soccer to Basketball in its simplest form. (3)

18.3.7 State any two types of sports that may be included in Other. (2)

[43]

QUESTION 19

The Global warming shows that the weather can not be predicted compare to other previous years. The weather focus below was predicted for KwaZulu-Natal weather focus on Wednesday the 23 July 2025.



KWAZULU-NATAL — **WEDNESDAY 23 JULY 2025**

	HIGH	LOW	% RAIN	SUNRISE	SUNSET	WIND AVG	GUSTS	HUMIDITY	UV INDEX
DURBAN	19°C	14°C	87%	06:46	17:18	12.1 km/h NW	31.3 km/h NW	84	3
ESTCOURT	17°C	6°C	65%	06:49	17:25	7 km/h SW	7.9 km/h SW	75	5
HILLCREST	17°C	9°C	52%	06:48	17:20	13.8 km/h NE	16.6 km/h NE	88	5
LADYSMITH	18°C	9°C	46%	06:48	17:26	10 km/h E	12.2 km/h E	66	5
MANGUZI	23°C	14°C	77%	06:34	17:17	14.4 km/h SSW	37.1 km/h SSW	81	4
NEWCASTLE	19°C	8°C	29%	06:46	17:26	6.6 km/h WNW	9 km/h WNW	60	5
PIETERMARITZBURG	19°C	10°C	65%	06:48	17:21	14.1 km/h ENE	14.4 km/h ENE	74	5
RICHARDS BAY	21°C	13°C	94%	06:40	17:17	12.4 km/h SSW	36 km/h SSW	86	4
SCOTTBURGH	21°C	13°C	87%	06:48	17:18	18.7 km/h N	24.5 km/h N	83	4
UNDERBERG	16°C	4°C	81%	06:52	17:24	7.6 km/h NW	12.2 km/h NW	73	5

Protection needed. Seek shade during late morning through mid-afternoon. When outside, generously apply broad-spectrum SPF-15 or higher sunscreen on exposed skin, and wear protective clothing, a wide-brimmed hat, and sunglasses.

UV RISK: MODERATE TO HIGH

UV INDEX 1 2 3 4 5 6 7 8 9 10 11+

GENERATED: 22 JULY 2025 - 15:50:03

WANING CRESCENT 6%

Meteogram supplied by and © afriwx.co.za

Brought to you by: WEATHERSHOP.CO.ZA

Source: AFRIWX.CO.ZA

Use the information provided above and answer the following questions.

19.1. Arrange the percent(%) rain in an ascending order. (2)

19.2. Determine the range of the % rain presented on the source above. (2)

19.3. Determine the median of % rain on the data provided. (3)

19.4. Determine the **Q1** and **Q3** on the % rain provided above. (4)

19.5. Determine the **IQR** for % rain. (3)

19.6. Identity two towns represent the bottom 25% of the % rain? Explain what this mean? (4)

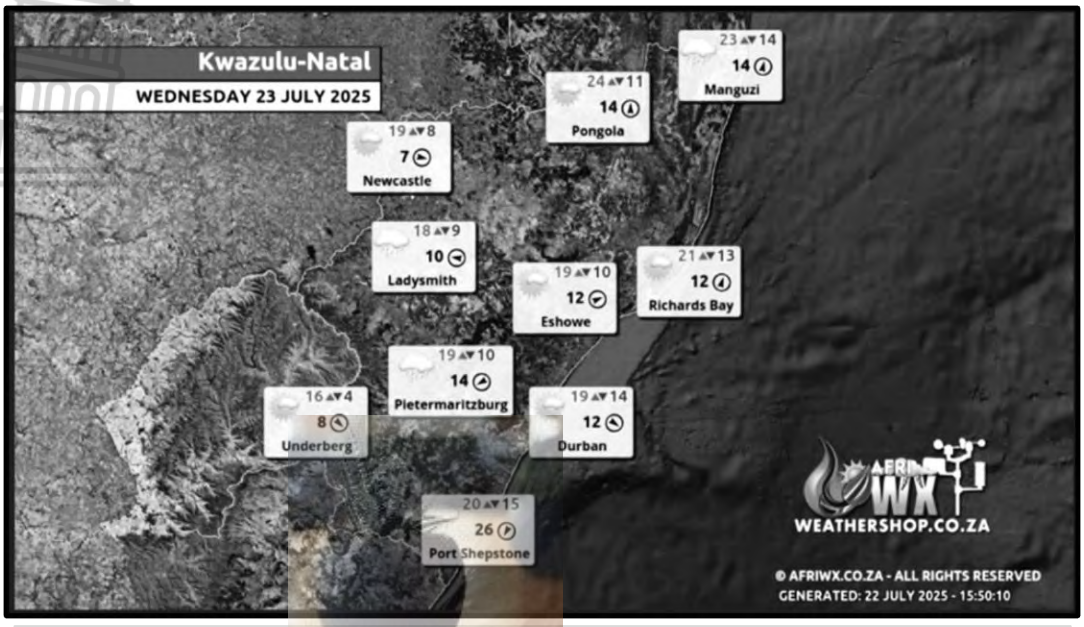
19.7. Show, with calculation that the top 5 towns received at least more than 60% of rain. (5)

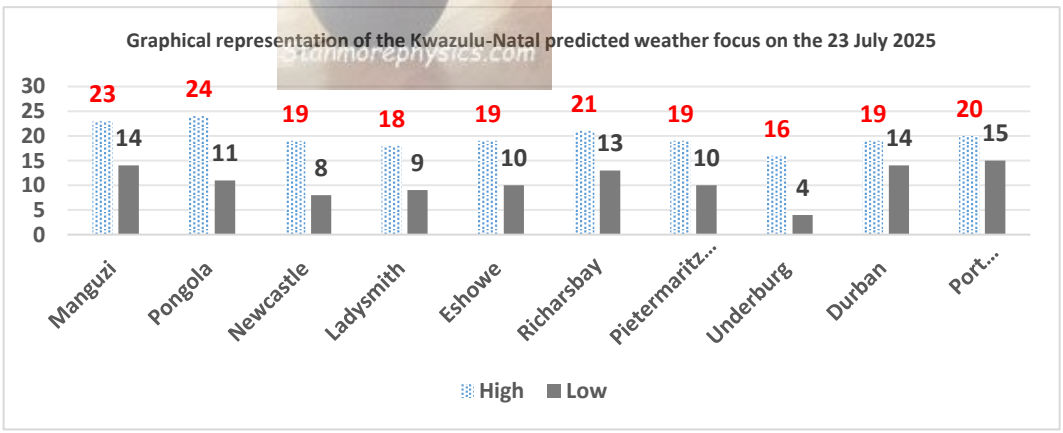
19.8. Determine the probability of randomly selecting a town(s) that has temperature above $20^{o}C$ on the 23 July 2025. Write down your final answer as a percentage. (3)

[26]

QUESTION 20

The map and graph below presents the weather focus in KwaZulu-Natal on the 23 July 2025. Study the source and answer the questions.





Source: AFRIWX.CO.ZA

Study the map above and answer the following questions.

20.1. Is the data presented numerical or categorical data. (2)

20.2. Describe the general trend of temperatures in KwaZulu-Natal comparison of high and low temperatures on the 23 July 2025. (2)

20.3. Explain by justification whether the data is discrete or continuous. (4)

20.4. Write down the modal value of high temperature. (2)

20.5. Determine the mean of high temperature prediction in KwaZulu-Natal on the 23 July 2025. (5)

20.6 Determine the five number summary of high temperature prediction in KwaZulu-Natal on the 23 July 2025. (3)

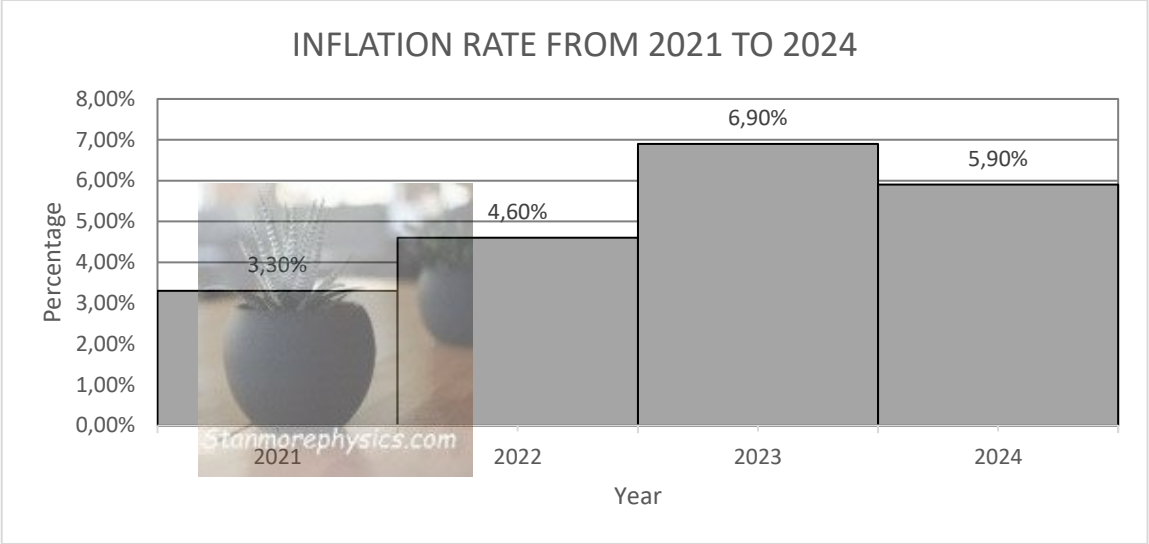
20.7. Determine the median of low temperatures on the day, and hence, determine the Inter quartile range **(IQR)**. (7)

[25]

QUESTION 21

21.1. Mrs. Msibi is a manager at Ezweni Supermarket. She used the following information to determine the impact of inflation in Business.

The graph below shows the average inflation rate from 2021 to 2024.



[Source: statistics South Africa]

Use the information above to answer the questions that follow.

21.1.1 Write down the name of the graph used above. (2)

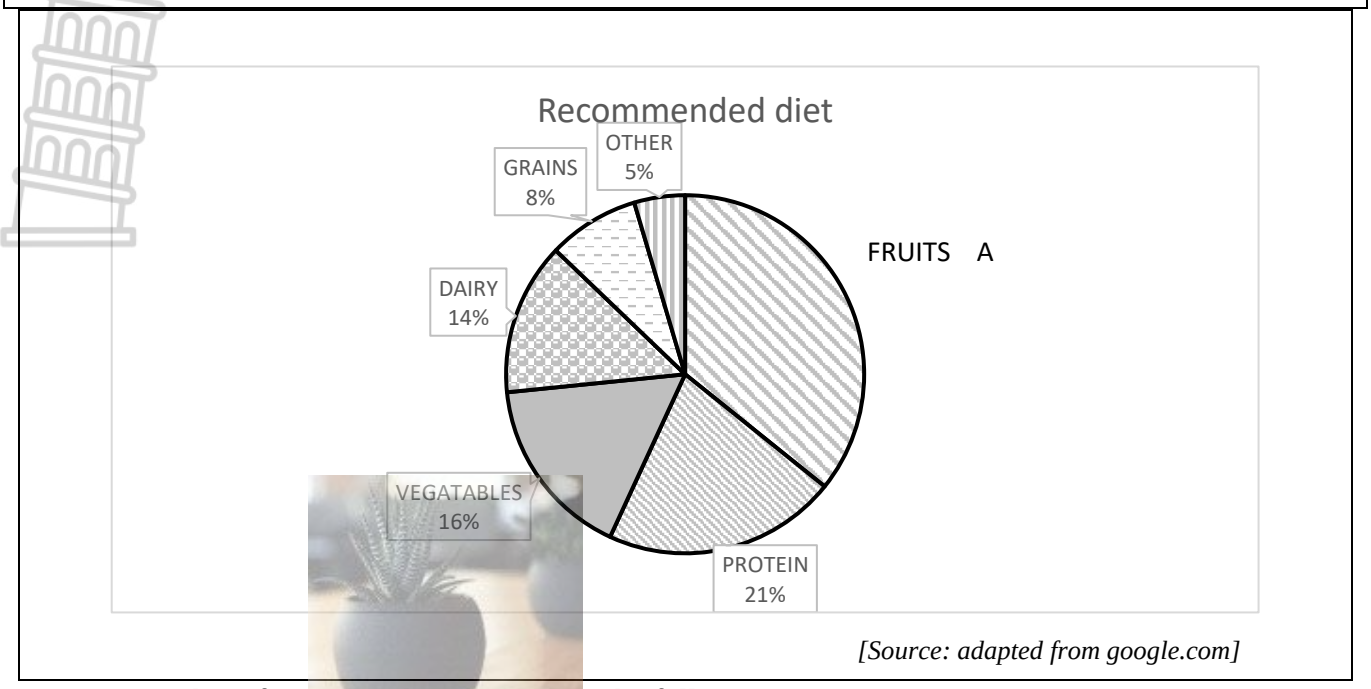
21.1.2 Identify the year where the inflation rate was the most. (2)

21.1.3 The graph shown above suitable to represent the information? Provide the reason. (3)

21.1.4 Describe the trend of the inflation rate from 2021 to 2024. (2)

21.1.5 If the average food basket in June 2022 costs R4 688,81. Calculate cost of the food basket for 2020. (3)

21.2 Mrs Msibi decided to follow a healthy lifestyle.
Below a graph shows recommended diet.



[Source: adapted from google.com]

Use the information above to answer the following questions.

21.2.1 Determine the value of **A** (highest value), if the range is 25. (2)

21.2.2 Write down the ratio of fruit to grain in simplest form. (2)

21.2.3 Mention the other type of graph that can be used to represent the data given above. (2)

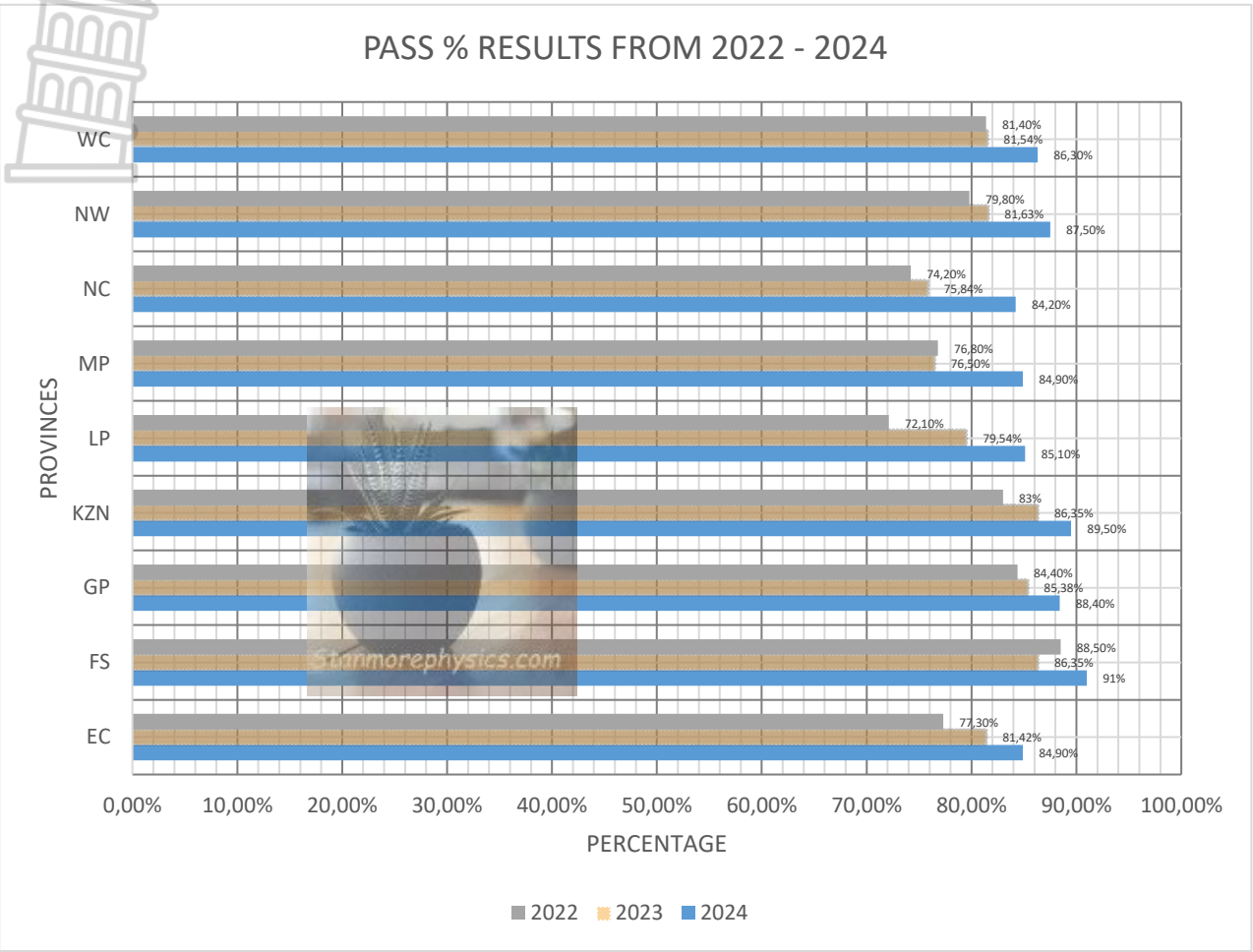
21.2.4 Determine, as a decimal, the probability of randomly selecting fruit or vegetable. (3)

21.2.5 Provide a way in which you can eat healthy without spending more money. (2)

21.2.6 Calculate the median percentage of data given. (2)

[25]

Mr. Dlamini is conducting research to improve the results in different provinces in S.A.
Below is the graph that shows the result from 2022 to 2024.



