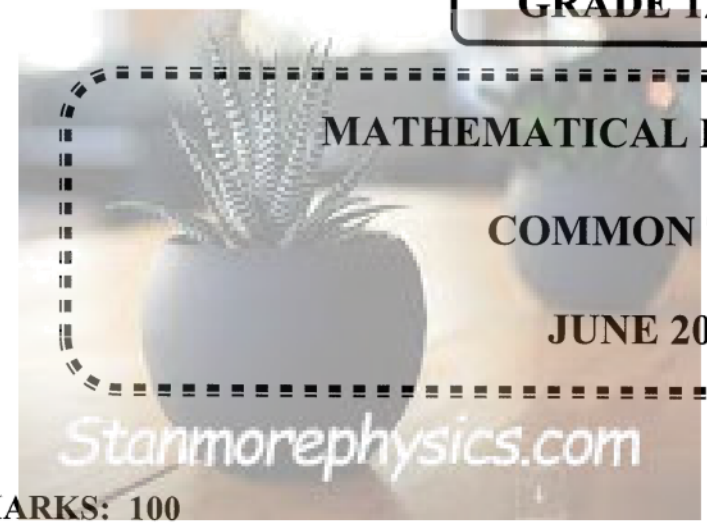


KWAZULU-NATAL PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12



MATHEMATICAL LITERACY P1

COMMON TEST

JUNE 2022

MARKS: 100

TIME: 2 hours

This question paper consists of 9 pages, 1 answer sheet and an Addendum with 3 annexures.

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INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.

2. 2.1 Use the ANNEXURES in the ADDENDUM to answer the following questions:

   - ANNEXURE A for QUESTION 1.2
   - ANNEXURE B for QUESTION 2.1
   - ANNEXURE C for QUESTION 4.2

   2.2 Answer QUESTION 4.1.2 on the attached ANSWER SHEET.

   2.3 Write your name in the space provided on the ANSWER SHEET. Hand in the ANSWER SHEET with your ANSWER BOOK.

3. Number the answers correctly according to the numbering system used in this question paper.

4. Start EACH question on a NEW page.

5. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

6. Show ALL calculations clearly.

7. Round off ALL final answers appropriately according to the given context, unless stated otherwise.

8. Indicate units of measurement, where applicable.

9. Diagrams are NOT necessarily drawn to scale, unless stated otherwise.

10. Write neatly and legibly.

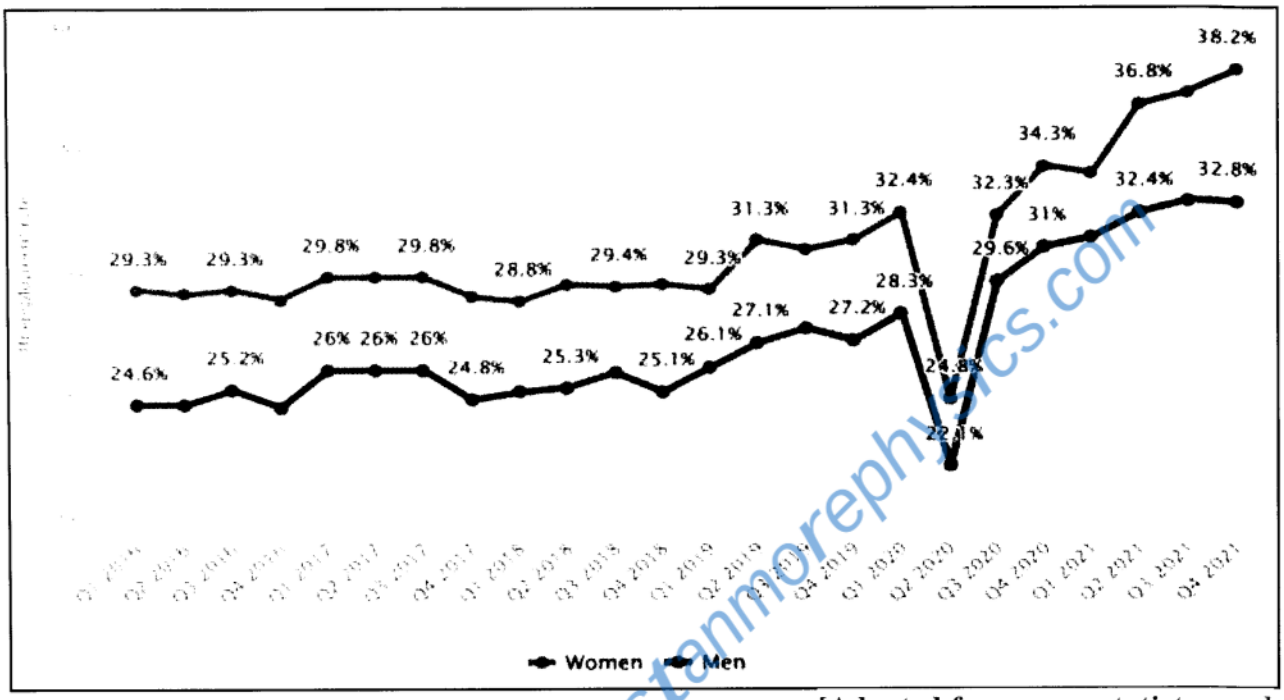
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QUESTION 1

