Province of the
EASTERN CAPE
EDUCATION

Iphondo leMpuma Kapa: Isebe leMfundo
Provinsie van die Oos Kaap: Departement van Onderwys
Porofesiense Ya Kapa Botjhabela: Lefapha la Thuto

NATIONAL SENIOR CERTIFICATE

GRADE 12

SEPTEMBER 2024

MATHEMATICAL LITERACY P1

MARKS: **150**

TIME: **3 hours**

This question paper consists of 16 pages, including 2 answer sheets and 2 annexures.

INSTRUCTIONS AND INFORMATION

1. The question paper consists of FIVE questions. Answer ALL the questions.

2. Use the ANNEXURES in the ADDEDUM included in the QUESTION PAPER to answer the following questions:

   ANNEXURE A for QUESTION 1.1
   ANNEXURE B for QUESTION 2.1

3. Answer QUESTION 3.2.3 and 4.1.2 on the answer sheets provided. Write your name and surname in the space provided in the ANSWER SHEET and hand in the ANSWER SHEETS with your ANSWER BOOK.

4. Start EACH question on a NEW page.

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

6. You may use a non-programmable calculator.

7. You may use appropriate mathematical instruments.

8. Show ALL formulae and substitutions in ALL calculations.

9. Round off ALL final answers according to the context used, unless stated otherwise.

10. Write neatly and legibly.

QUESTION 1

1.1 Use ANNEXURE A to answer the following questions.

1.1.1 Calculate the value of **A**. (2)

1.1.2 Define the term *opening balance.* (2)

1.1.3 Show how the income of R6 602,70 was calculated. (2)

1.1.4 Calculate the value of **B**. (2)

1.1.5 Write the total expenditure in words. (2)

1.1.6 Determine the difference between the maximum and minimum October expenditure. (3)

1.2 The Matric Dance Fundraising Committee bought 4 boxes of pens and sold each pen at R5,00 each.

BIC Orange Fine Ball Point Pen – Black (Box of 60)
R249,00

1.2.1 Calculate the cost of one black pen. (2)

1.2.2 Determine the profit made on one black pen. (2)

1.2.3 Calculate the number of pens that were sold during the fundraising. (2)

1.2.4 Determine the percentage profit from selling one black pen. (2)

1.2.5 Determine the probability of randomly selecting a red pen in one of the boxes that have been bought. (2)

1.3 Mrs Jones bought a bomber jacket on 24 November 2023, on Black Friday. The cost of the bomber jacket is shown below.

	**BOYS BOMBER JACKET** Was: R499,00 (VAT incl.) Now: R336,75

1.3.1 Which day of the week is Black Friday? (2)

1.3.2 Determine the percentage discount that was offered on the bomber jacket. (3)

1.3.3 Determine what the VAT exclusive price of the bomber jacket was. (2)

[30]

QUESTION 2

2.1 Pie Sese received her employee income tax certificate information for the financial year ending 2023/02.
This information is on ANNEXURE B. Some information has been omitted.

Use ANNEXURE B to answer the questions that follow.

2.1.1 Write down the annual taxable payment amount that Pie Sese received. (2)

2.1.2 Calculate the monthly medical aid tax credit fees. (2)

2.1.3 Pie contributed 36,5% to her pension fund from 1 March 2023 to 30 September 2023. Determine the average monthly contribution for the remainder of the financial year. (5)

2.2 Joy needs a laptop, which costs R5 999,00. She asked for the money from her sister who lives in the United States of America. The exchange rate was as follow:
R1 = 0,05 US dollar.

2.2.1 Explain the term *exchange rate*. (2)

2.2.2 Was the ZAR stronger or weaker against the US dollar? (2)

2.2.3 Joy's sister gave her 300 US dollars to buy a new laptop. She stated that the money would be enough to purchase the laptop.
Verify, showing ALL calculations, if Joy's sister is correct. (3)

2.3 Mrs Teddy went to check the maturity value towards her retirement annuity, as she will be turning 55 in 4 months' time. She expects to receive her lump sum when she turns 55.

The sales lady informed her that the maturity value is R334 159, and she will receive $^1/_3$ of this lump sum. This is because as from 2017 South African law stated that if a lump sum exceeded R247 500, a person will receive $^1/_3$ of the total lump sum and thereafter will receive equal instalments.

Mrs Teddy decided to invest the $^1/_3$ of her lump sum at 9% p.a. compounded half yearly for 2 years.