[Source: www.dbe.gov.za]

22.1 Use the graph above to answer the following questions

22.1.1 Write down the name of the graph shown above. (2)

22.1.2 Arrange the percentages of provinces in 2024 in descending order. (2)

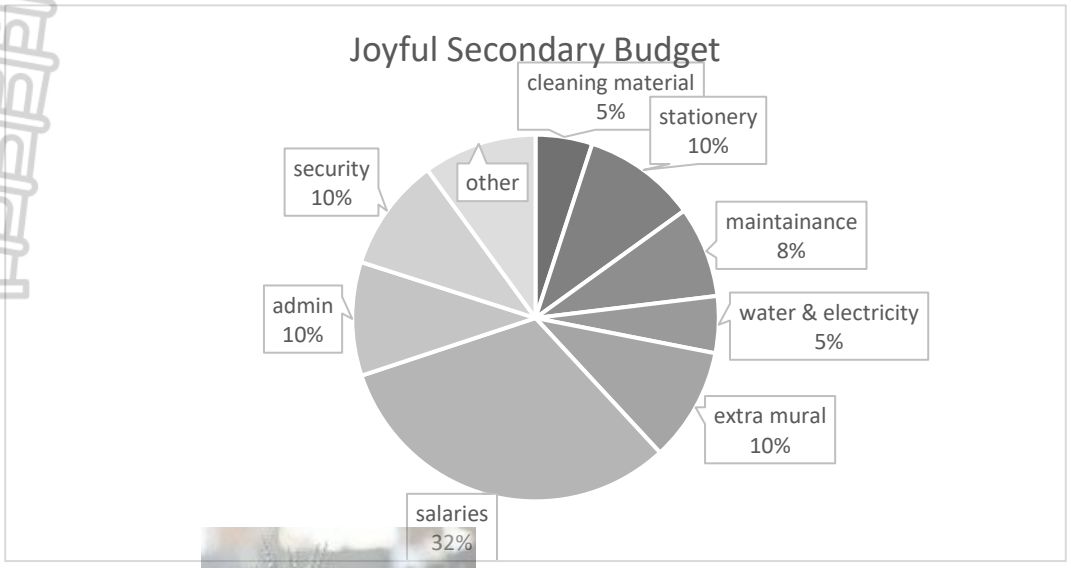
22.1.3 Identify the province that obtained 5th position in 2022. (2)

22.1.4 Determine the mean percentage for the year 2024. (3)

22.1.5 Mr. Dlamini stated that the interquartile range (**IQR**) is 7,83% for 2023.
Verify Mr Dlamini statement, showing all calculation.
You may use the following formula: **IQR = Q3 - Q1** (5)

22.2 Mrs Dlamini is a principal in Joyful Secondary.

Below is a graph that shows the budget of the school.



22.2 Use the graph above to answer the following question

22.2.1 Identify the item with the least allocation of the school. (2)

22.2.2 Write down the ratio of salaries to security in simplest form. (2)

22.2.3 Determine the value of **A**. (2)

22.2.4 The amount received by the school is R3,285 million. Write the amount in full numerals. (2)

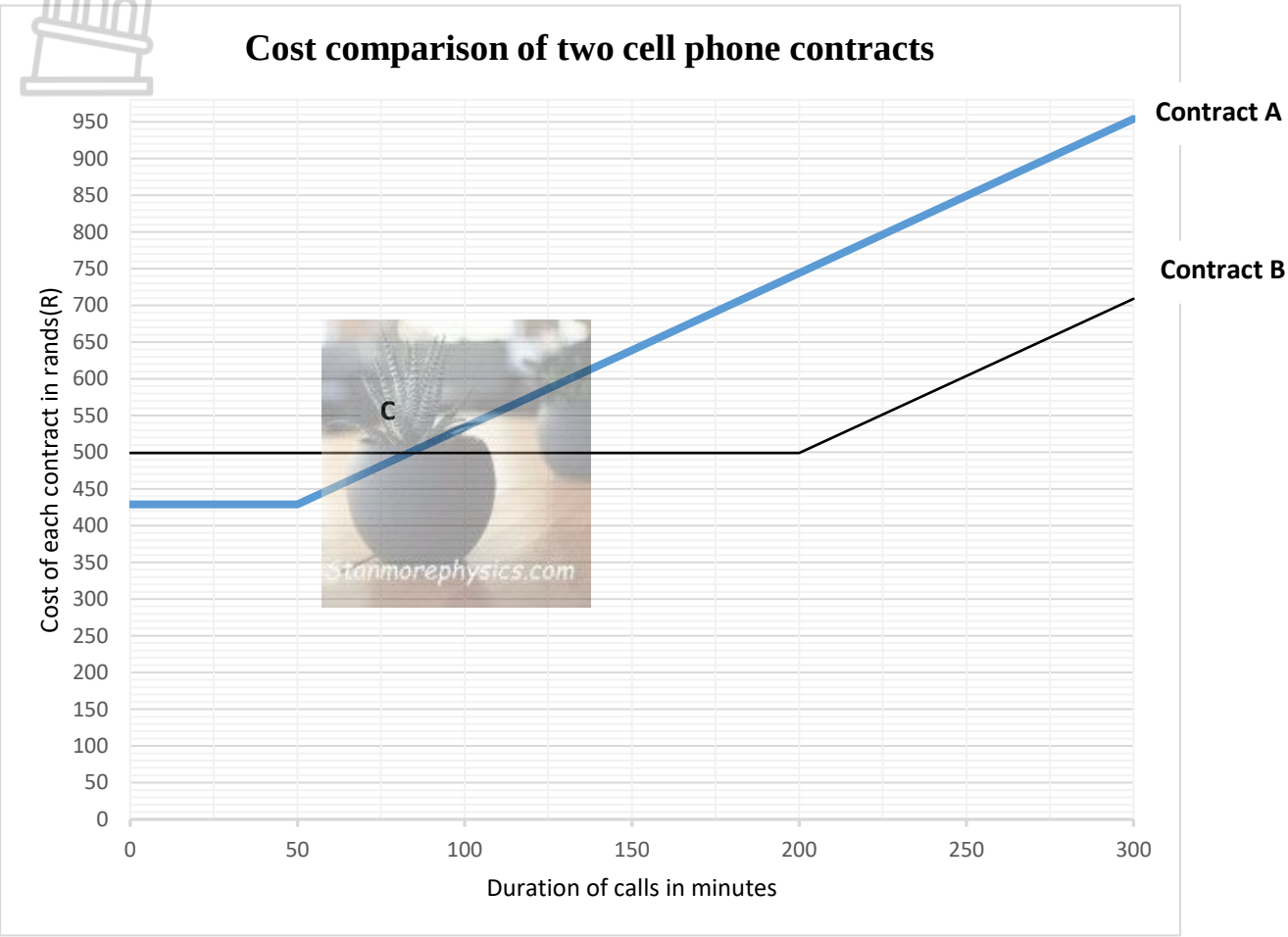
22.2.5 Music gets 2% of section label as other, determine the amount allocated to music. (3)

22.2.6 Mrs Dlamini claimed that if they can reduce a budget for extra mural activities by 3%, they can save more than R230 000.
Verify using calculation whether the statement is valid or not. (5)

[30]

QUESTION 23

23.1 The graphs below show a cost comparison between two cell phone contracts for one month. Both contracts come with 3 gigabytes of data each and free minutes per month, with a contract period of 24 months.



Adapted: https://businesstech.co.za/news/telecommunications

Use the information above to answer the questions that follow.

23.1.1 Write 24 months in years. (2)

23.1.2 Determine the free minutes of Contract A. (2)

23.1.3 If Thandeka only needs a maximum of 60 minutes for calls per month, determine which contract will offer her best value for money? Provide a reason for your answer. (3)

23.1.4 Estimate the number of minutes and total cost where both contracts break-even. (4)

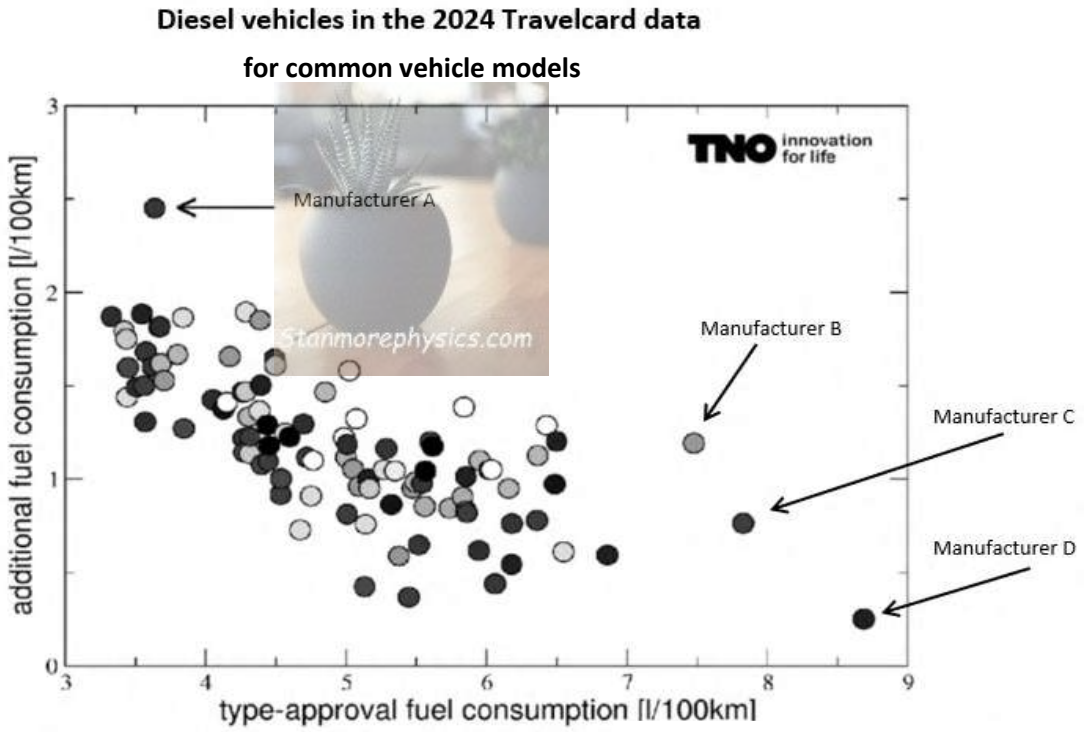
23.1.5 Explain the break-even point **C,** in the above context. (2)

23.1.6 Write as a simplified ratio the total cost of contract A to contract B, if 200 minutes were used for the month, respectively. (5)

23.1.7 Explain why the graph is a horizontal line from zero to 50 minutes for contract A. (2)

23.1.8 If a total of 225 minutes was used for the month, determine the probability as a decimal, of one contract costing R800. (3)

23.2 The scatter plot graph below shows diesel vehicles in the 2024 Travelcard data, for common vehicle models.



Adapted: https://www.researchgate.net/figure/

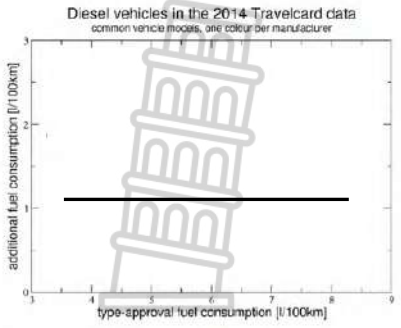
Use the information above to answer the questions that follow.

23.2.1 State the type of relationship between the type-approval fuel consumption and the additional fuel consumption in the scatter plot graph above and provide a reason. (3)

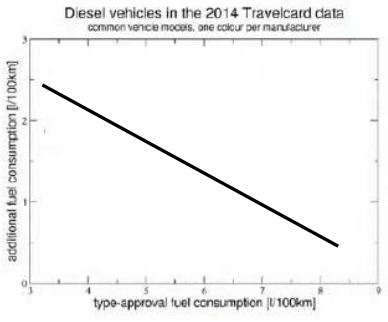
23.2.2 Write down the car manufacturer that is an outlier in the graph above and explain why it is an outlier. (3)

23.2.3 Identify the line graph that shows the trend of the scatter plot graph above, most accurately. (2)

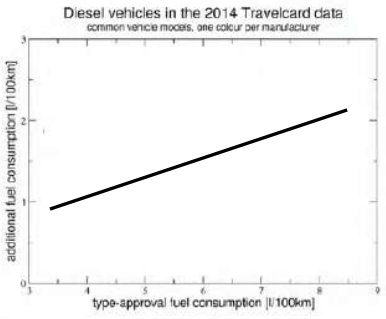
Graph A



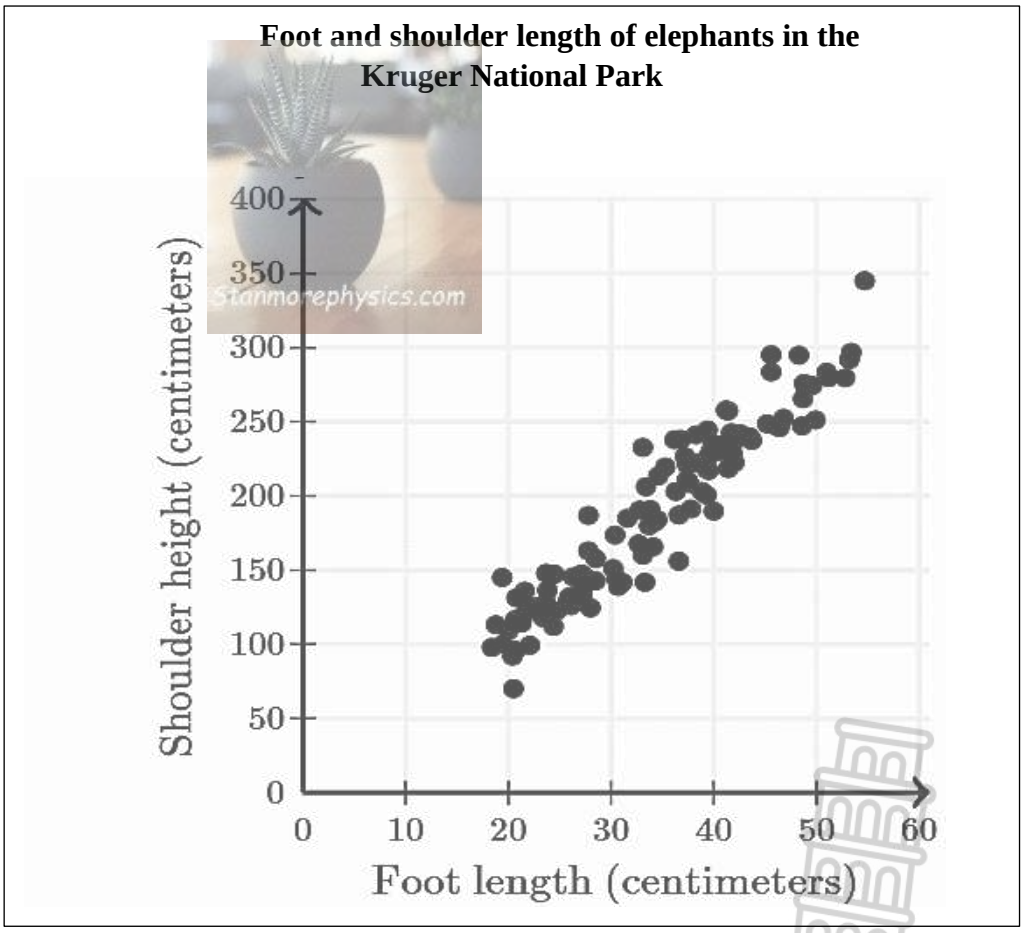
Graph B



Graph C



23.3 The scatter plot graph below shows the relationship between foot length and shoulder height of a sample of elephants in the Kruger National Park.



Source: khanacadamy.org/scatterplot

Use the information above to answer the questions that follow.

23.3.1 Indicate the shoulder height of the elephant with the longest foot. (2)

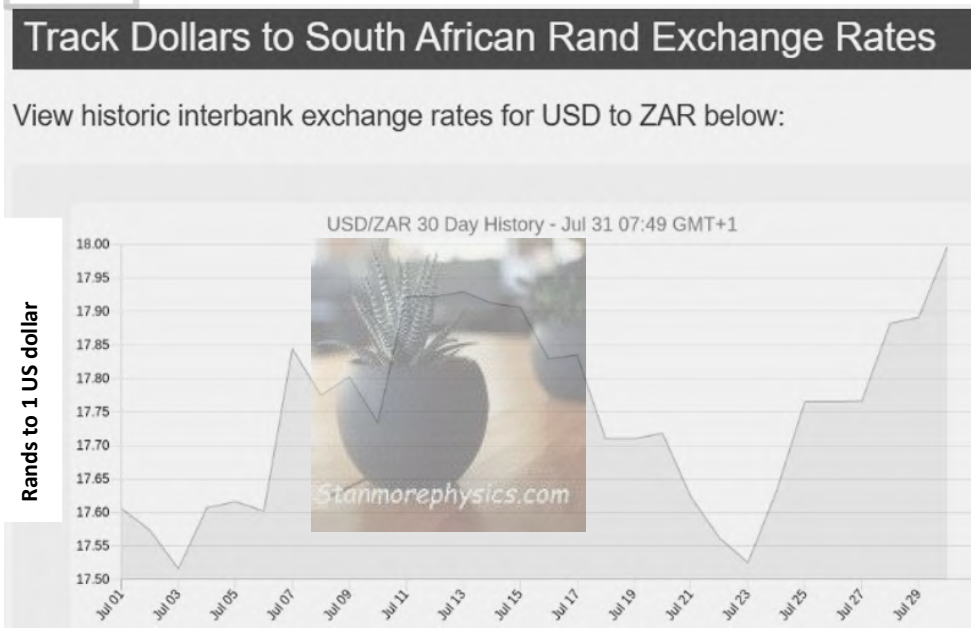
23.3.2 Explain the relationship between the foot length and shoulder height of elephants in the Kruger National Park. (2)

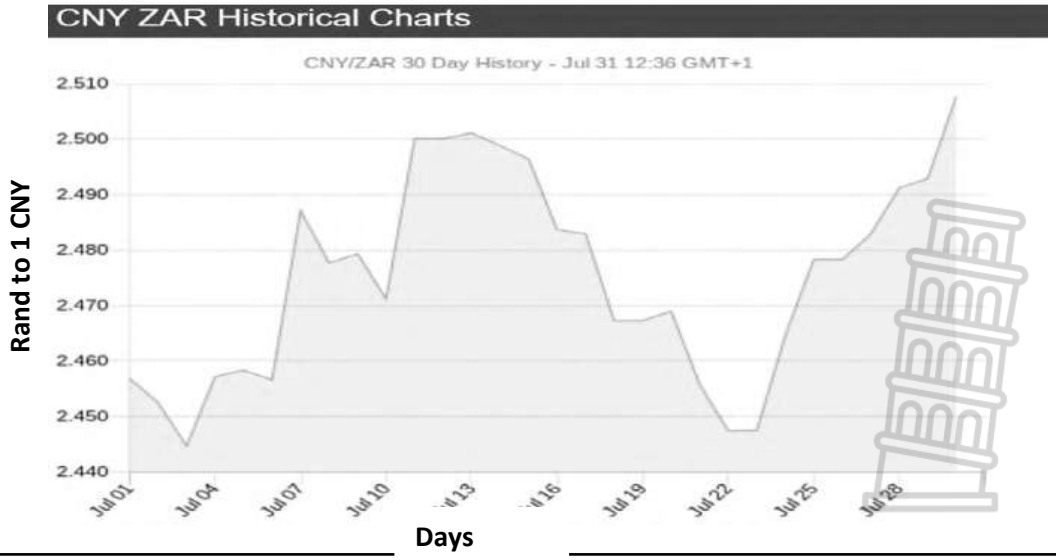
23.3.3 Identify the independent variable, and provide a reason for your answer. (2)

[35]

QUESTION 24

The following two graphs show the exchange rates of the South African Rand to the United states Dollar($) and Chinese Yaun (¥), respectively:





Source:exchangerates.org

Use the information above to answer the questions that follow.