1.1 The graph below shows the unemployment rate in South Africa from 2016 First Quarter (Q_1) to 2021 Fourth Quarter (Q_4) by gender.

UNEMPLOYMENT RATE FROM 2016 TO 2021 BY GENDER



[Adapted from www.statista.com]

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

1.1.1 Define the term *mode* in the given context. (2)

1.1.2 Identify the modal unemployment rate for men. (2)

1.1.3 State the quarter and year for the lowest unemployment rate for men in South Africa. (2)

1.1.4 Calculate the difference between the highest and the lowest unemployment rate for women. (2)

1.1.5 Determine the difference between the men and women unemployment rates for Q_4 in 2021? (2)

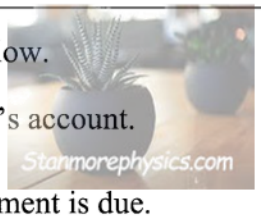
1.1.6 Identify the type of graph shown above. (2)

downloaded from stanmorephysics.com

Stanmorephysics.com

1.2 ANNEXURE A shows Mr. J Trent's TFG account statement.

Use ANNEXURE A to answer the questions that follow.



1.2.1 Write down the total balance owing on Trent's account. (2)

1.2.2 State the full date on which the current instalment is due. (2)

1.2.3 Determine the number of days covered by the statement period. (2)

1.2.4 Write down the opening balance of the 12-month revolving account option. (2)

1.2.5 Show how the closing balance of **R6 621,08** was determined. (3)

1.2.6 Calculate the percentage of the opening balance on the current credit allocation. (2)

1.2.7 State the interest rate change as from 28 January 2022. (2)

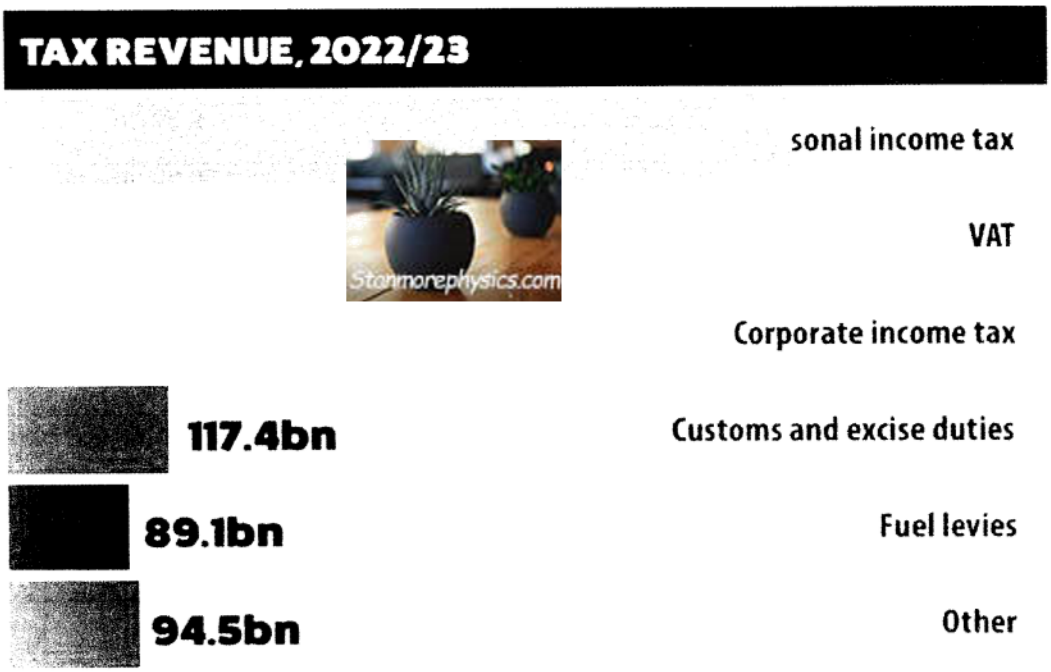
1.2.8 Write down (in simplified form) the ratio of the total due to monthly instalment . (3)