2.3.1 Calculate the amount Mrs Teddy will receive when she turns 55 years old. (3)

2.3.2 Mrs Teddy says that the interest she will receive after 2 years is R24 500. Verify, showing ALL calculations, that her statement is valid. (8)

2.4 Mr Walker, the owner of Ray Restaurant, wants to install Wi-fi as part of increasing the business. He received two options to choose from. The options are shown in the table below:

TABLE 1: BUSINESS INTERNET OPTIONS

BUSINESS INTERNET LTE	24 MONTHS CONTRACT	SAVINGS
10 Mbps	R299 pm	Save R3 600
20 Mbps	R399 pm	Save R6 000

BUSINESS INTERNET FIBRE-OPTIC	24 MONTHS CONTRACT	SAVINGS
20 Mbps	R549 pm	Save R2 400
50 Mbps	R749 pm	Save R2 400

Mbps – Megabits per second

Mr Walker wants to buy 40 Mbps. The sales representative offered him the following options:

- Buying FOUR 10 Mbps LTE
- Buying TWO 20 Mbps LTE

He found out that it's cheaper to buy 50 Mbps fibre-optic than it is to buy 40 Mbps LTE. Verify, by means of calculations, if Mr Walker's statement is valid. (8)

[35]

QUESTION 3

3.1 The Minister of Basic Education in her address stated that, there has been a significant improvement in the performance of all subjects, EXCEPT a few.

TABLE 2 below represents the subjects with high enrolment. Improvement was noted in all subjects, EXCEPT History and Mathematical Literacy.

TABLE 2: COMPARISON OF PERFORMANCE IN SUBJECTS 2022 AND 2023

SUBJECT DISCRIPTION	2022	2023	DIFFERENCE IN PERCENTAGE FROM 2022 TO 2023
Accounting	75,4%	76,9%	1,5%
Agricultural Sciences	75,8%	80,5%	4,7%
Business studies	76,7%	81,8%	5,1%
Economics	71,5%	**B**	3,0%
Geography	81,3%	86,2%	4,9%
History	88,2%	87,7%	–0,5%
Life Sciences	71,5%	75,6%	4,1%
Mathematical Literacy	85,7%	82,3%	**A**
Mathematics	55,0%	63,5%	8,5%
Physical Sciences	74,6%	76,2%	1,6%

Use the table above to answer the questions that follow.

3.1.1 Calculate the value of **A**. (2)

3.1.2 Which subject has the largest percentage decrease between 2022 and 2023? (2)

3.1.3 Calculate the range of the differences in percentages. (4)

3.1.4 The mean percentage of the 2023 performance in all the subjects is 78,52%. Determine the value of **B** using all 10 subjects. (4)

3.1.5 Write the probability of randomly selecting a subject(s) with a decrease in percentage, as a decimal. (3)

3.2 The table below represents the scores for the 2023 Rugby World Cup quarter-finals, semi-finals and final.

TABLE 3: 2023 RUGBY WORLD CUP QUARTER-FINAL, SEMI-FINAL AND FINAL SCORES

QUARTER-FINALS			SEMI-FINALS		FINAL	
GAMES	**TEAMS**	**SCORES**	**TEAMS**	**SCORES**	**TEAMS**	**SCORES**
1st game	Wales vs Argentina	17 29	Argentina vs	6	New Zealand	11
2nd game	Ireland vs New Zealand	24 28	New Zealand	44	vs **A**	12
3rd game	England vs Fiji	30 24	England vs	15		
4th game	France vs South Africa	28 29	South Africa	16		

Use the table above to answer the questions that follow.

3.2.1 Which team is represented by **A** in the FINAL game? (2)

3.2.2 Identify the team with the highest score in the semi-final games. (2)

3.2.3 Draw a double bar graph for the scores in the quarter-finals on ANSWER SHEET 1 provided. (6)

3.2.4 Identify the modal score in the semi-finals. (2)
[27]

QUESTION 4

4.1 Mrs Shield wants to start an internet café as a small business. She wants to start by printing school magazines that will need colour printing for pictures of school events. She wants to hire a photocopy machine, and approached two shops that sells office equipment. At Umlazi Office Equipment she saw a big Olivetti d-MF2555 photocopier machine. At Queens Shop she saw the Canon MG 2500 series printer.

The offers for renting the machines are given below:

RENT OFFER 1: Umlazi Office Equipment	RENT OFFER 2: Queens Shop
RENTAL: R450,00 per month ➢ R0,12c excl. VAT per black print ➢ R0, 70c incl. VAT per colour print **Includes: Toners, service, spares, transport and labour.**	**RENTAL**: R350,00 per month ➢ R0,20 per black print ➢ R0,90 per colour print **Includes: Service of the machine, toners, spares, transport and labour.**

4.1.1 Define the term *variable cost* in the given context. (2)

4.1.2 Write down the equations for colour printing for both companies. (4)

4.1.3 Complete the table and DRAW a line graph for both options on ANSWER SHEET 2, using the cost equation in QUESTION 4.1.2. (9)

4.1.4 How many copies must be printed for the two companies to have the same cost? (2)

4.1.5 Which company should Mrs Shield rent the photocopying machine from? (2)

4.2 TABLE 4 below represents the results of Primary School Field Events. Primary Schools took part in the regional 2024 competition.