24.1 Determine the exchange rate of the US dollar to the SA Rand on the 13th of July (2)

24.2 Mr. Zuma wanted to buy and import a part for his car. The part is sold in China and the United States. On the 10th of July, the cost of the part was $1 500 US dollars and ¥ 4 500 Chinese Yuan, respectively. Assuming that all other costs are ignored, show by calculations which country was cheaper. (5)

24.3 Compare the exchange rate of the US dollar to the Rand, to the exchange rate of the Chinese Yaun on the 13th of July. Explain at which exchange rate the rand is stronger, with a higher buying power. (5)

24.4 Explain what was happening to the strength or buying power of the rand against the US dollar, from 21 to 23 July? (3)

24.5 One local business bought a huge shipment of stationary from China on the 11th of July. Suggest another day that the purchase could have been made, to get the best value for money, assuming all other cost are the same.
Provide a reason for your answer. (4)
[19]

QUESTION 25

25.1. Mrs. Khuzwayo has 18-month-old twins, a boy and a girl. She has been monitoring their growth using the Growth Chart for boys and girls shown in ANNEXURE A.

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

25.1.1. Calculate the difference between the weights (at 18 months) of the twins at the 50th percentile. (4)

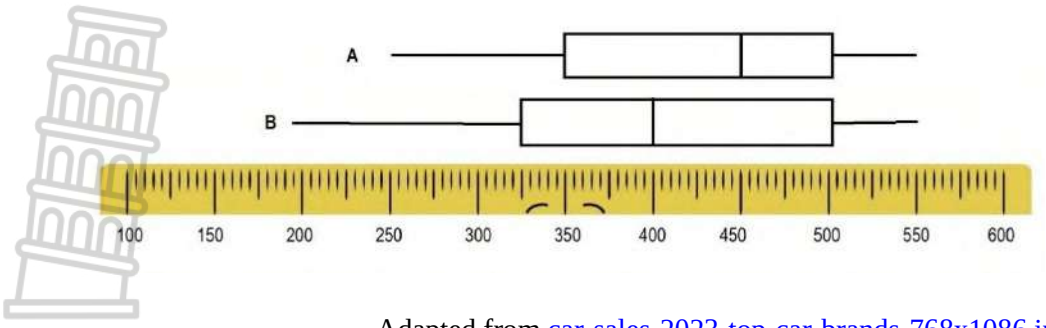
25.1.2. At 12 months, Mrs. Khuzwayo's daughter weighed 7.2kg. Identify the percentile that she falls in and explain what this means. (4)

25.1.3. Mrs. Khuzwayo's fifteen-month-old nephew, Thabo, is 70cm tall. Calculate his BMI if his weight lies on the 85th percentile. Give your answer in $\mathbf{kg/m^2}$.

You may use the formula:

$$\mathbf{BMI} = \frac{\mathbf{Weight\ in\ kg}}{(\mathbf{height\ in\ m})^2}$$ (4)

25.2 The following box and whisker plots summarises the new car sales of nine car brands in South Africa in 2024(A) and 2023(B). Values are represented as '000.



Adapted from car-sales-2023-top-car-brands-768x1086.jpg (768×1086)

Use information above to answer the following questions

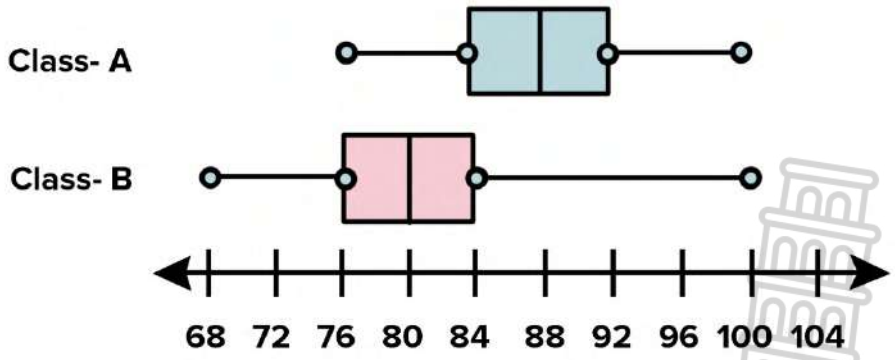
25.2.1 State the five number summary of the car sales in 2024. (5)

25.2.2 Calculate the interquartile range of car sales in 2023.
You may use the formula
IQR = Quartile 3 – Quartile 1 (4)

25.2.3 A grade 12 learner stated that since the IQR of 2023 is greater, car sales were better in 2023. Discuss whether the learner was correct. (3)

25.3. Two Mathematical Literacy classes at Gemini High School compared their September examination results to see which group performed better.

The results of the examination for the two classes are represented by the box and whisker diagrams shown below:



The arranged marks of Class B are given below:

68	69	70	76	77	77	78	80	82	83	83	84	90	**P**	100

Study the information above and answer the questions that follow:

25.3.1 Calculate the missing value, **P**, if the mean mark of class B is 80,8. (4)

25.3.2 Calculate the probability, as a percentage, of randomly selecting a learner from Class B that scored below 75. (2)

25.3.3 Using the information above, discuss which class performed better in the examination. Provide reasons for your answer. (3)

[33]

QUESTION 26

26.1. The growth chart on **ANNEXURE A** shows the height-for-age and weight-for-age percentiles for boys aged 2 to 20 years. The dot marks the position of a boy who is 5 years old, with a height of approximately 100 cm.

26.1.1 Identify the age group of the boy represented by the dot. (2)

26.1.2 Determine his approximate height in inches. (2)

26.1.3 Use the height percentile curves, identify the percentile that the boy's height falls on. (2)

26.1.4 Determine the average weight (in kg) for a boy aged 5 years who is on the 50th percentile (2)

26.1.5 A persons BMI is classified as follows:

BMI STATUS

BMI	WEIGHT STATUS
Below 18,5	Underweight
18,5 to24,9	Normal
25,0 to 29,9	Overweight
30 and above	Obese

A boy aged 10 has a height of 118 cm and weighs 28 kg.

a) Calculate his BMI.

You may use the formula:

$$\textbf{BMI} = \frac{\textbf{Weight in kg}}{(\textbf{height in m})^2}$$ (3)

b) Explain one disadvantage of having an underweight BMI status (2)

26.1.6 A boy is currently 8 years old, at the 5th percentile for height. Predict how tall he might be (in cm) at age 12 if he remains on the same percentile. (2)

26.1.7 If a 14-year-old boy is 175 cm tall, determine whether he is above average, average, or below average in height for his age. Justify your answer using the chart. (2)

26.2 The 12 month sales figures for three shoe store companies in Durban are summarised in the box-and-whisker diagrams shown on ANNEXURE B. Sales figures refer to the units of shoes sold.

26.2.1 State the minimum value of the monthly sales of Company C. (2)

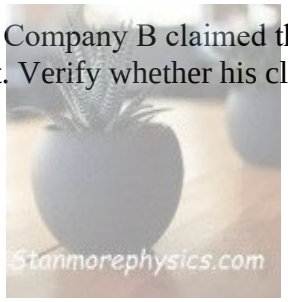
26.2.2 Calculate the IQR of the monthly sales of Company A
You may use the formula :

IQR = Quartile 3 – Quartile 1 (4)

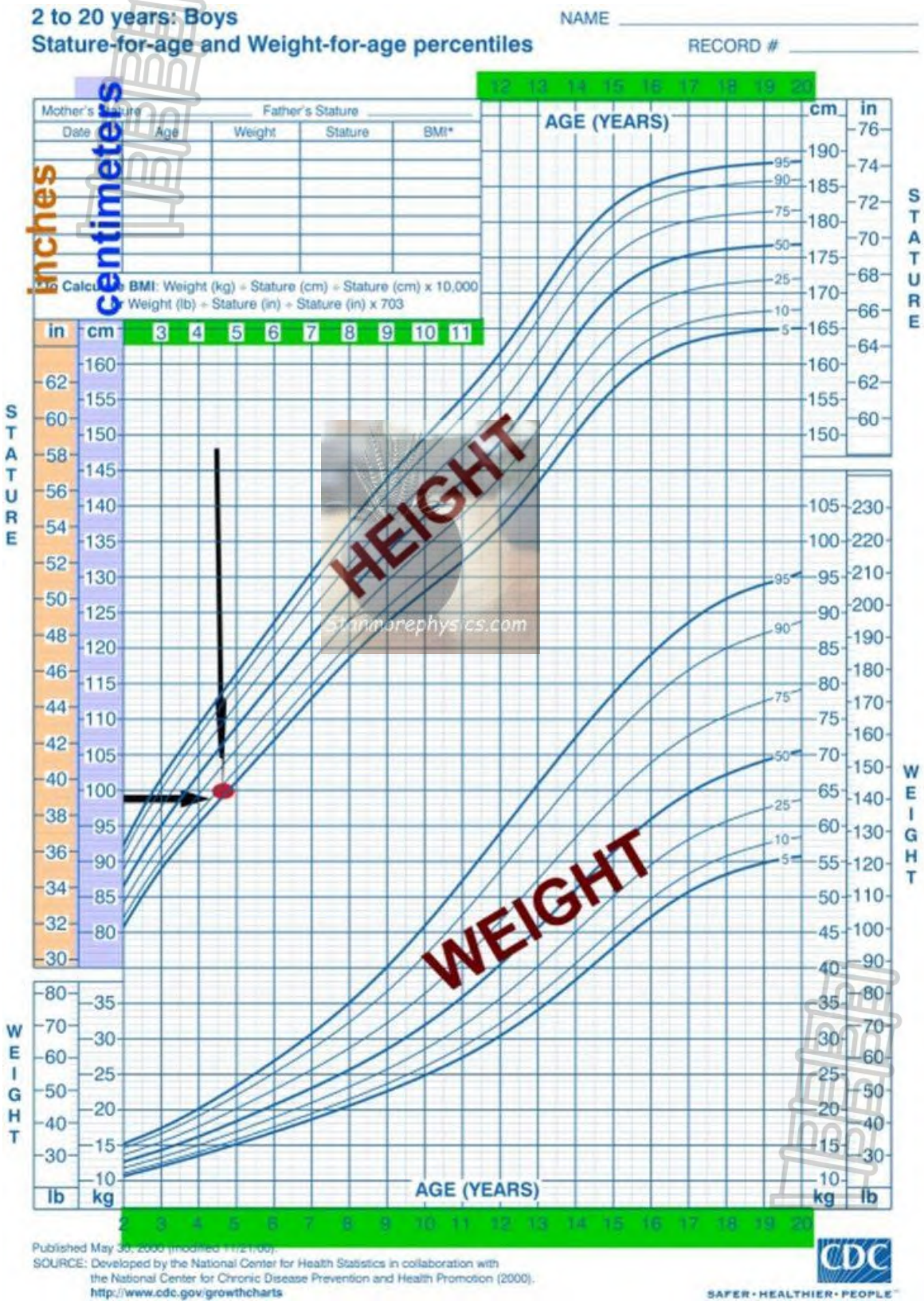
26.2.3 Determine the number of months of sales values that are represented between quartile 1 and the median. Show by calculation or explanation how you arrived at your answer. (3)

26.2.4 The director of Company B claimed that his company's 12 monthly sales were the most consistent. Verify whether his claim is valid. (6)

[32]



ANNEXURE A – QUESTION 26.1



OUSOURCE : www.cdc.gov/growthcharts/index.htm

QUESTION 27

27.1 Mr Molopa stays in Cape Town and likes to go out with his family to have a good time at the beach on weekends. He prefers Simon's beach in Simon's town for swimming and the view of the beach. The tide table below shows the behaviour of waves at Simon's beach for a week of August 2025. Study the table below and answer the following questions.

Simon's Town Tide Times / South Africa

Fri, 1st	Sat, 2nd	Sun, 3rd	Mon, 4th	Tue, 5th	Wed, 6th	Thu, 7th
Low	Low	Low	Low	High	High	High
01:57am	02:58am	04:23am	05:48am	12:19am	01:14am	01:57am
(0.71m)	(0.77m)	(0.79m)	(0.75m)	(1.34m)	(1.44m)	(1.55m)
High	High	High	High	Low	Low	Low
07:57am	09:03am	10:43am	12:17pm	06:50am	07:35am	08:13am
(1.25m)	(1.16m)	(1.14m)	(1.21m)	(0.67m)	(0.57m)	(0.48m)
Low	Low	Low	Low	High	High	High
01:51pm	02:57pm	04:35pm	06:07pm	01:14pm	01:55pm	02:30pm
(0.75m)	(0.84m)	(0.88m)	(0.84m)	(1.34m)	(1.48m)	(1.63m)
High	High	High		Low	Low	Low
08:22pm	09:30pm	11:01pm		07:09pm	07:54pm	08:33pm
(1.38m)	(1.29m)	(1.28m)		(0.75m)	(0.65m)	(0.54m)

(https//www.tidetimes.org)

27.1.1 Identify the time format used in the tide table. (2)

27.1.2 Express the time of the high tide on the Tuesday afternoon in the 24-hour format. (2)

27.1.3 Determine the time difference between the low tide (Wednesday morning) and the low tide(Thursday morning) (3)

27.1.4 The suitable water temperature for swimming at Simon's beach is 20℃. Convert the water temperature to degrees Fahrenheit**. Round your answer to the nearest 10 degrees.** (3)

You may use the formula: $℃ = (°F - 32) \div 1.8$

27.2 Consider the pictures below which shows the time Mr Molopa's family left home to the beach and the odometer reading when they left home to the beach. The distance between Cape Town and Simon's town is **45 km.**

Clock (afternoon)	**Speedometer and the Odometer**
	 Source: google.com

Use pictures to answer the questions that follow.

27.2.1 Identify the type of the clock above. (2)

27.2.2 Write down the time shown on the clock in words. (2)

27.2.3 Express the time shown on the clock in the 24-hour format. (2)

27.2.4 Write down the number of kilometres the car travelled from the day it was built from the factory? (2)

27.2.5 Determine the odometer reading that will be displayed when they arrive at Simon's town. (2)

27.2.6 Write down the speedometer reading in km/hour (2)

27.2.7 Mr Molopa claimed that if they travel at the minimum speed of 80km/h, they will make it to the beach before 12:25pm. Using calculation verify if his claim is correct. (6)

You may use the formula: $\boldsymbol{speed = \frac{distance}{time}}$

27.3 Mr Molopa stays in Cape Town and works at one of the companies in Beaufort West and he travells to work using the bus transport available in the city of Cape Town and his transport uses the folowing time table. Study the time table and answer the questions based on it.

Cape Town - Queenstown
(Thursday Service)

Station	Class available	Day	Arr.	Dep.
Cape Town	Sitter	Day1		10:25
Bellville	Sitter	Day1	10:50	11:05
Worcester	Sitter	Day1	13:40	13:55
Beaufort West	Sitter	Day1	19:40	20:05
De Aar	Sitter	Day1/2	23:45	00:10
Colesburg	Sitter	Day2	03:03	03:08
Bethulie	Sitter	Day2	05:42	05:47
Burgersdorp	Sitter	Day2	07:07	07:17
Molteno	Sitter	Day2	08:15	08:20
Queenstown	Sitter	Day2	10:02	

Queenstown - Cape Town
(Friday Service)

Station	Class available	Day	Arr.	Dep.
Queenstown	Sitter	Day1		14:45
Molteno	Sitter	Day1	16:22	16:27
Burgersdorp	Sitter	Day1	17:21	17:41
Bethulie	Sitter	Day1	19:03	19:08
Colesburg	Sitter	Day1	21:55	22:00
De Aar	Sitter	Day2	00:40	01:00
Beaufort West	Sitter	Day2	04:40	05:00
Worcester	Sitter	Day2	10:40	10:55
Bellville	Sitter	Day2	13:35	13:45
Cape Town	Sitter	Day2	14:10	

Adapted from https://www.jomelgroup.com

27.3.1 Identify the time format used in the above table. (2)

27.3.2 Define *duration* in the given context. (2)

27.3.3 Determine the number of days taken by bus from Cape Town take to get to Queenstown? (2)

27.3.4 Calculate the duration of Mr Molopa's journey to Beaufort West from Cape Town. Express your answer in minutes. (3)

27.3.5 Express the arrival time of the bus that leaves Colesberg at 22:00 to De Aar on Friday, in the 12-hour format. (2)

27.3.6 The speed limit of the buses/heavy vehicles on the South African roads is recommended to be 80km/h. Calculate the distance between Worcester and Beaufort West if the bus maintains the speed that is recommended. (5)

(use Thursday timetable) You may use the formula: $\boldsymbol{speed = \frac{distance}{time}}$ **[44]**

QUESTION 28

28.1. Bohlale analyzed the following data and realized that she needed to reduce the number of calories she consumed daily. She read an article on the Internet about the amount of sugar contained in some drinks. TABLE 3 below shows the sugar content per volume of some drinks.