[30]



QUESTION 2

2.1 ANNEXURE B shows a summary of the 2022/2023 national budget announced by the Minister of Finance, Enoch Godongwana. Given below is the state revenue for 2022/2023.



Use the above Tax Revenue for 2022/23 and ANNEXURE B to answer the following questions.

2.1.1 Calculate the total tax revenue for 2022/23. (3)

2.1.2 An Economics educator stated that personal income tax contributes exactly 36% of the tax revenue for the state. Verify this statement with calculations. (4)

2.1.3 Use the tax revenue above and ANNEXURE B to calculate the surplus/deficit for 2022/23. (3)

2.1.4 Use ANNEXURE B to suggest one possible adjustment the government can make on the consolidated expenditure. (2)

2.1.5 The current state debt is \$293 625 590 300. Use the rate R1 = \$0,068 to convert the state debt to rands and write your answer in billions of rands rounded off to the nearest R100 billion. (4)

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2.2 The table below shows Johannesburg Municipality water tariffs for 2021 and 2022.

TABLE 1: JOHANNESBURG MUNICIPALITY WATER TARIFF RATES

Block (Band)		2021 (15% VAT Inclusive): R/k ℓ	2022 (15% VAT Exclusive): R/k ℓ
1.	0 – 6 kl	-	-
2.	> 6 – 10 kl	R20,28	R19,36
3.	> 10 – 15 kl	R21,17	R20,20
4.	> 15 – 20 kl	R29,68	R28,32
5.	> 20 – 30 kl	R41,01	R39,14
6.	> 30 – 40 kl	R44,86	R42,81
7.	> 40 – 50 kl	R56,59	R54,10
8.	> 50 kl	R60,65	R57,88

[Adapted from www.joburg.org.za]

Stanmorephysics.com

Use TABLE 1 above to answer the questions that follow.