TABLE 3: Sugar content per volume of some drinks

Drink	Volume (in mℓ)	Number of teaspoons (tsp.) of sugar	Number of calories
Energy drink	240	7,75	124
Vitamin water	240	3,25	52
Lemon ice tea	240	6	96
Orange juice	240	6	96
Chocolate milk	240	7,25	116
Vanilla soy milk	240	2	32
Cola	330	8,75	140
Diet cola	330	0,00	0
'Dry Lemon'	330	10,50	168

[Sources: www.sugarstacks.com/beverages.htm and http://recipes.howstuffworks.com]

Note: 1tsp of sugar= 4g

1 tsp of sugar = 16 calories

Bohlale usually drank TWO 240 mℓ cans of energy drink, ONE 240 mℓ bottle of chocolatemilk and ONE 330 mℓ can of 'Dry Lemon' per day.

She decided to be more health conscious and changed her daily drinks intake to TWO 500 mℓ bottles of vitamin water, ONE 240 mℓ bottle of vanilla soy milk and ONE 330 mℓ bottle of diet cola. Use the table and the information to answer the following questions.

28.1.1 Calculate the total mass of sugar (in grams) that will be consumed by ONE person in ONE year by drinking TWO 330 mℓ cans of cola daily. (4)

28.1.2 Calculate the difference in the total number of calories that Bohlale consumes after changing her daily drinks intake. (5)

28.1.3 Bohlale stated, 'By changing my daily drinks intake I will now consume only 50% of my previous daily amount of sugar.
Verify, showing ALL calculations, whether Bohlale's statement is valid. (5)

28.2 Bohlale is going to be hosting 18 members of the stokvel, below are the ingredients of chocolate cake that she plans to make and serve the members. The stokvel meeting will start at 13:15.

Ingredients for chocolate cake

For 6 people

- 250g plain flour
- 200g caster sugar
- 100g unsalted butter
- 2 large eggs
- 150ml milk
- 50g cocoa powder
- 1 tsp baking powder
- 1 tsp vanilla extract
- A pinch of salt

Preparation time for the cake is 18 minutes, 35 minutes to bake at the preheated oven 180 ℃ and 20 minutes to cool off and ready to be served.

28.2.1 Determine number cakes is Bohlale going to bake for the stokvel members. (2)

28.2.2 Express the amount of butter (*in ounces*) required for the chocolate cake recipe above, if 1 ounce (oz) = 28.35g. (2)

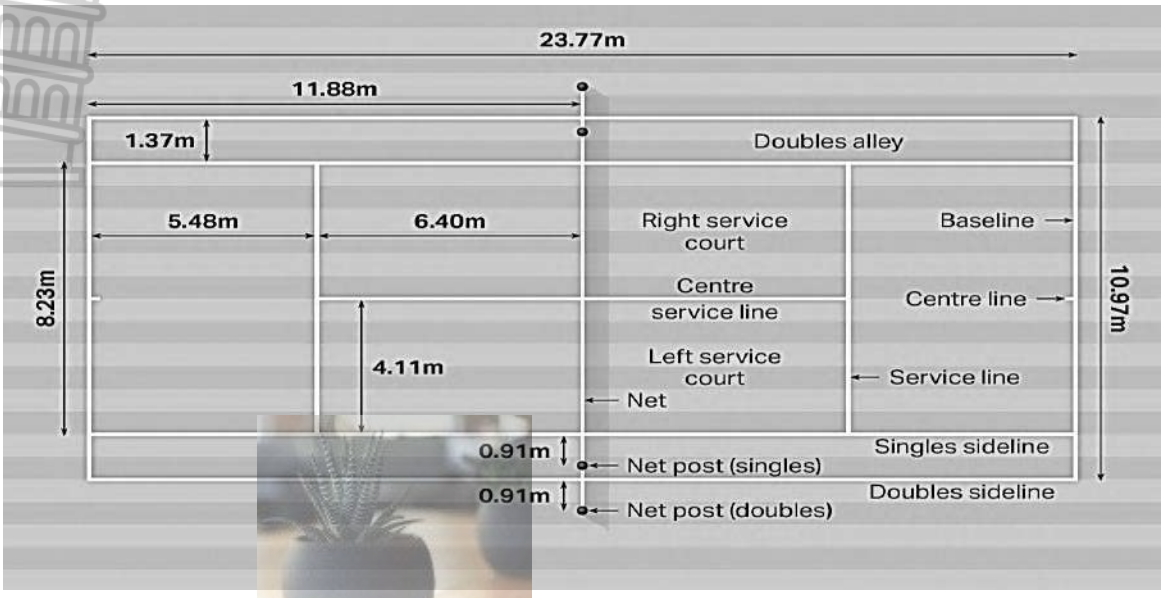
28.2.3 If 1 cup = 250ml, determine the number of cups of milk required for the above recipe. Express your answer in a fractional form (3)

28.2.4 Express as a ratio in the unit form, the amount of sugar to the amount of flour required in this recipe. (2)

28.2.5 If she has 100g of cocoa available in her shelves, determine if amount of cocoa powder will be enough to serve 18 instead of 6? Support your answer with calculations. (3)

28.2.6 Bohlale claims that if she starts her baking at 9:00 the cakes will be ready when the stokvel commences at 13:15. Verify by means of calculations if her claims are correct. (5)

28.3 Bohlale was a tennis player during her school days and still is a fan of tennis. She enjoys watching it everyday when she is not busy. Below is the diagram of the standard tennis court built by the municipality in the area where Bohlale stays. The court has the dimensions given in metric units. Use the tennis court below to answer the questions that follow.



adapted from: https//www.sportsknowhow.com

28.3.1 Define *perimeter* in the given context (2)

28.3.2 Calculate the perimeter of the tennis court, give your answer to the nearest metre. 1.You may use the formula: **P=2(*l* +*b*)** (2)

28.3.3 If the tennis court has to be fenced by the municipality after realising that the members of the community are vandalising it, the fence will be 2 metres away from the court. Calculate the amount of fence required to fence the court. (4)

28.3.4 The court lines need to be repainted, if the total length of the court lines is approximately 120 metres and a litre of paint to be used covers 20metres. Determine how many litres of paint should be bought, round your answer to the nearest litres. (2)

28.3.5 The person hired by the municipality to paint the court stated that it takes him 1,5 minutes to paint a 3metre line thoroughly using the painting brush (roller brush). If the municipality wants him to finish painting the whole court in an hour, will he be able to finish painting within the stipulated time? Support your response with the necessary calculations. (4)

[43]

QUESTION 29

29.1

A group of Mathematical Literacy learners were collecting information for their investigation and found different types of measuring instruments on the internet. Figure 1 below shows the different types of instruments which they found on the internet.

FIGURE 1: TYPES OF MEASURING INSTRUMENTS.

Source: www.measurements.org

Use the information above to answer the following questions.

29.1.1 Determine which of the above instruments **A, B or C** is used to measure distance between two cities?

(2)

29.1.2 Write down the reading of the instrument mentioned in question 29.1.1.

(2)

29.2.

A newly wedded couple wishes to visit a resort in Mpumalanga for their honeymoon. They came across information on google.com that shows the place they wish to visit which is 876 000 meters to and from their residence. They want to make a quotation to compare between hiring a car and using their own transportation.

CAR HIRE COST: R2 500 + R8,50 × no of km (exceeding 300km)

OWN CAR COST: R3 650 return trip

Use the above information to answer the following questions.

29.2.1 Calculate the total distance in km for a single trip. (3)

29.2.2 Determine what time the couple will arrive at their destination if they left their residence at 14:35, if they are driving at an average speed of 110km/h.

You may use the following formula.

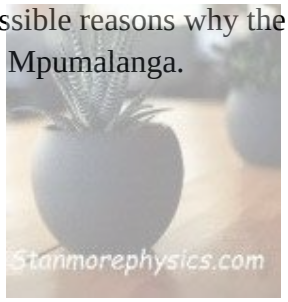
$$\textbf{\textit{Time}} = \frac{\textbf{\textit{Distance}}}{\textbf{\textit{Speed}}}$$ (6)

29.2.3 The couple's car has a consumption rate of 6.8*l* of petrol for every 100km travelled. Determine how many kilometres they will travel with 50*l* of petrol, round off your answer to the nearest kilometres. (4)

29.2.4 The couple claims that if they decide to hire a car instead of using their own, they would have to pay for more than 200km. Verify, showing ALL calculations, if the claim is correct. (4)

29.2.5 Give TWO possible reasons why the couple might have chosen to spend their honeymoon in Mpumalanga. (4)

[25]



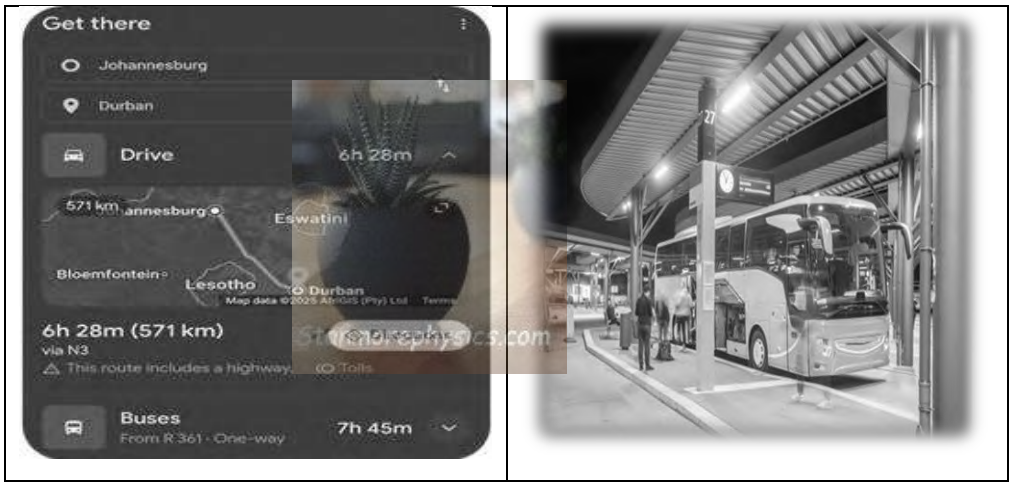
QUESTION 30

30.1 **TABLE 1** and **FIGURE 2** below shows a section of a bus timetable for a one-way route from Johannesburg to Durban, and illustrate navigation information.

TABLE 1: BUS TIMETABLE

STOP	ARRIVAL TIME	DEPARTURE TIME
Johannesburg	-	06:00
Harrismith	09:00	09:15
Pietermaritzburg	12:00	12:15
Durban	13:45	-

FIGURE 2: NAVIGATION INFORMATION AND THE PICTURE OF THE BUS



Source: www.google.com/maps

Use the information above to answer the questions that follow.

30.1.1 Define the term *one-way route* in the given context. (2)

30.1.2 Write down the time format used on the above timetable. (2)

30.1.3 Calculate the total time of all the bus stops. (2)

30.1.4 Write down the total travel time from Johannesburg to Durban. (2)

30.1.5 Calculate the average speed of the bus in km/h, using the total travel time (excluding stops).

You may use the following formula

$$\textbf{\textit{Average speed}} = \frac{\textbf{\textit{distance}}}{\textbf{\textit{time}}}$$ (4)

30.1.6 Use FIGURE 2 to calculate the difference in trip duration of the bus and a car and state ONE reason why there is a difference between the total travel time by the bus and small vehicles. (4)

30.2

Mr. Maya will take the 4th bus from Johannesburg to Durban. The departure time of the first bus was delayed by an hour, whilst the other two subsequent buses are scheduled to leave the station every 40 minutes after the departure times (reflected on TABLE 1).

30.2.1 Determine the departure time of the fourth bus. (4)

30.2.2 Mr. Maya states that since there was a delay with the departure of first bus, the arrival time of the fourth bus will be 16:00 in Durban. Justify, showing ALL calculations, if his statement is correct. (3)

30.2.3 Give TWO possible reasons that can cause the bus to delay. (4)

[27]

QUESTION 31

31.1

The Malandela family are relocating from Cape Town to Ballito which is approximately 47 km north of Durban. They will travel via Bloemfontein on the N1. Annexure A shows the distances between various places in South Africa.

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

31.1.1 Identify the type of the table above. (2)

31.1.2 Determine the distance from Cape Town to Durban. (2)

31.1.3 Mr. Malandela claims that the distance from Cape Town via Bloemfontein is shorter than travelling via East London. Verify with calculations if his claim is correct. (6)

31.1.4 The family left Cape Town at 6:45 am, they stopped at Beaufort West for 35 minutes. Calculate their departure time from Beaufort West if they were travelling at an average speed of 118km/h.
You may use the following formula: **Speed** $= \frac{Distance}{Time}$ (7)

31.2

Mr. Malandela confirmed before departing from Cape Town that their house in Ballito had been built. Annexure B shows the whole process and the time frame he and the constructor had to go through in completing the task.

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

31.2.1 Identify one activity that took place during the tenth week. (2)

31.2.2 Determine the number of activities that took more than five weeks to complete. (2)

31.2.3 Identify the week(s) when the roof and the sliding door were installed. (2)

31.2.4 Calculate the number of days it took to complete the whole job if the workers were not working on weekends. (3)

31.3 Mr. Malandela is an avid fisherman. He decided to download the tide table to see the good times to launch his boat. The table below contains the tides times.

Ballito Tide Times / South Africa

Thu, 31st	Fri, 1st	Sat, 2nd	Sun, 3rd	Mon, 4th	Tue, 5th	Wed, 6th
Low 1:15am (0.58m) **High 7:12am (1.54m)** Low 1:17pm (0.55m) **High 7:37pm (1.61m)**	Low 1:50am (0.69m) **High 7:44am** (1.42m) Low 1:49pm (0.67m) **High 8:16pm** (1.49m)	Low 2:35am (0.81m) **High 8:28am** (1.3m) Low 2:34pm (0.81m) **High 9:13pm** (1.38m)	Low 3:51am (0.9m) **High 9:54am** (1.2m) Low 4:04pm (0.92m) **High 11:04pm** (1.31m)	Low 6:08am (0.9m) **High 12:30pm** (1.22m) Low 6:32pm (0.91m)	**High 12:58am** (1.36m) Low 7:33am (0.78m) **High 1:50pm** (1.37m) Low 7:51pm (0.79m)	**High 2:00am** (1.48m) Low 8:19am (0.63m) **High 2:34pm** (1.53m) Low 8:37pm (0.64m)

TideiTime.0rg

Use the above information and the table below to answer the questions that follow.

31.3.1 Identify the time for the morning low tide on Tuesday. (2)

QUESTION 32

32.1. Mr. Ndaba and his wife are visiting Australia. They will be staying in Brisbane. They want to explore travelling by train, so they downloaded the train schedule. ANNEXURE C shows the distances between train stations.

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

32.1.1 Explain the importance of a diagram on ANNEXURE C. (2)

32.1.2 Identify the station(s) with the shortest distance from Linville. (2)

32.1.3 Identify the distance between Bernarkin and Fernvale. (2)

32.1.4 Calculate the distance between Brisbane (Roma Street) and Caboolture if the train is travelling at 60km/h.
You may use the following formula.

$$Speed = \frac{Ditance}{Time}$$

(5)

32.1.5 The duration of the train when stationery at the station is between 30 seconds and 90 seconds, calculate the arrival time train Q301 at Cooroy (3)

32.2 In Brisbane surfing, boating and angling are popular sports activities. Mr. Ndaba was fascinated by these activities' he decided to take his family on a boat cruise.

Study the tide table below and answer the questions that follow.

TIDE TABLE OF BRISBANE

Fri, 1st	**Sat, 2nd**	**Sun, 3rd**	**Mon, 4th**	**Tue, 5th**	**Wed, 6th**	**Thu, 7th**
High 2:16am (1.7m)	**High 2:58am** (1.55m)	**High 3:54am** (1.42m)	**High 5:10am** (1.34m)	Low 1:16am (0.75m)	Low 2:15am (0.63m)	Low 3:01am (0.51m)
Low 8:45am (0.36m)	Low 9:27am (0.39m)	Low 10:16am (0.42m)	Low 11:16am (0.44m)	**High 6:34am** (1.33m)	**High 7:39am** (1.4m)	**High 8:31am** (1.5m)
High 3:20pm (1.67m)	**High 4:25pm** (1.68m)	**High 5:38pm** (1.74m)	**High 6:42pm** (1.85m)	Low 12:24pm (0.43m)	Low 1:28pm (0.39m)	Low 2:22pm (0.33m)
Low 9:12pm (0.76m)	Low 10:16pm (0.83m)	Low 11:48pm (0.84m)		**High 7:35pm** (1.99m)	**High 8:21pm** (2.15m)	**High 9:03pm** (2.28m)

TideTime.org

Use the above table to answer the questions that follow

32.2.1 Identify the day and time when the morning tidal wave was the highest. (2)

32.2.2 Determine the probability in words of randomly selecting the day when the morning low tide is at least 80 cm (4)

32.2.3 Calculate duration in hours and minutes if a speed boat sails at 310 mph covering 120 nautical miles.
Note: **1 nautical mile = 1.852km**
1 nautical mile = 1.15078miles

(6)

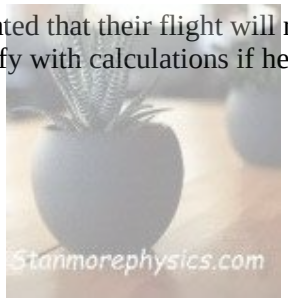
32.3 The Ndaba family enjoyed the boat cruise, after the boat cruise it was time to head back home in South Africa. ANNEXURE E shows the flight schedules.

Use ANNEXURE E to answer the questions that follow.