2.2.1 State ONE reason why there are no tariff rates for the 0 – 6 kℓ band? (2)

2.2.2 A household used 38 k ℓ of water in 2021. Calculate the cost of water used. (4)

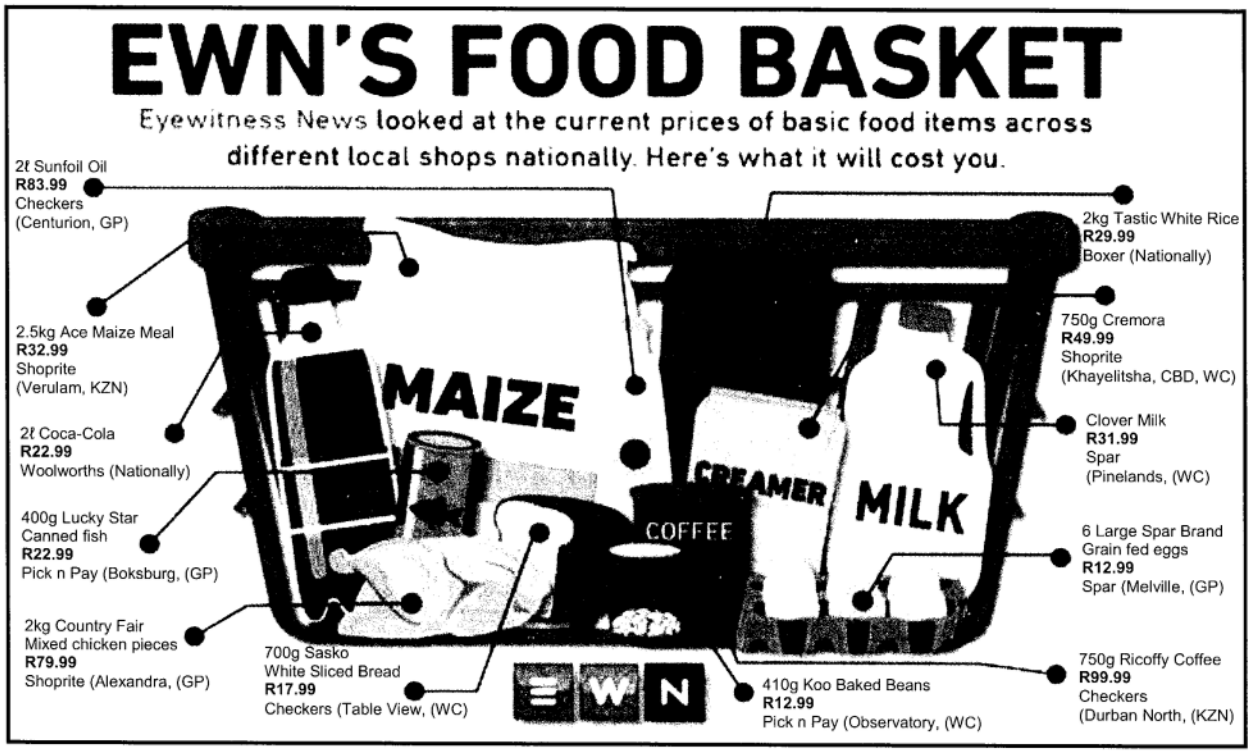
2.2.3 Calculate the amount of water used by a household that was charged R407,23 including VAT in April 2022. (7)

[29]

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QUESTION 3

3.1 The projected inflation rates for 2022, 2023 and 2024 are 4,09%, 4,26% and 4,36% respectively. Given below is Eyewitness News' food basket showing the 2022 prices of selected food items.



[Adapted from www.ewn.co.za]

Use the information above to answer the following questions.

3.1.1 Use the 2022 inflation rate to determine the price of a 2,5 kg Ace maize meal in 2021. (2)

3.1.2 Determine the price of ONE loaf of 700g Sasko white sliced bread in 2024. (4)

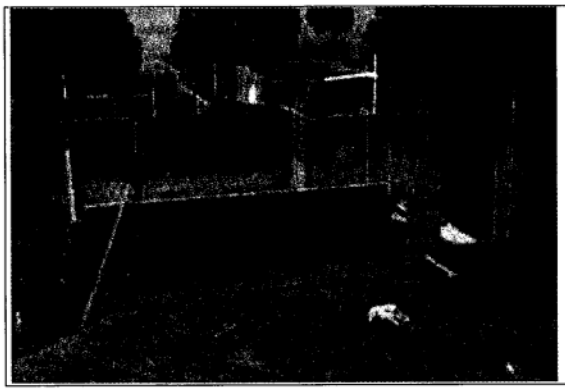
3.1.3 Musa claimed that the purchasing power of the above food basket is 95.91%, given that the cost of the food basket is R498,88 in 2022. Verify using calculations whether Musa's claim is valid.

You may use the formula: **Purchasing Power** = $\frac{\textbf{Price of food basket in 2022}}{\textbf{Price of food basket in 2023}}$ **x 100%** (6)



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3.2 Most people prefer to buy incomplete property because it is relatively cheaper. Musa saw the property listed below on the internet. He is willing to pay 20% deposit to reduce the loan amount.



R 950 000

4 Bedroom House

Eshowe

Property is incomplete/built half-way with no roof. Offering of this following:

4 4 2 517 m²

Adapted from www.sahometraders.co.za

Banks use factor tables to calculate monthly repayments for mortgage bonds.
TABLE 3 given below is an extract of the loan factor table.

TABLE 2 – LOAN FACTOR TABLE FOR MORTGAGE BONDS

	Years financed			
Annual Interest Rate	**10 Years**	**20 Years**	**25 Years**	**30 Years**
7,0%	11,61	7,75	7,07	6,65
7,5%	11,87	8,06	7,39	6,99
8,0%	12,13	8,36	7,72	7,34
8,5%	12,40	8,68	8,05	7,69
9,0%	12,67	9,00	8,39	8,05
9,5%	12,94	9,32	8,74	8,41
10,0%	13,22	9,65	9,09	8,78

Source: [www.sars.gov.za]

Use the information above to answer the questions that follow.

3.2.1 Calculate the loan amount if Musa pays 20% of the property value as a deposit. (3)

3.2.2 Musa's bank is willing to give him a loan at 10,0% interest over a period of 20 years. Use TABLE 2 to calculate the monthly repayment.

You may use the formula:

$$\textbf{Monthly Repayment} = \frac{\textbf{Loan Amount} \times \textbf{Loan Factor}}{\textbf{1 000}}.$$



(3)

3.2.3 Calculate the real cost of the loan.

You may use the formula:

$$\textbf{Real Cost of Loan} = \textbf{Monthly repayment} \times \textbf{Loan period in months}.$$

(3)

3.2.4 Calculate the total interest on the loan. (2)

[23]

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QUESTION 4

4.1 Mr. Lambert is the Sports Master at Princeton Sports Academy. He collected the following data from his Second Team soccer players.

TABLE 3: HEIGHTS AND WEIGHTS OF SECOND TEAM SOCCER PLAYERS

Weight (kg)	48	55	50	58	62	60	52	69	76	84	70
Height (m)	1,58	1,56	1,62	1,60	1,58	1,65	1,60	1,74	1,65	1,56	1,54

[Adapted from Princeton Sports Academy]

Use the information above to answer the questions that follow.

4.1.1 State whether the above data is discrete or continuous. Give a reason for your answer. (2)

4.1.2 Use TABLE 3 and the ANSWER SHEET provided to draw a scatter plot representing the heights and weights of the soccer players. (4)

4.1.3 Use your graph in 4.1.2 to describe the correlation between weights and heights of the players. (2)



4.1.4 State one advantage of displaying the above data in a scatter plot. (2)

4.1.5 Calculate the mean weight of the players rounded off to the nearest whole number. (3)

4.2 David will be attending his friend's wedding. He has three suits and two pairs of shoes to choose from as shown in the tree diagram on ANNEXURE C.

SUITS: Hugo Boss (HB), Versace (V) and Gucci (G)
SHOES: Balenciaga (B) and Fabiani (F)

Use ANNEXURE C to answer the questions that follow.

4.2.1 The incomplete tree diagram on ANNEXURE C shows the combination of a suit and a pair of shoes David can wear. Write down the missing values **A** and **B**. (2)

4.2.2 Use your tree diagram to find the probability **C** of wearing a Gucci suit and a pair of Balenciaga shoes. Write your answer as a percentage rounded off to 1 decimal place. (3)

[18]



TOTAL MARKS: 100

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GRADE 12

MATHEMATICAL LITERACY P1

ADDENDUM

COMMON TEST

JUNE 2022



This Addendum consists of 4 pages with 3 Annexures.