32.3.1 Mr. Ndaba chose the evening flight on Friday. Identify the take-off time and the airline (2)

32.3.2 Mrs. Ndaba stated that their flight will reach O.R.Tambo International airport on Saturday before midnight. Verify with calculations if her statement is correct. (4)

[32]



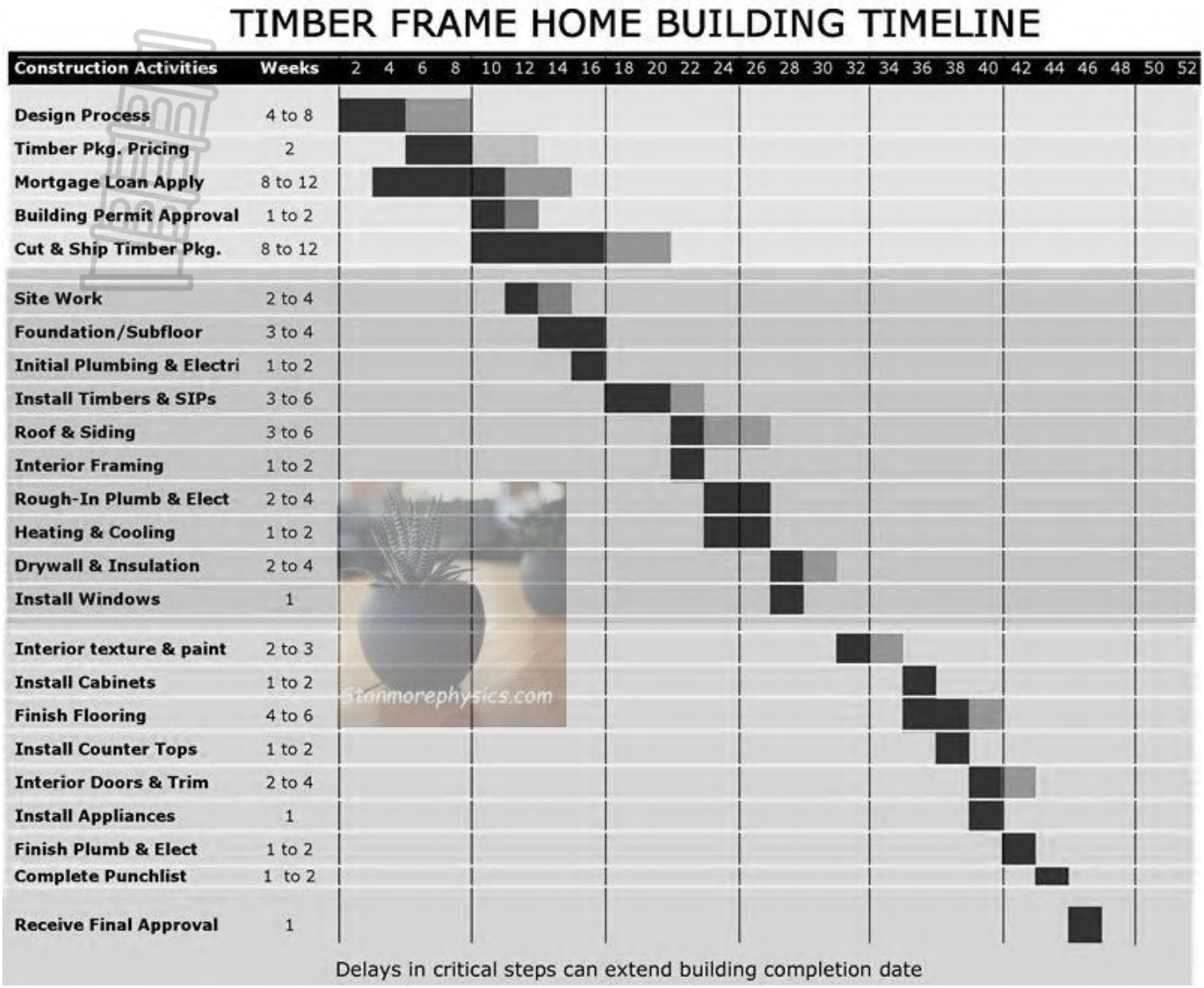
ANNEXURE A QUESTION 31.1

Distance Chart

	Beaufort West	Beitbridge	Bloemfontein	Cape Town	Colesberg	Durban	East London	George	Graaff-Reinet	Grahamstown	Johannesburg	Kimberley	Nelspruit	Oudtshoorn	Port Elizabeth	Pretoria	Springbok	Umtata	Upington
Beaufort West		1503	535	955	463	1957	998	316	1174	219	779	1225	1081	667	1660	881	597	1530	575	1042	518	667	237	1719	764	436	545	1240	630	209	1377	422	672	203	645	388	342	483	1525	570	873	370	796	185	461	274	951	552	417	1405	623	598	992	1168	826	987	497	1026	175	960	284	842	750	734	501	654	467	1293	513	771	1779	964	689	1214	1509	1167	1242	358	832	179	1669	714	422	495	1244	686	63	312	479	1130	676	1472	405	1620	635	756	454	927	300	330	251	131	1062	752	1373	358	1009	494	475	1463	681	656	1050	1226	895	1045	58	532	342	1188	1119	741	1695	975	554	857	1642	788	846	911	1185	1274	800	1543	788	1289	1200	718	1367	527	1181	532	436	231	851	509	360	866	779	983	839	490	903	1382	519	1296	576	821	560	1243	958	857	667	844	875	401	1144	698	902	813	387	995	

arroukatchee.fre

ANNEXURE B QUESTION 31.2



Adapted from Bing.com

ANNEXURE C QUESTION 32.1

BVRT In km	-----TO----- Yarraman	Blackbutt	Benarkin	Linville	Moore	Harlin	Toogoolawah	Esk	Coominya	Lowood	Fernvale	Borallon Station Rd Pine Mt Carpark	Wulkuraka
-----FROM----- Yarraman		19	24	42	49	62	76	94	118	130	138	149	161
Blackbutt	19		5	23	30	43	57	75	99	111	119	130	142
Benarkin	24	5		18	25	38	52	70	94	106	114	125	137
Linville	42	23	18		7	20	34	52	76	88	96	107	119
Moore	49	30	25	7		13	27	45	69	81	89	100	112
Harlin	62	43	38	20	13		14	32	56	68	76	87	99
Toogoolawah	76	57	52	34	27	14		18	42	54	62	73	85
Esk	94	75	70	52	45	32	18		24	36	44	55	67
Coominya	118	99	94	76	69	56	42	24		12	20	31	43
Lowood	130	111	106	88	81	68	54	36	12		8	19	31
Fernvale	138	119	114	96	89	76	62	44	20	8		11	23
Borallon Station Rd Pine Mt Carpark	149	130	125	107	100	87	73	55	31	19	11		12
Wulkuraka	161	142	137	119	112	99	85	67	43	31	23	12	

brisbanevalleyrailtrail.com.au **ANNEXURE D QUESTION 32.1**

Train number	Q301	Q311
Departing	Mon, Tue, Thu, Fri, Sat, Sun	Tue, Sun
Brisbane (Roma Street)	11.00am	4.55pm
Caboolture	11.45am	5.41pm
Landsborough	12.09pm^	6.07pm
Nambour	12.35pm	6.35pm
Cooroy	1.04pm^	6.57pm
Gympie North	1.45pm	7.34pm
Maryborough West	2.48pm	8.35pm
Howard	3.06pm^	8.54pm^
Bundaberg	3.40pm	9.35pm
Miriam Vale	4.46pm^	10.43pm^
Gladstone	5.30pm	11.31pm

RailBus connections

Gympie town to Gympie North railway station

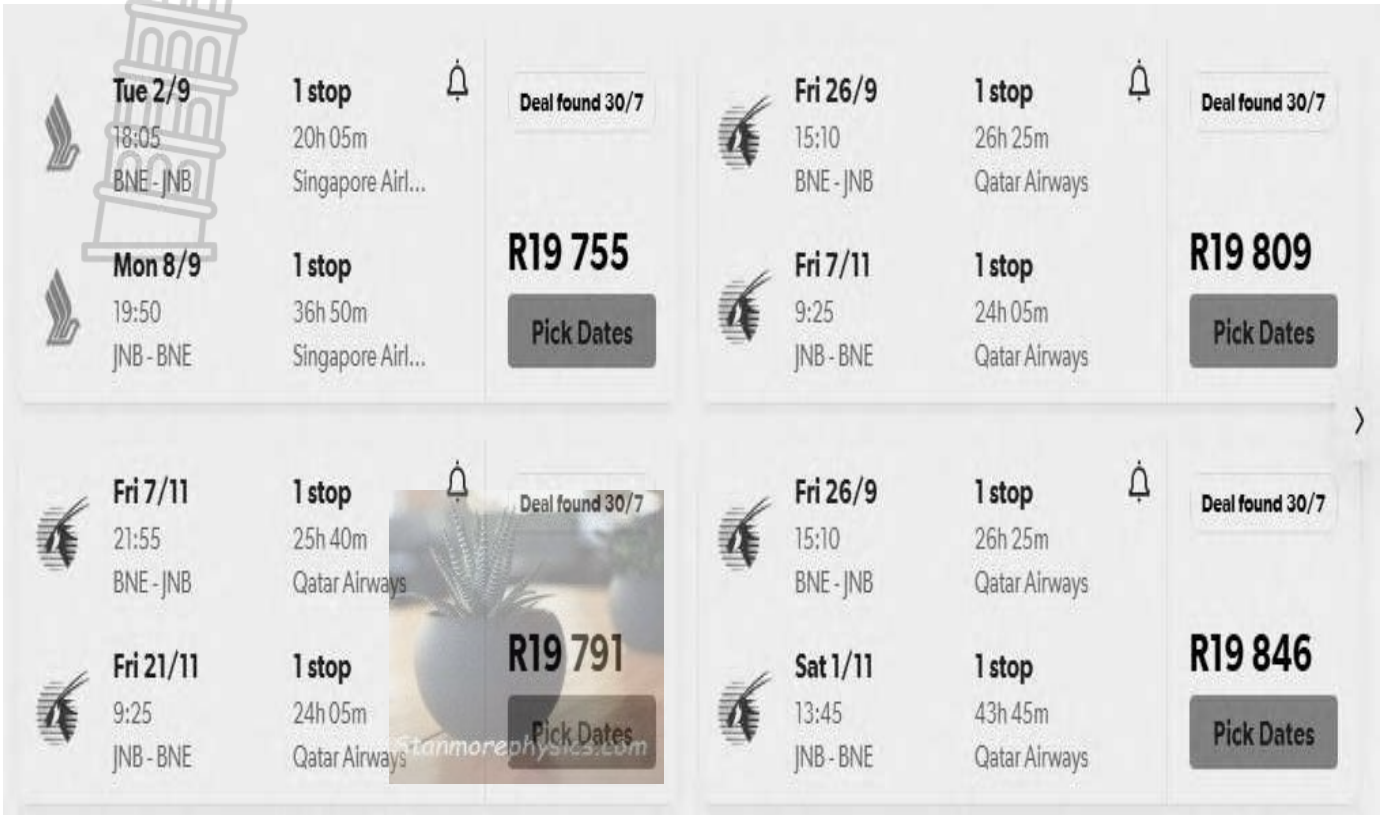
Train number	Q301	QJ11	Q311
Departing	Mon, Tue, Thu, Fri, Sat, Sun	Mon, Wed, Thu, Fri	Tue, Sun
Gympie – Sovereign Cinema	1.01pm	7.00pm	7.00pm
Gympie North railway station arrive	1.10pm	7.10pm	7.10pm

Gympie North railway station to Gympie town

Train number	Q301	QJ11	Q311
Departing	Mon, Tue, Thu, Fri, Sat, Sun	Mon, Wed, Thu, Fri	Tue, Sun

www.rome2trip.com

QUESTION 32.3 ANNEXURE E



Cheapflights.co.za

QUESTION 33

33.1

Below is an onion plantation in the Western Cape South Africa. The plantation is divided into 4m × 3m × 40cm seedbeds made of rectangular wooden partitions. The plantation consists of 8 800 seedbeds in total.

Picture of the onion seedbeds

Picture of the rectangular partitions

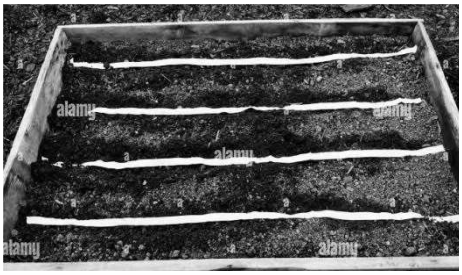
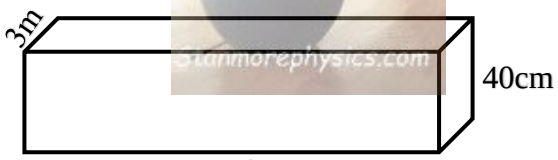


Diagram of rectangular seedbed partitions



1 hectare = 10 000 m^2
1 tonne = 1 000kg
1 bag of fertiliser = 50 kg

Source: http:www. AgroStar.za

Use the information above to answer the questions that follow.

33.1.1 Calculate the area (in m^2) occupied by each onion seedbed.
The formula may be used;
Area of rectangle = Length × Width (2)

33.1.2 Determine the area (in hectares) of the whole plantation. (4)

33.1.3 About 10 grams/m^2 of fertiliser is applied on onion seedbeds. Determine the amount of fertiliser (in kg) needed to be applied in the plantation to cover all the seedbeds. (5)

33.1.4 Determine the total number of fertiliser bags that are needed to be bought to apply on the onion plantation. (4)

33.1.5 Calculate the total cost of fertiliser paid for the number of bags of fertiliser needed if each bag costs R875. (2)

33.1.6 The amount (volume) of soil filled into each seedbed partition should not exceed 80%. Determine the volume of soil filled into each seedbed. (3)

The formula may be used;

Volume of rectangular prism = Length × Width × Height

33.2

The plantation uses 40 of 10 000 litre water tanks for the irrigation system like the one shown below. The tanks are filled with the most efficient water pumps that pump water at a rate of 2 500 litres per tank in 10 minutes at once for all the tanks.

Picture of water tank with stand.

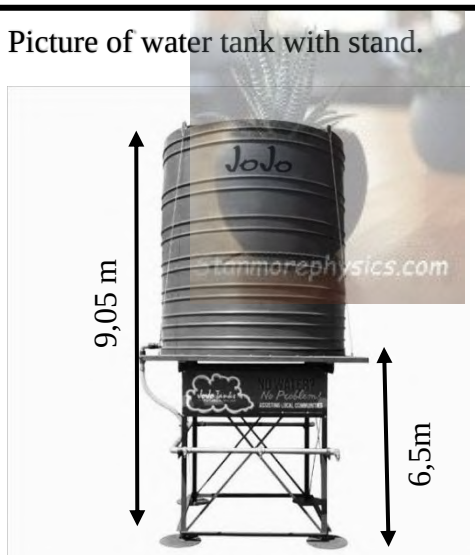
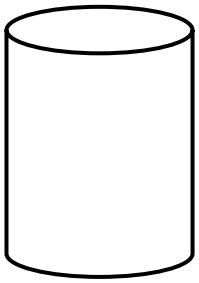


Diagram of 10 000-liter water tank



Diameter of tank = 2 420 mm

$1m^3$ = 1 000 litres

NB: The stand of the tank is 6,5m from ground to the base of the tank as shown.

[Source:www.https://www step building.co.za supplies]

Use the information above to answer the questions that follow.

33.2.1 Determine the radius, in meters, of the water tank. (3)

33.2.2 Show through calculation that the volume of the tank (to the nearest 1000 litres) is actually 10 000 litres when filled at 89% capacity.

The formula may be used;

Volume of cylinder = 3.142 × (radius)^2 × height (7)

33.2.3 Determine the time (in hours) it takes to fill all the tanks with water. (3)

[33]

QUESTION 34

34.1

Mrs Mzobe, an employee of the onion plantation, wants to renovate her Wendy house which is10,49 feet by 8,52 feet with a height of 7,87 feet by painting and putting new floor tiles. The Wendy house is built with timber partitions, roofed with 2,8m corrugated iron sheets. It has one window and one door as shown.

Dimensions Information

Door = 0,9m × 2m

Window = 1,2m × 0,8m

House = 10,49ft by 8,52ft by 7,87ft

Spread rate of paints:

Wall paint: 1 litre covers 1,8m^2

Roof paint: 1 litre covers 2,2m^2

Area of the two upper triangular parts of the wall is 0,78m^2 and the roof area is 17,92m^2

1 foot (ft) = 0,305 m

[Source: www. Skinners Sheds & log cabins]

Use the information above to answer the questions that follow.

34.1.1 Convert the length of the Wendy house to metres. (2)

34.1.2 Determine the total surface area (in m^2), of the exterior side walls of the Wendy house to be painted.
You may use the formula:

Area of rectangle = Length × width (6)

34.1.3 Mrs Mzobe stated that 25 litres of the wall paint will be enough to paint the Wendy house if two coats will be applied.
Use calculations to verify her statement. (4)

34.1.4 The wall paint to be used comes in 5 litre buckets only costing R199,95/bucket and the roof paint comes in 10 litre buckets costing R209,99/bucket.

Determine the total cost Mrs Mzobe will pay to paint the Wendy house if total labour will only cost R600,00. (7)

34.2

The tiles that she intends using for the floor is the easy peel and stick vinyl floor tiles of 12 inches by 12 inches each and where each box carries 20 tiles.

Picture of the vinyl tile box

1 inch = 2,54 cm

[Source: Walmart.com]

Use the information above to answer the questions that follow.

34.2.1 Calculate the floor area (in m^2) of the Wendy house. (2)

34.2.2 Show through calculation that each box covers an area of $1,86m^2$. (6)

34.2.3 Determine the total number of vinyl tile boxes needed to tile the floor area of the Wendy house. (3)

[30]

QUESTION 35

35 ANNEXURE A shows the layout plan of Mbombela Stadium located in the city of Mbombela, the capital city of Mpumalanga province. It has a seating capacity of approximately 43 500.