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ANNEXURE A

QUESTION 1.2

AMERICANSWISS
FINE JEWELLERS SINCE 1896

STATEMENT TAX INVOICE

MR J TRENT
407 STEPHEN OFFER TERRACE,
ESHOWE
3815

Shop on your American Swiss Account in any of these TFG retail brands

- home
- homelivingspace
- AmericanSwiss
- Archive
- Donna
- Exact
- Fabiani
- The Fix
- Foschini
- Galaxy & Co.
- G-Star Raw
- hi
- Jet
- Markham
- myTFGworld
- Relay Jeans
- RFO
- Sneaker Factory
- Soda Bloc
- Sportscene
- Sterns
- Totalsports



Page 1 of 1 ENCLOSE THE UPPER PORTION WITH POSTAL PAYMENT 00110100

DATE	REFERENCE			DESCRIPTION	AMOUNT
	PAYMENTS THIS STATEMENT				0,00
	12 MTHS REVOLVING CI			OPENING BALANCE	6 441,83
02 FEB				SMS CHARGED	2,80
08 FEB				EMAIL CHARGED	20,00
12 FEB				INTEREST	97,55
12 FEB				SERVICE FEE	22,00
12 FEB				BALANCED LIFE	36,90
INSTALMENT	760,00	DUE	1 520,00	CLOSING BALANCE	6 621,08

My current credit allocation	What can I spend?	What is my instalment?	How much am I in arrears by?	What is my balance?
12 000,00	0,00	760,00	760,00	6 621,08

CURRENT	30 DAYS	60 DAYS	90 DAYS +	TOTAL DUE (BY 1ST)
760,00	760,00	0,00	0,00	1 520,00

Your interest rate is 18.00%. *A division of Foschini Retail Group (Pty) Ltd Reg. No 1988/007302/07 NCRCP 36 Authorised Financial Services Provider Vat No. 4210187250*

STATEMENT PERIOD - 13/01/2022 - 12/02/2022

STATEMENT DATE - 12/02/2022

ACCOUNT NUMBER - 00110100

SERVICE FEE CHANGE
From **12 April 2022** the monthly service fee charged will increase to **R24.00**

INTEREST RATE CHANGE
From **28 January 2022** the interest rate applicable to your account will increase from 17.75% to **18.00%**.



N4

HOW TO PAY YOUR ACCOUNT:

1 At any **TFG STORE**

2 **ONLINE:** Pay immediately using your Card or Acc No. on **https://pay.mytfgworld.com/paynow**

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ANNEXURE B

QUESTION 2.1

NATIONAL BUDGET SUMMARY FOR 2022/2023

BUDGET2022/23
BUDGET EXPENDITURE

www.treasury.gov.za | RSA Budget | #RSABudget2022

ISSUED BY
national treasury
REPUBLIC OF SOUTH AFRICA

Tel: (012) 315 5757
www.treasury.gov.za

CONSOLIDATED GOVERNMENT EXPENDITURE R2.16 TRILLION → R1.30 TRILLION SOCIAL SERVICES

R227.1bn ECONOMIC DEVELOPMENT

Economic regulation and infrastructure	R117.5bn
Industrialisation and exports	R39.2bn
Agriculture and rural development	R27.5bn
Job creation and labour affairs	R24.8bn
Innovation, science and technology	R18.1bn

R280.7bn PEACE AND SECURITY

Police services	R110.2bn
Law courts and prisons	R50.8bn
Defence and state security	R50.0bn
Home affairs	R9.7bn

R69.2bn GENERAL PUBLIC SERVICES

Public administration and fiscal affairs	R46.1bn
Executive and legislative organs	R14.8bn
External affairs	R8.3bn

R301.8bn DEBT-SERVICE COSTS

R10.0bn CONTINGENCY RESERVE

R441.5bn LEARNING AND CULTURE

Basic education	R282.8bn
University transfers	R48.7bn
National Student Financial Aid Scheme	R46.1bn
Skills development levy institutions	R21.7bn
Education administration	R18.0bn
Technical & vocational education and training	R12.6bn

R259.0bn HEALTH

District health services	R115.7bn
Central hospital services	R49.4bn
Other health services	R42.4bn
Provincial hospital services	R40.4bn
Facilities management and maintenance	R11.1bn

R236.3bn COMMUNITY DEVELOPMENT

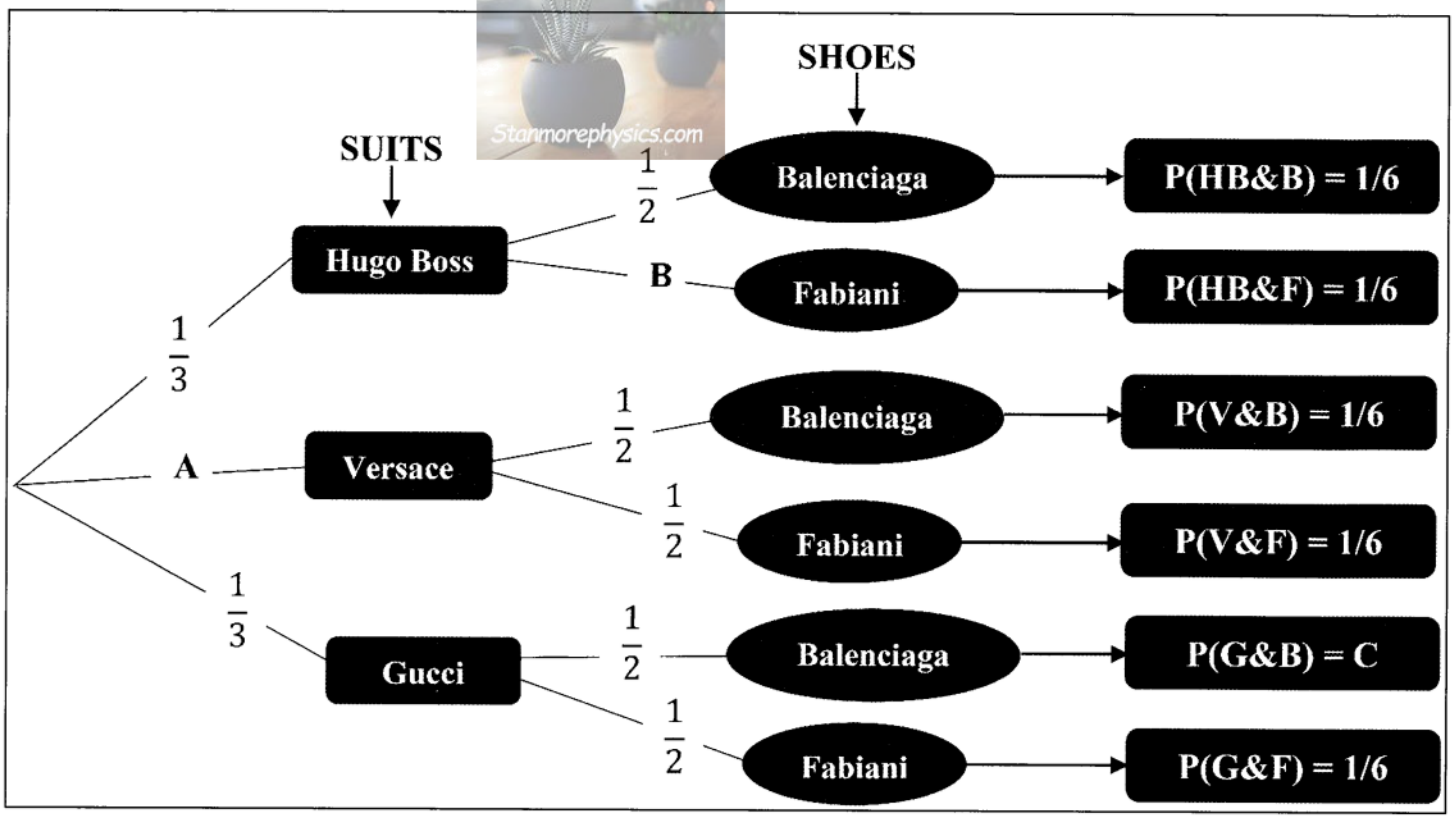
Municipal equitable share	R87.3bn
Human settlements, water and electrification programmes	R58.7bn
Public transport	R47.4bn
Other human settlements and municipal infrastructure	R42.9bn

R364.4bn SOCIAL DEVELOPMENT

Old-age grant	R92.1bn
Social security funds	R84.2bn
Other grants	R78.9bn
Child-support grant	R77.2bn
Provincial social development	R22.0bn
Policy oversight and grant administration	R9.9bn