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

35.1 Identify the province where Mbombela stadium is situated. (2)

35.2 Determine the number of gates on the layout plan. (2)

35.3 Provide a possible reason for having medical personnel at the stadium. (2)

35.4 Define the term *capacity* using the given context. (2)

35.5 Write the capacity of Mbombela stadium in words. (2)

35.6 The stadium is divided into 4 sections:

- North Stand: 20%
- South Stand: 25%
- East Stand: 30%
- West Stand: 25%

If all the seats are occupied, determine the number of people seated in each section. (7)

35.7 Identify the type of scale used on stadium. (2)

35.8 Give ONE advantage and ONE disadvantage of the scale mentioned in question 35.7. (2)

35.9 The actual length of Mbombela Stadium is 250 m. Use the given scale to determine the length of the stadium on the plan in centimetres. (4)

35.10 The soccer field inside the stadium has an area of 7 140m^2 and a length of 105m. Calculate the width of the stadium.
You may use the formula:

Area = length × width (3)

35.11 Write, as a percentage, the probability of finding stairs in the stadium. (2)

35.12 Identify the compass direction of gate 4. (2)

35.13 Identify the grandstand on which the spectators be facing the sun during the late afternoon game. (2)

35.14 The seating plan of Mbombela Stadium includes three ticket categories:

MBOMBELA STADIUM TICKET CATEGORIES AND TCKETS SOLD

Section	**Ticket price**	**Number of tickets sold in one of the soccer matches**
VIP	R1 200	3 000
Regular	R 600	12 002
Economy	R 300	23 400

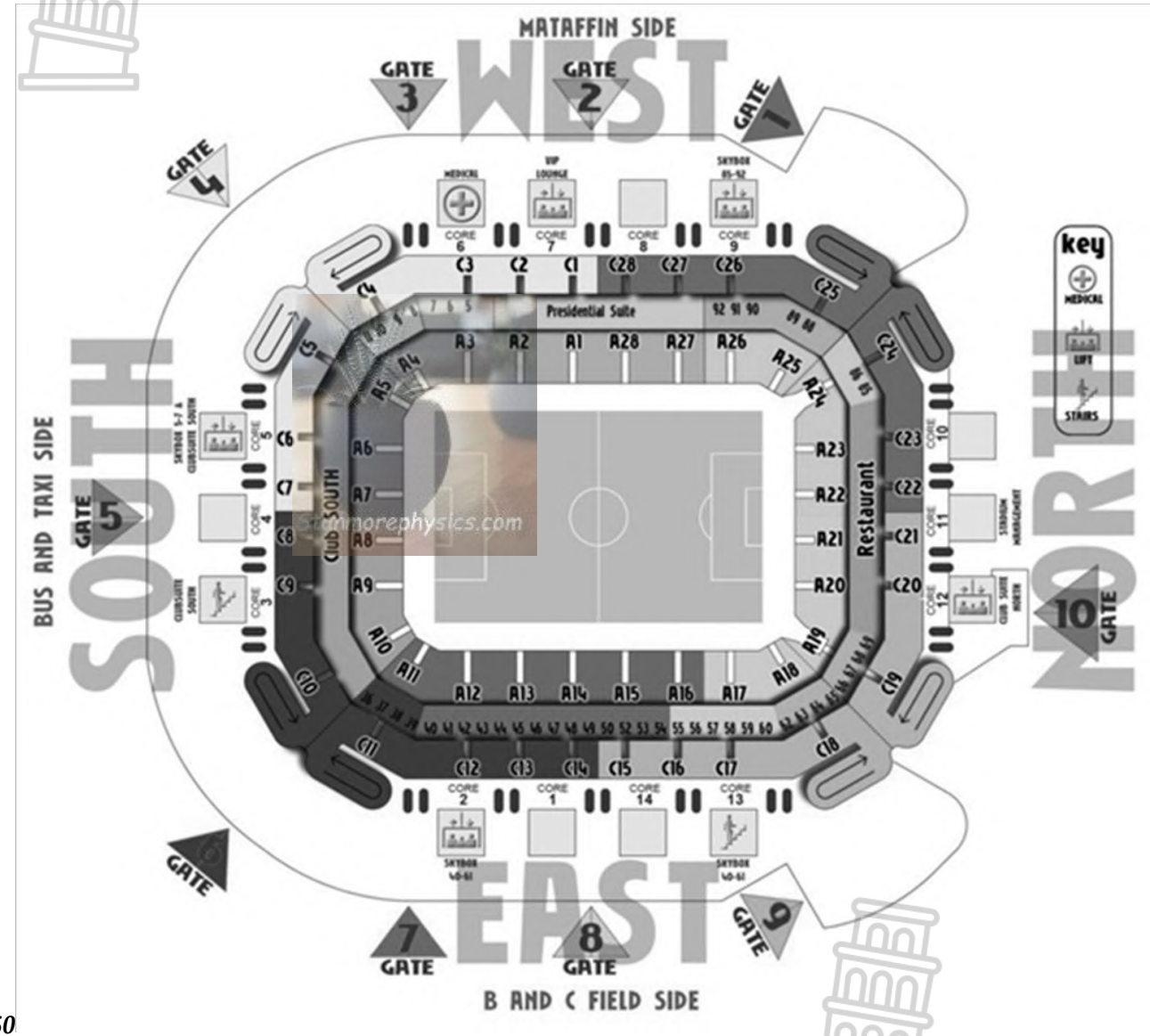
Mbombela municipality claimed that they were supposed to receive a total of R18 821 300. Verify, showing all calculations, if the claim was CORRECT. (5)

[39]

ANNEXURE A

QUESTION 35

MBOMBELA STADIUM LAYOUT PLAN



1:250

[Source:*www.google.com/map*]

QUESTION 36

36. ANNEXURE B shows the shopping mall of Newcastle. The town is situated in the northern part of KwaZulu-Natal.

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

36.1 Mention the town where the mall is located. (2)

36.2 Identify the type of drawing depicted below. (2)

36.3 Describe the relative position of Edgars. (2)

36.4 Identify the FIVE biggest stores in the mall. (3)

36.5 Identify the entrance near the Woolworths store. (2)

36.6 Determine the general direction of Pick n Pay. (2)

36.7 Mr. Mabaso stated that this is a double-storey shopping mall. Justify ,with TWO facts, whether his statement is VALID. (4)

36.8 The measured walking length from Absa to Nedbank is 1,2 cm on the layout plan. Use the given scale to calculate the actual length in metres. (4)

36.9 Determine the number of bathroom facilities in the mall. (2)

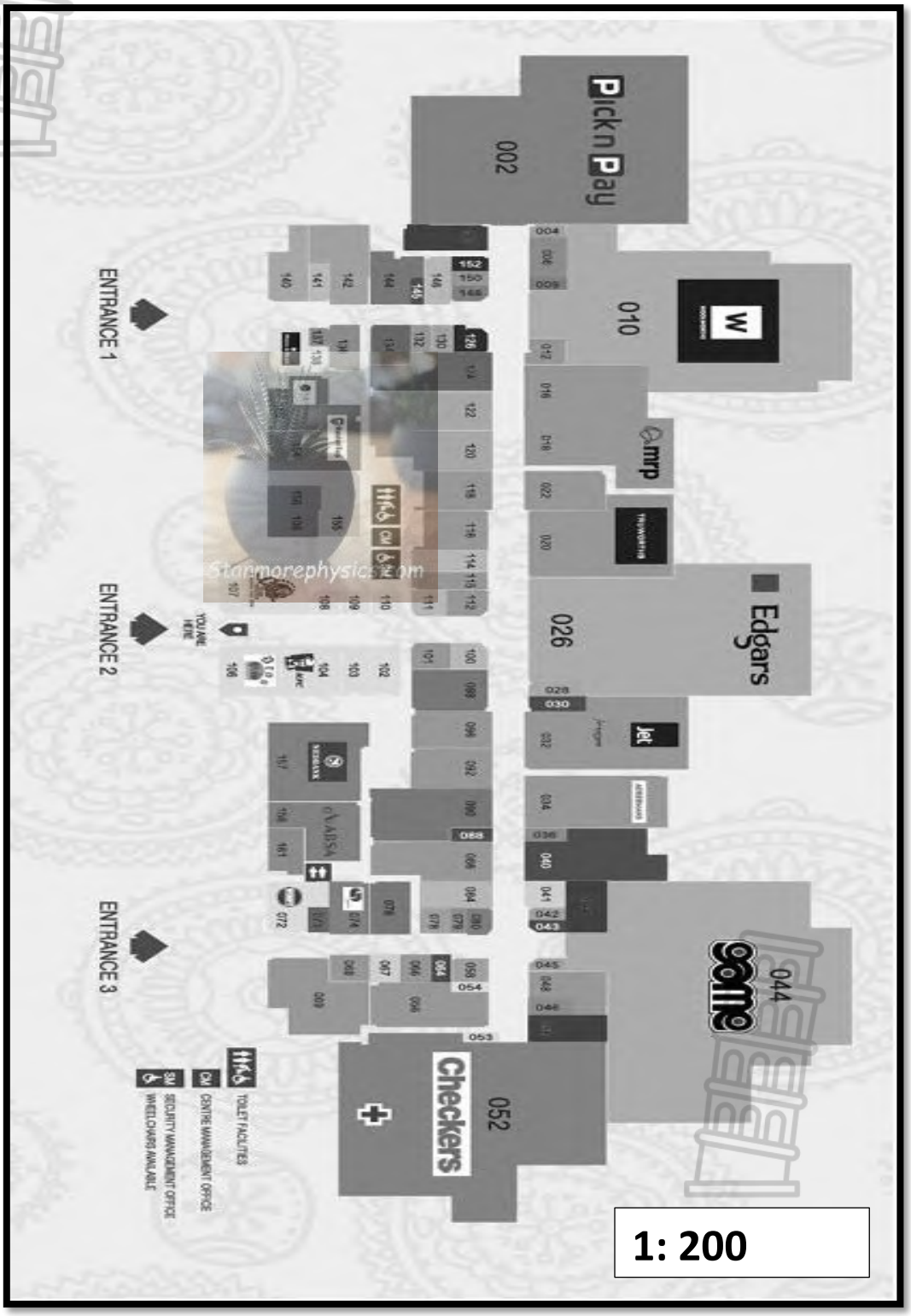
36.10 Provide a brief description of directions from entrance 2 to Game store. (4)

[27]

ANNEXURE B

QUESTION 36

NEWCASTLE MALL



NOTE: ENTRANCE 1, 2 and 3 are located EAST of the layout plan.

QUESTION 37

37 South Africa's Banyana Banyana recently participated at the 2024 Women's African Cup of Nations, WAFCON, in order to defend their championship reign in Morocco. They landed in Casablanca on a direct flight from Johannesburg, OR Tambo International. The team consisted of 21 players, 3 coaches, and 5 support staff members.

ANNEXURE A**,** shows the plan of one of the restaurants they will dine in at Mohammad V International Airport, Casablanca.

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

37.1. Define the term *seating plan* within the given context. (2)

37.2. Identify the type of scale shown in **ANNEXURE A** and explain its meaning. (4)

37.3. Identify the seat(s) that are on the eastern side of the restaurant. (3)

37.4. Players were encouraged to sit in tables with 4 chairs or more. Calculate the number of tables and chairs. (4)

37.5. Calculate the probability, as a percentage rounded off to the nearest 10, that a team member will not be seated in a table with 5 seats. (4)

37.6. Determine the inner actual length of the eastern side of the restaurant. (4)

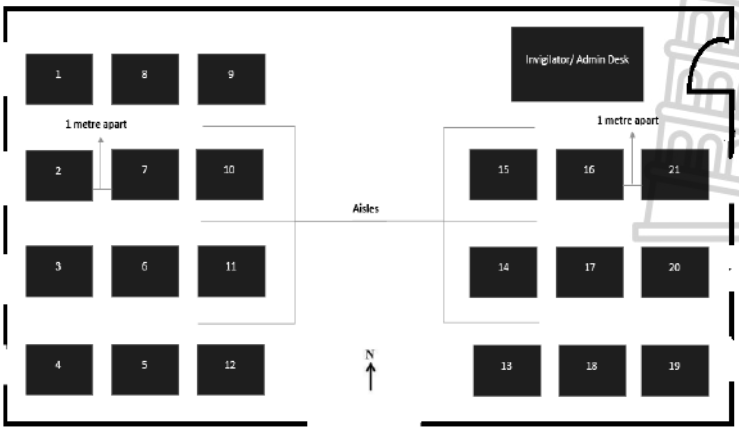
37.7. The goalkeeper coach seated on table 18 needed to talk to the team's goalkeeper on table 11.
Use the compass direction to describe her path from table 18 to table 11. (4)

37.8. Critically analyse the floor plan of the restaurant. Suggest an improvement that can be made to the floorplan. (4)

37.9 Determine whether or not all team members can be accommodated at the hotel. (3)

[31]

FIGURE 1: EXAMINATION SEATING PLAN.



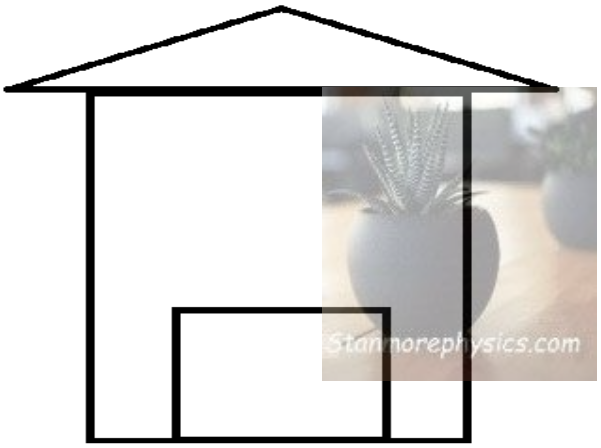
QUESTION 38

38 FIGURE 1, shows the proposed examination seating plan in a hall that has a length of 35 m and width of 30 m. ANNEXURE B, shows different elevations of the examination hall. The main entrance to hall is behind seat 12 and 13, in line with aisle as reflected in FIGURE 1.

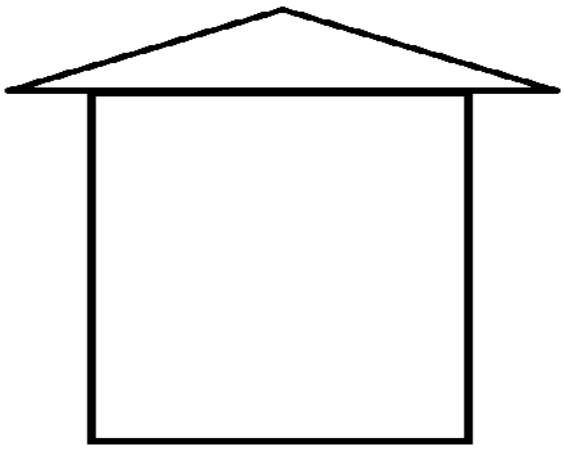
ANNEXURE B: Elevations of the Examination Hall

QUESTION 38.7

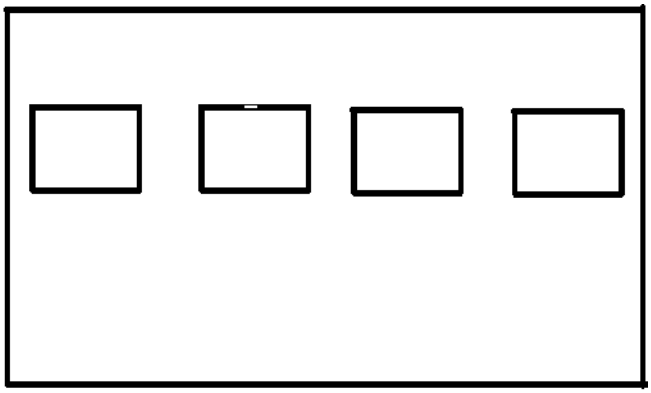
Elevation A



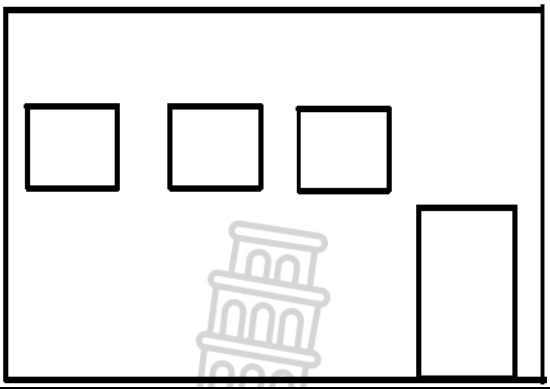
Elevation B



Elevation C



Elevation D



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

38.1 Calculate the actual length of each desk. (4)

38.2 Determine, as a simplified fraction, the probability that a learner would be seated on an even numbered seat. (3)

38.3 Give general direction of the invigilators' table from seat 12. (2)

38.4 The principal stated that the aisle was too wide and that the seating plan was impractical considering the width of the hall, the number of desks and the 1m spacing between the desks.
The actual width of the aisle is 4, 4 m, between desk 13 and 12 as part of the examination committee's calculations. Verify, showing ALL calculations, if his statement is correct. (7)