ANNEXURE C

QUESTION 4.2



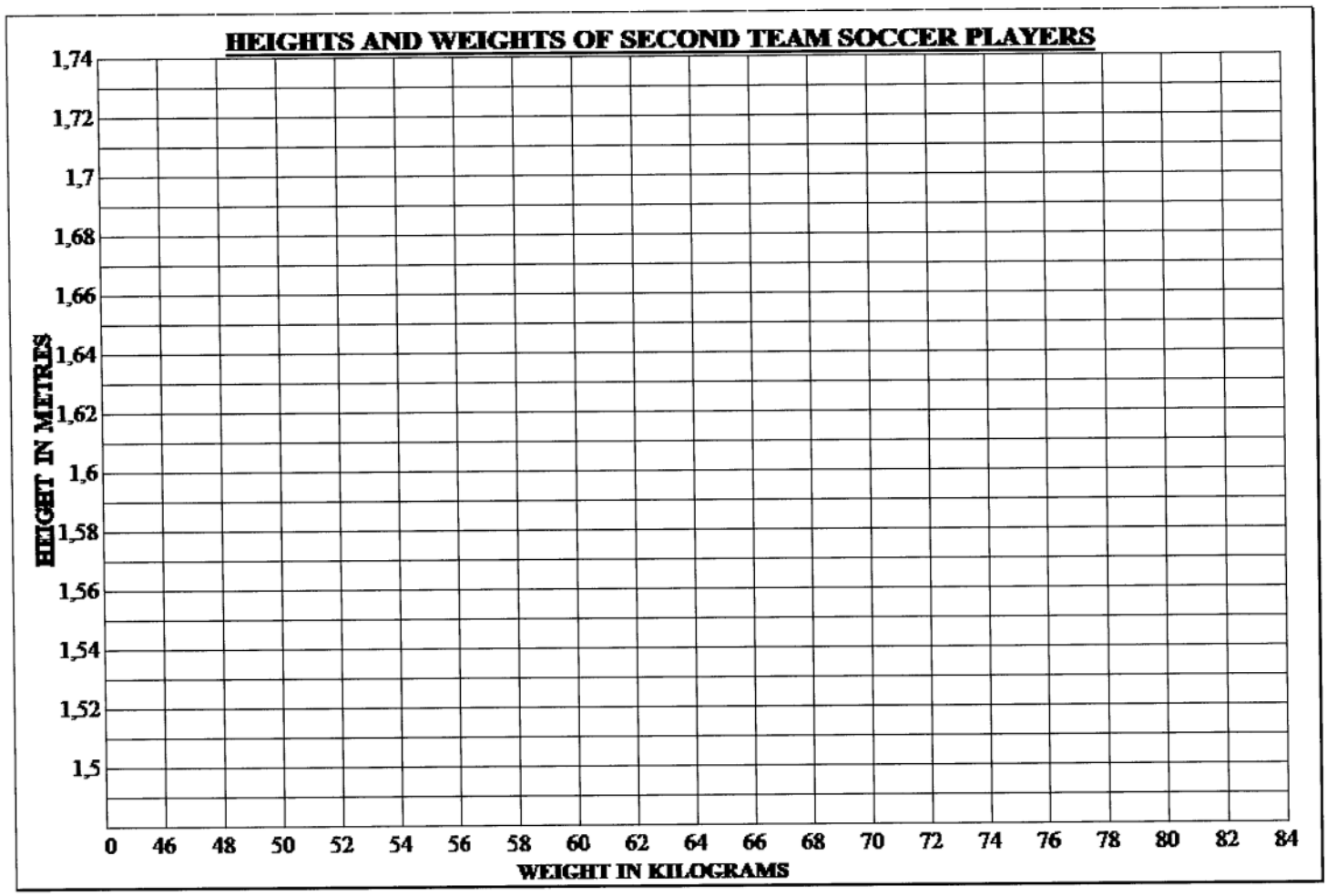
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NAME OF LEARNER: _____ **GRADE 12**_____

ANSWER SHEET



QUESTION 4.1.2





TEAR-OFF SHEET

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