38.5 Identify the maximum number of learners that can be seated in this examination venue. (2)

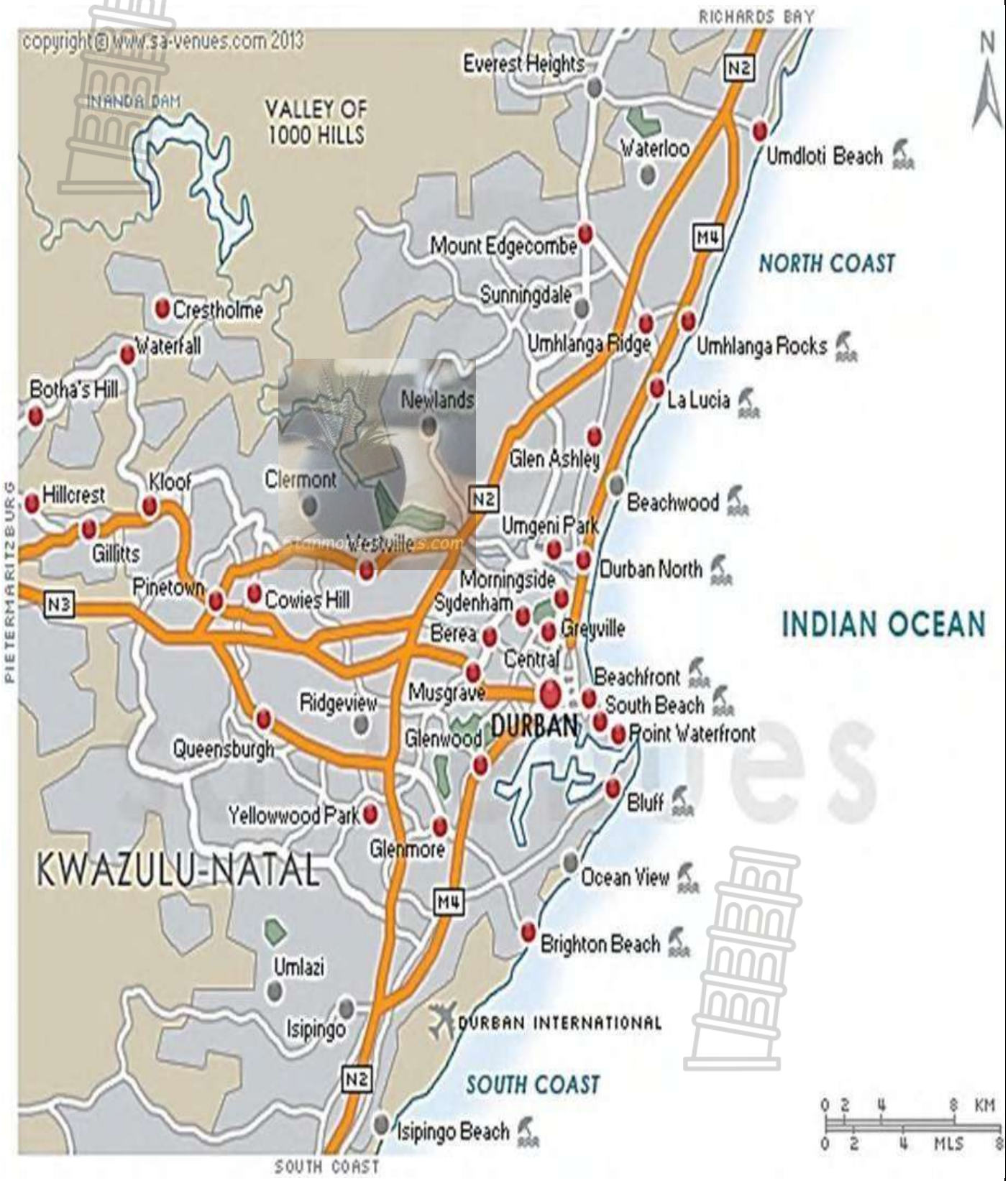
38.6 Identify the desk(s) that will be exposed the most to the afternoon sun. (2)

38.7 Use the floor plan to identify the south, north, east and west elevation. (4)

38.8 State the difference between a floor and elevation plan. (4)

38.9 State TWO advantages of a ratio scale. (4)
[30]

QUESTION 39 - ANNEXURE A: Portion of KwaZulu Natal



[www.sa-venues.com]

QUESTION 39

Zipho and his friends will be travelling from Isipingo town to Umhlanga rocks to visit their schoolmates. They use a map on Annexure A to navigate the direction.
The map on ANNEXURE A shows a portion of KwaZulu-Natal.
Study the map and answer the following questions.

39.1. Determine the number of national roads that can be seen on the map. (2)

39.2. Name one advantage of using a bar scale. (2)

39.3. Give the general direction of:

(a) Mount Edgecombe from Pine town (2)

(b) Westville from Waterloo. (2)

39.4. Identify the type of scale found on the map. (2)

39.5. Measure the scale in mm. (2)

39.6. Write the scale of the map as a number scale in the form of 1: …(round off your answer to the nearest hundred). (5)

39.7. Sinono stated that the actual distance from Isipingo beach to bluff is 20km. Verify, show all workings if the statement is correct. (4)

39.8. Zipho's car, fuel consumption is 15,4 km per litre and the cost of petrol is R21,46 per litre.

(a) Determine the number of litres of petrol they will need for the return trip from Isipingo town to Umhlanga rocks. (4)

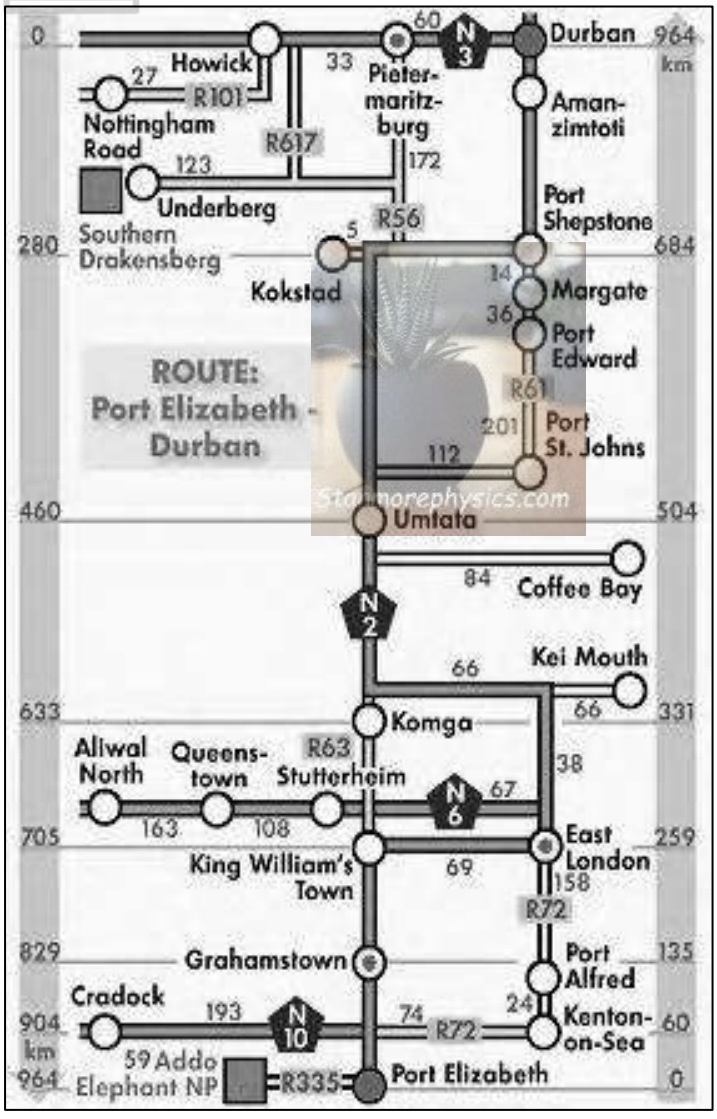
(b) Hence, calculate the amount of money they will need for petrol. (2)

[27]

QUESTION 40

Lili works in Durban. Over the weekend, she travelled to Port Elizabeth (Gqeberha) for her sister's wedding. She used the map, shown below to guide her during the journey.

MAP OF A JOURNEY FROM DURBAN TO PORT ELIZABETH (GQEBERHA)



[Source: docplayer.net]

Use the map above and answer the following questions.

40.1 Identify the type of map used. (2)

40.2 Write down the name of the national road that connects Durban and Port Elizabeth. (2)

40.3 Determine the distance (in metres) from Port Elizabeth to Durban. (3)

40.4 Identify the last town must drive through before reaching Port Elizabeth. (2)

40.5 Write down the names of any TWO regional roads appearing on the map. (2)

40.6 Identify the national park shown on the map. (2)

40.7 Lili stated that it would take her just 7 hours only to reach Port Elizabeth if she travelled at an average speed of 115km per hour. Verify with calculations if she is correct.

You may use the formulae:

$$\boldsymbol{Speed = \frac{distance}{time}}$$

(5)

40.8 Lili intends to leave Durban at 05: 30 and makes 3 stops which will be 15min each. Calculate what time she will reach her destination. (3)

40.9 Lili budgeted R6000.00, for fuel, toll gates, gift and accommodation for two nights. Determine showing all calculations whether the Lili's budget will be sufficient.

- Car fuel consumption 7,5l / 100 km
- Fuel cost R23,20 per litre
- Accommodation – R950 per person per day including breakfast
- Toll gates R300 (return)
- Gift R500

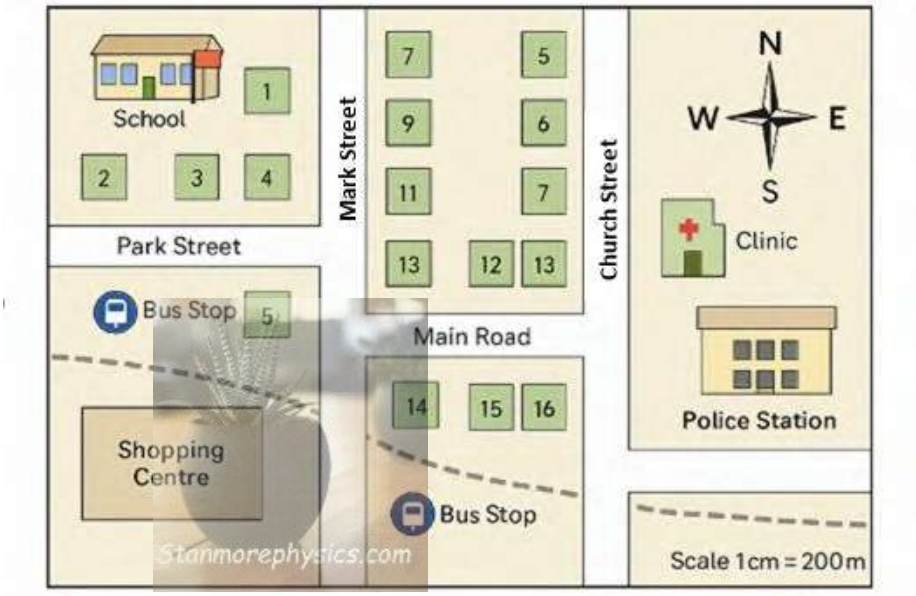
(11)

[32]

QUESTION 41

41. The map below shows the layout of a town called Maplewood, including landmarks such as a school, clinic, police station, shopping centre, and several numbered units**.** The map also shows the bus stops and a dashed line indicating a bus route.

MAP OF MAPLEWOOD



[adapted from google maps]

Use the information above and answer the questions that follow.

41.1 Name the type of map shown above. (2)

41.2 Give TWO general directions that a parent would take when traveling from the clinic to the shopping centre, and then continuing to the school. (3)

41.3 A learner walks from Unit 1 to Unit 11, then to the Bus Stop near Unit 14. Describe the route using cardinal directions and street names. (4)

41.4 The Municipality plans to build a new community park in the open area near Church Street and the Clinic. Suggest a suitable location for the park on the map and give a reason for your choice. (3)

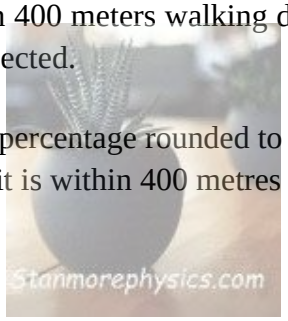
41.5 A learner who lives at Unit 13 walks to Maplewood School each day using Park Street. The length between Unit 13 and the school along Park Street is 5.3 cm on the map. Calculate the total distance in kilometres the learner walks over 5 days. (4)

41.6 A delivery truck makes two trips each day from the Police Station to the Shopping Centre. If the length between the Police Station and the Shopping Centre is 10.6 cm on the map, calculate how long one trip would take if the truck travels at an average speed of 40 km/h.

You may use the formula: $\boldsymbol{Speed} = \frac{\boldsymbol{distance}}{\boldsymbol{time}}$ (6)

41.7 The town council wants to install solar-powered streetlights on Main Road**.**
If one light pole is installed every 400 m along the road. Calculate the number of poles needed if the length of the Main Road is 1 500 m. (4)

41.8 A transport survey was conducted in Maplewood. The results showed that 12 units are within 400 meters walking distance from at least one bus stop. A unit is randomly selected.

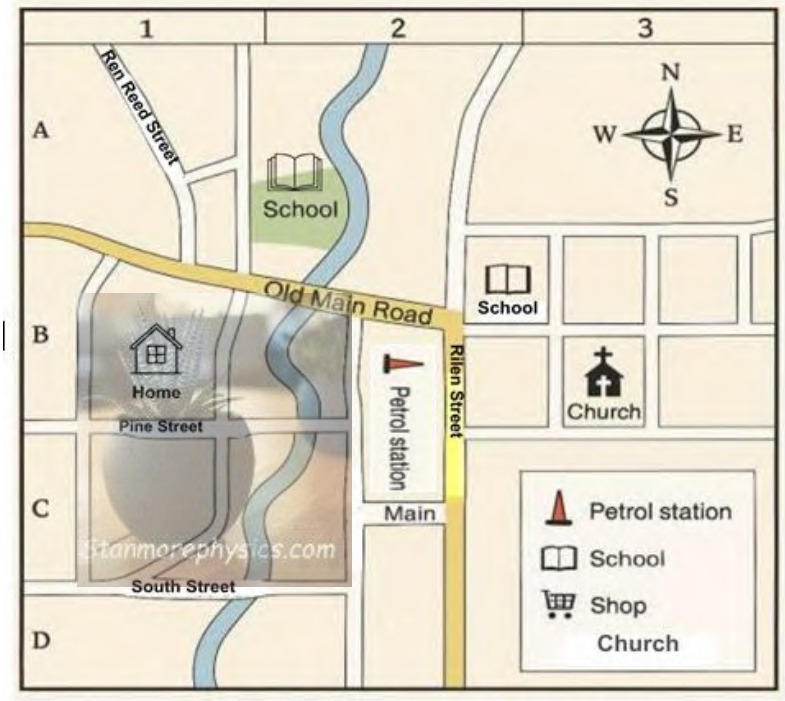


Calculate, as a percentage rounded to TWO decimal places, the probability that the selected unit is within 400 metres of a bus stop. (4)
[30]

QUESTION 42

The map below displays the layout of the town of Mapleton. The town is undergoing a community improvement project to enhance access to essential services like schools, shops, and clinics. Residents and service providers uses the map to plan routes, travel times, and deliveries.

MAP OF MAPLETON



[adapted from google maps]

NOTE: Scale: 1:1 000

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

42.1 Write down the grid reference of the church. (2)

42.2 Determine the general direction in which you would travel from the shop to the school in grid A2. (2)

42.3 Identify the type of scale shown on the map, and give ONE disadvantage of the given scale. (3)

42.4 Draw the symbol used to represent a church. (2)

42.5 Name one street that is aligned to South Street. (2)

42.6 The straight-line distance between the shop and the church is 4.2 cm on the map; calculate the actual distance in kilometres. (3)

42.7 Describe the relative position of the petrol station. (2)

Question 43

43.1 Harry buys slimline briefcases from India. The bags are packed in cardboard boxes and are transported in wooden boxes, as indicated in diagrams A and B below, to South Africa. All boxes are packed upright. Use the information and the diagrams to answer the following questions.

Diagram A

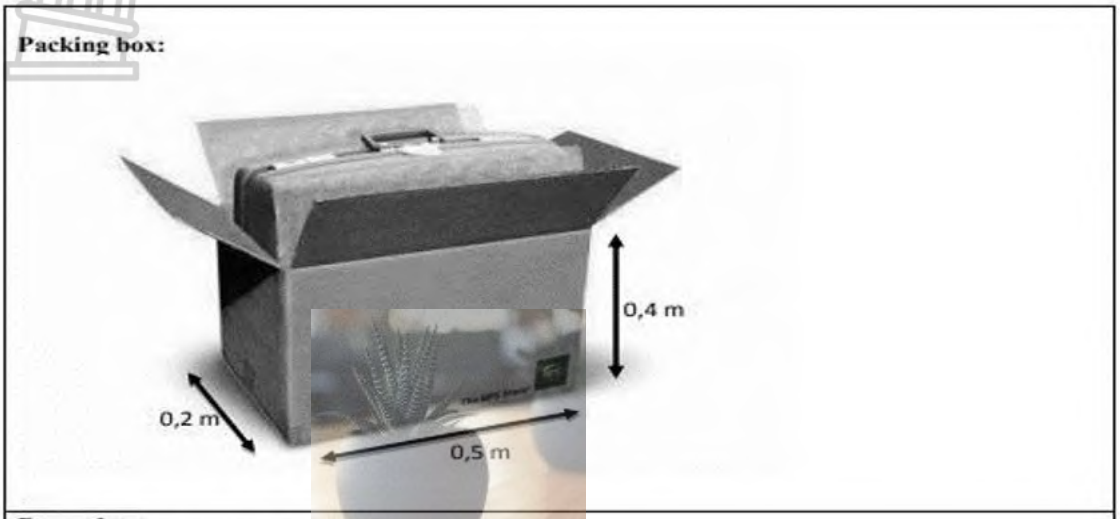
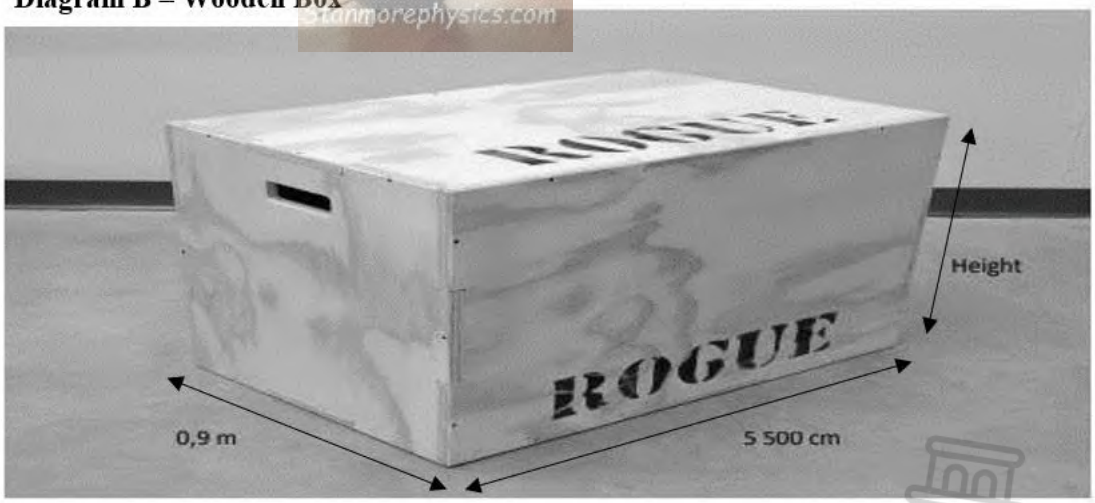


Diagram B – Wooden Box



43.1.1 Show that the height of the wooden box is 2,8 m if its capacity is 13,86 m^3.

You may use the following formula:

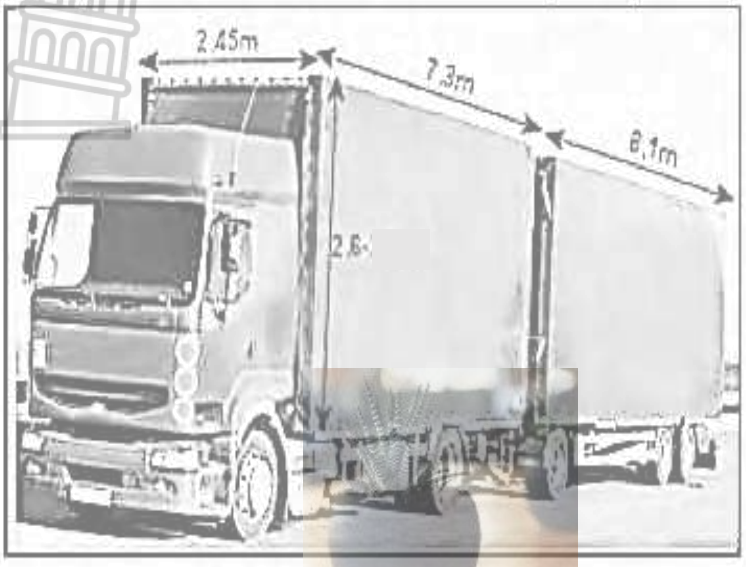
Volume of rectangular box = Length × Breadth × Height (4)

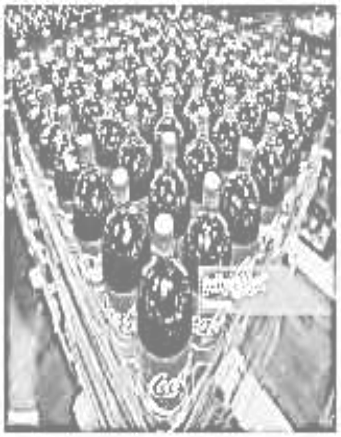
43.1.2 Harry claims that they should pack the cardboard boxes in the wooden box as follows: Length of the packing box against the width of the wooden box and width of the packing box against the length of the wooden box, in order to pack more boxes on the base of the wooden box.

Verify, with calculations if his claim is valid.

(10)

43.2 Sipho is a truck driver for the Coca-Cola company. He makes the following observation. The cylindrical 2 litre bottles of Coca-Cola are packaged on wooden pallets as shown below. Use the information below to answer the questions that follow.





The measurements of a 2 litre Coca-Cola bottle:
- Radius = 52 mm
- Height = 327 mm

The dimensions of the trailer cover
- Length of the cover in Trailer 1 = 7,3 m
- Length of the cover in Trailer 2 = 8,1 m
- Width = 2,45 m
- Height = 2,6 m

The size of a pallet contains 8 x 8 bottles

NOTE:
- 1 ton = 1 000 kg
- 1 kg = l litre

43.2.1 Calculate the maximum number of the Coca-Cola pallets that could be loaded on the second trailer of the truck. (8)

43.2.2 The truck driver states that 12 pallets of the load in mass from the trailer 2 will fit into a double cab bakkie used by a shop owner for his own stock.
The double cab bakkie load size is 1,5 tons.
Verify, showing ALL calculations, whether his statement is true. (5)
[27]

QUESTION 44

44.1 Ring lights are the best lighting option for close-up photography and videography in the modern world. Ring lights are used for projects like make-up sessions, photoshoots and Tik-Tok videos.
The diagram below shows the item list and assembly instructions for an Otto 10-inch Ring Light Tripod Kit. Some of the instructions have been omitted.
Use the information below to answer the questions that follow:

ITEM LIST


Ring light


Tripod


Pan-Tilt


Pan-Tilt


Cellphone clip

ASSEMBLY INSTRUCTIONS

A


Prepare the pan-tilt and the cellphone clip.

B


Install the cellphone clip on the pan-tilt. Tighten it, as shown, in the direction of the arrow.

C


Loosen the bottom screw and leave a gap for easy installation on the ring light.

D


Mount the assembled cellphone clip on the ring of the ring light.

E


Press the clamp with your finger and rotate until tightened, as shown above.

F


?

G


?

H


?

I


Assembly completed.

***Source**: https://s3-ap-southeast-2.com/wc-prod-pim/Instruction%20Manual.pdf*

44.1.1 Determine the total number of items needed to assemble the ring light. (2)

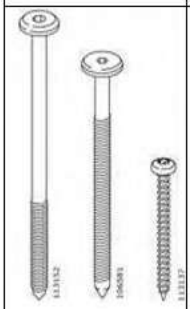
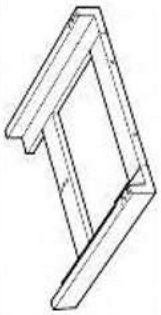
44.1.2 Identify, in the list, the item that will be used as the ring light stand. (2)

44.1.3 State whether the arrow in diagram B is in a clockwise or anticlockwise direction. (2)

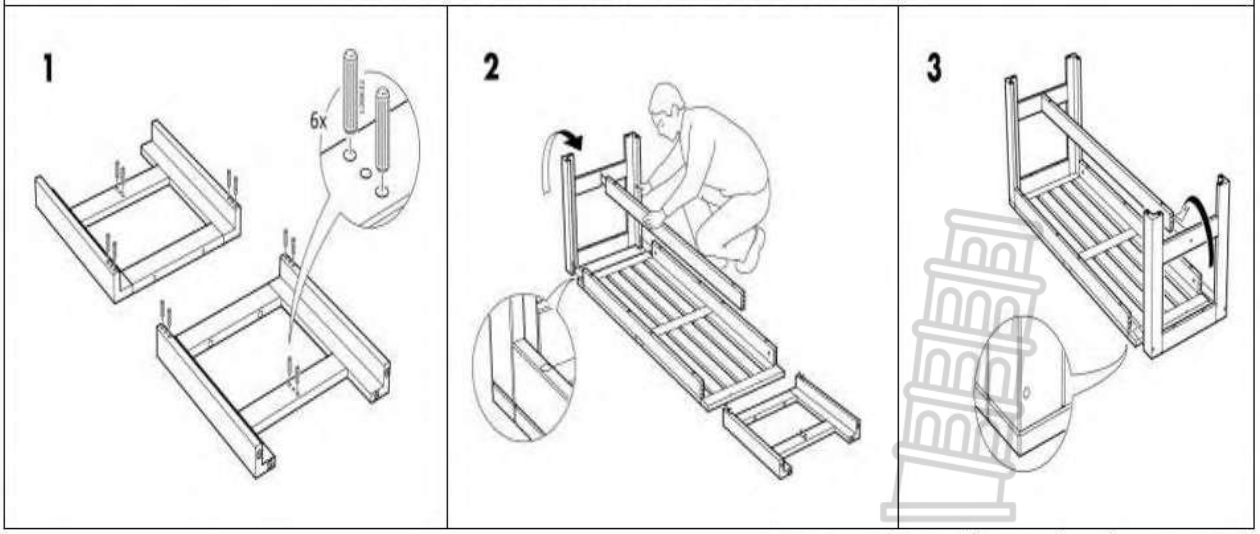
44.1.4 Match the following instructions with the correct picture (F, G or H):
(a) Clamp the cellphone to the cellphone clip. (2)
(b) Install the tripod on the pan-tilt and rotate until tightened. (2)

44.2 Sipho bought a single slatted base bed for his 4-year-old daughter from Decofurn Furnishers®. His order was delivered in a flat box and was not assembled. Refer to the images to assist Sipho in the assembling of the bed base.

LIST OF PARTS/TOOLS

SCREWS	DOWEL	DOWEL NUT SLEEVE	ALLEN KEY	BED ENDS AND LEGS	LONG SUPPORT PANEL	BED TOP
						
4x 2x 4x	12x	2x	4x	1x	2x	1x	1x

STEP-BY-STEP ASSEMBLY INSTRUCTIONS



Source: *https://www.decofurnsa.co.za*

Use the list of parts/tools and the step-by-step assembly instructions from above to answer the questions that follow.

44.2.1 Determine the total number of screws that are provided to assemble this slatted bed base. (2)

44.2.2 Name ONE tool that must be used to assemble the slatted bed base. (2)

44.2.3 Identify the step (give the number only) in the step-by-step assembly instructions that represents the following instruction:

"Use the dowel and dowel nut sleeve to install the first bed end and legs to the long support panel and the bed top." (2)

44.2.4 Describe how the use of arrows or symbols helps to communicate the steps without using words in the step-by-step assembly instructions. (2)

44.2.5 Discuss two possible outcomes if the long support panel was loosely attached during the assembling. (4)

44.2.6 Determine the probability, as a percentage, of choosing a dowel nut sleeve from the list of parts/tools. Round off your answer to a whole number. (4)

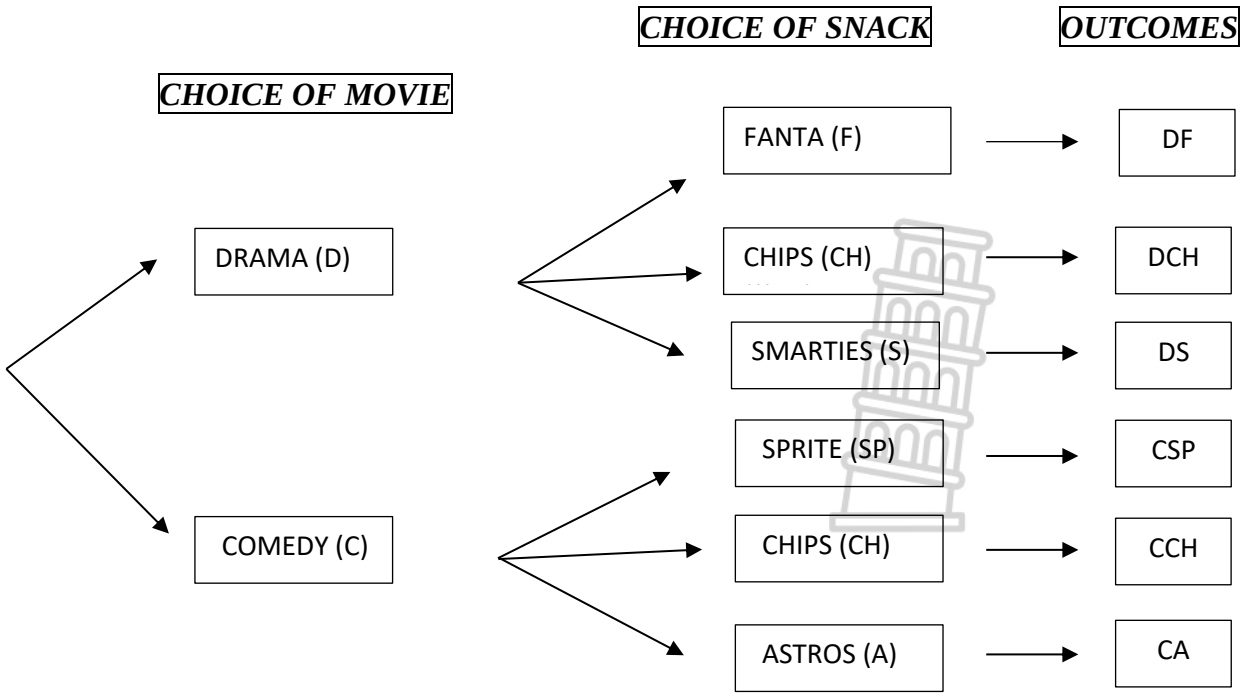
44.2.7 From the step-by-step assembly instructions, the user is kneeling during step 2. Provide one reason why the user is kneeling. (2)

[28]

QUESTION 45

45.1 The movies offered two packages shown in the diagram below. Study the diagram and answer the questions.

DIAGRAM SHOWING THE OUTCOMES OF CHOOSING A MOVIE AND SNACK PACK



45.1.1 Name the type of diagram presented above. (2)

45.1.2 Identify the choice of movies shown in the diagram. (2)

45.1.3 Determine the total number of outcomes shown in the diagram. (2)

45.1.4 Determine the probability of a learner having Fanta as a cooldrink in the snack pack. Write your answer as a decimal number rounded off to one decimal place. (3)

45.1.5 Nonku, one of the people who chose the movie , commented that the probability of choosing any snack in the snack pack was 16,67%. Verify if her statement is valid. (4)

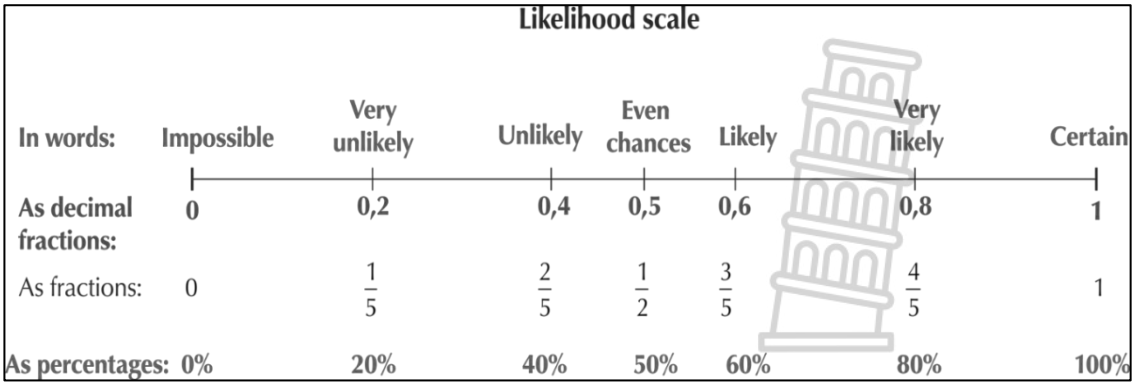
45.2 A survey of people at an amusement park on a particular day revealed the preferences shown in TABLE 1.

PICTURES SHOWING ACTIVITIES AT AN AMUSEMENT PARK.

Source: *www.123rf.com*

Source : *www.alamay.com*

PROBABILITY SCALE SHOWING LIKELIHOOD OF AN EVENT



Source : *www.siyavula.com*

TABLE 1: RESULTS OF SURVEY FOR RIDE PREFERENCE

	TYPE OF RIDE	NO WHO PREFER RIDE
Ride 1	Ferrous Wheel	201
Ride 2	The Rotor	150
Ride 3	Bumper Cars	**A**
Ride 4	Chair Swing	195
Ride 5	Swing Boat	104
	TOTAL NUMBER	**870**

QUESTION 46

46.1 At a TV game show there are three types of coloured balls in a glass box. There are three blue balls, one red ball and three green balls in the box. The contestant must choose a ball in the first event, replace the ball and choose another ball. The winning combination is a red ball chosen in the first event and a red ball chosen in the second event.

TABLE 1: TWO - WAY TABLE SHOWING THE OUTCOMES OF CHOOSING A BALL TWO TIMES

	BLUE	BLUE	BLUE	RED	GREEN	GREEN
BLUE	BB	BB	BB	BR	BG	BG
BLUE	BB	BB	BB	**(b)**	BG	BG
BLUE	BB	BB	BB	BR	BG	BG
RED	RB	RB	RB	RR	RG	RG
GREEN	GB	**(a)**	GB	GR	GG	GG
GREEN	GB	GB	GB	GR	GG	GG

NOTE : R – represents a red ball

B – represents a blue ball

G – represents a green ball

Use the two–way table and the information shown above to answer the questions.

46.1.1 State whether the data shown in the two – way table is categorical or numerical. Give a reason for your answer.

46.1.2 Complete the missing values shown in TABLE 1.

46.1.3 State the probability of choosing a red ball in the first pick. Write your answer as a decimal number.

46.1.4 Identify the total number of outcomes from both events.

46.1.5 Determine the probability of **NOT** choosing the winning combination. Write your answer as a simplified fraction.

46.2

101 sportsmen and women at a university were asked about what sport they played. The incomplete two – way shows the results below.

TABLE 1: TWO–WAY TABLE SHOWING SPORT PLAYED BY STUDENTS AT A UNIVERSITY.

	HOCKEY 	**SOCCER** 	**RUGBY** 	**TOTAL**
MALES	10	34	**E**	**D**
FEMALE	**A**	**B**	18	54
TOTAL	25	55	F	C

Source : Adapted from www.irdspacelearning.com

Use TABLE 2 above to answer the questions.

46.2.1 Complete the missing values **A to F** in the two – way table.

46.2.2 The university selected a sportsperson at random to be awarded a bursary. Determine the probability of the bursary being given to a female who plays rugby. Write your answer as a decimal number rounded off to one decimal place.

46.2.3 A sportsperson commented that female participation in rugby is 6 times greater than male participation in rugby. Use calculations to verify if the person is correct.

Study the information shown in TABLE 1 above and answer the questions.

45.2.1 Name a possible tool used to collect the information shown in TABLE 1. (2)

45.2.2 Determine **A**, the total number of people who preferred Bumper Cars. (2)

45.2.3 Identify the most popular ride shown in the survey. (2)

45.2.4 State the probability of a person choosing Ride 2. Give your answer as a simplified fraction. (3)

45.2.5 One of the people at the amusement park commented that it is ***very unlikely*** that a person would have chosen the Swing Boat ride on that day. Use TABLE 1 and the probability scale to calculate the probability rounded to the nearest 10%. Verify if the person's statement is **valid.** (5)

[27]