TABLE 4: FIELD EVENTS RESULTS FOR PRIMARY SCHOOL

GENDER ➡	BOYS				GIRLS			
EVENTS ⬇	10 years	11 years	12 years	13 years	10 years	11 years	12 years	13 years
SHOT PUT	9,00 m	11,30 m	11,00 m	11,50 m	8,00 m	9,70 m	9,60 m	10,20 m
HIGH JUMP	1,24 m	1,34 m	1,48 m	1,54 m	1,18 m	1,30 m	1,40 m	1,48 m
LONG JUMP	4,10 m	4,50 m	4,80 m	5,20 m	3,80 m	4,10 m	4,40 m	4,60 m

4.2.1 Explain, with justification, whether the data is discrete or continuous? (3)

4.2.2 Which age group has the highest results? (2)

4.2.3 Explain why the results for the high jump event is lower than the results of the shot put and long jump events. (3)

4.2.4 The range for all ages in the long jump events suggests that the results are grouped closer to the median. Verify, by showing ALL calculations, whether the statement is correct. (6)

[33]

QUESTION 5

5.1 The water account Mrs Wales received from Ndondo Municipality is provided below.

TABLE 5: MRS WALES' WATER ACCOUNT

The Ndondo Municipality **Private bag X1937**
Tel: (011) 2328910

Street address	Client Name	Invoice Number
6 Edenvale Flat	Mrs L Wales	AVE-40103652

Date	Consumption Details	Charge (in Rands)	VAT (15%)	Grand Total Due
15/12/2023	32 kℓ	…		

Kilolitres	Tariff (per kℓ) (VAT exclusive)
0–6 kℓ	R18,12/kℓ
7–15 kℓ	R29,26/kℓ
16–30 kℓ	R36,58/kℓ
31+ kℓ	R45,52/kℓ
Sanitation (excl. vat)	R59,96

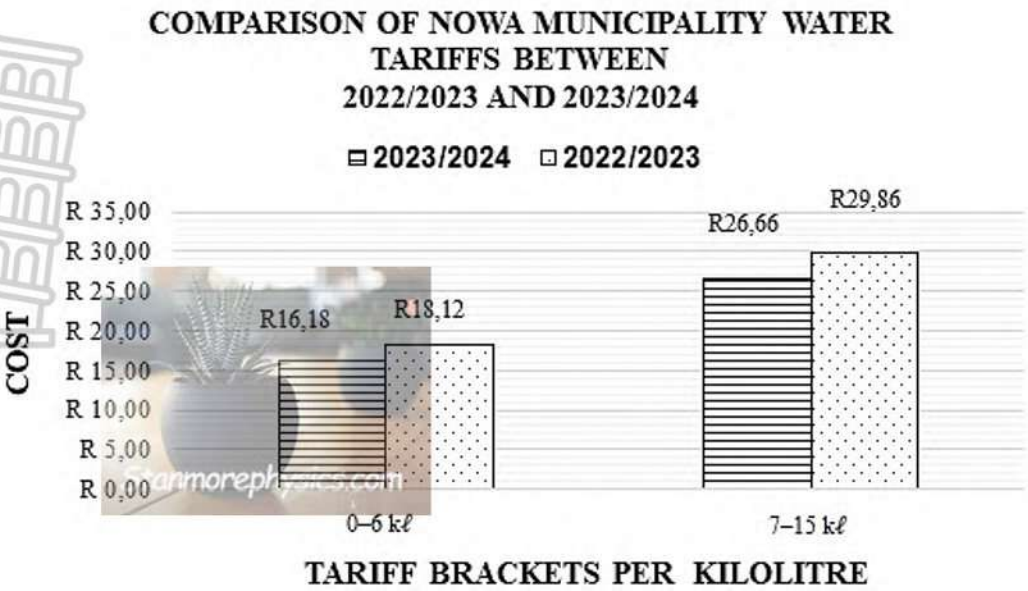
Previous consumption statistics:

SEP	OCT	NOV
30 kℓ	34 kℓ	36 kℓ

5.1.1 Calculate the amount charged for water, including VAT, that Mrs Wales used in December. (8)

5.1.2 Calculate the median tariffs per kilolitre. (3)

5.2



Which tariff bracket had a higher percentage increase when Nowa municipality increased the water tariffs from 2022/2023 to 2023/2024? (7)

5.3 The Consolidated Government expenditure by function for 2023/2024 and 2024/2025 is illustrated in the table below. Some information has been omitted.

TABLE 6: CONSOLIDATED GOVERNMENT EXPENDITURE BY FUNCTION

R billion	2023/2024 REVISED ESTIMATES	2024/2025 MEDIUM TERM ESTIMATION
Learning and culture	468,4	480,6
Health	267,3	271,9
Social development	368,5	387,3
Community development	251,5	265,3
Economic development	239,8	255,4
Peace and security	236,8	244,0
General public service	76,9	74,7
Payments for financial assets	3,5	2,6

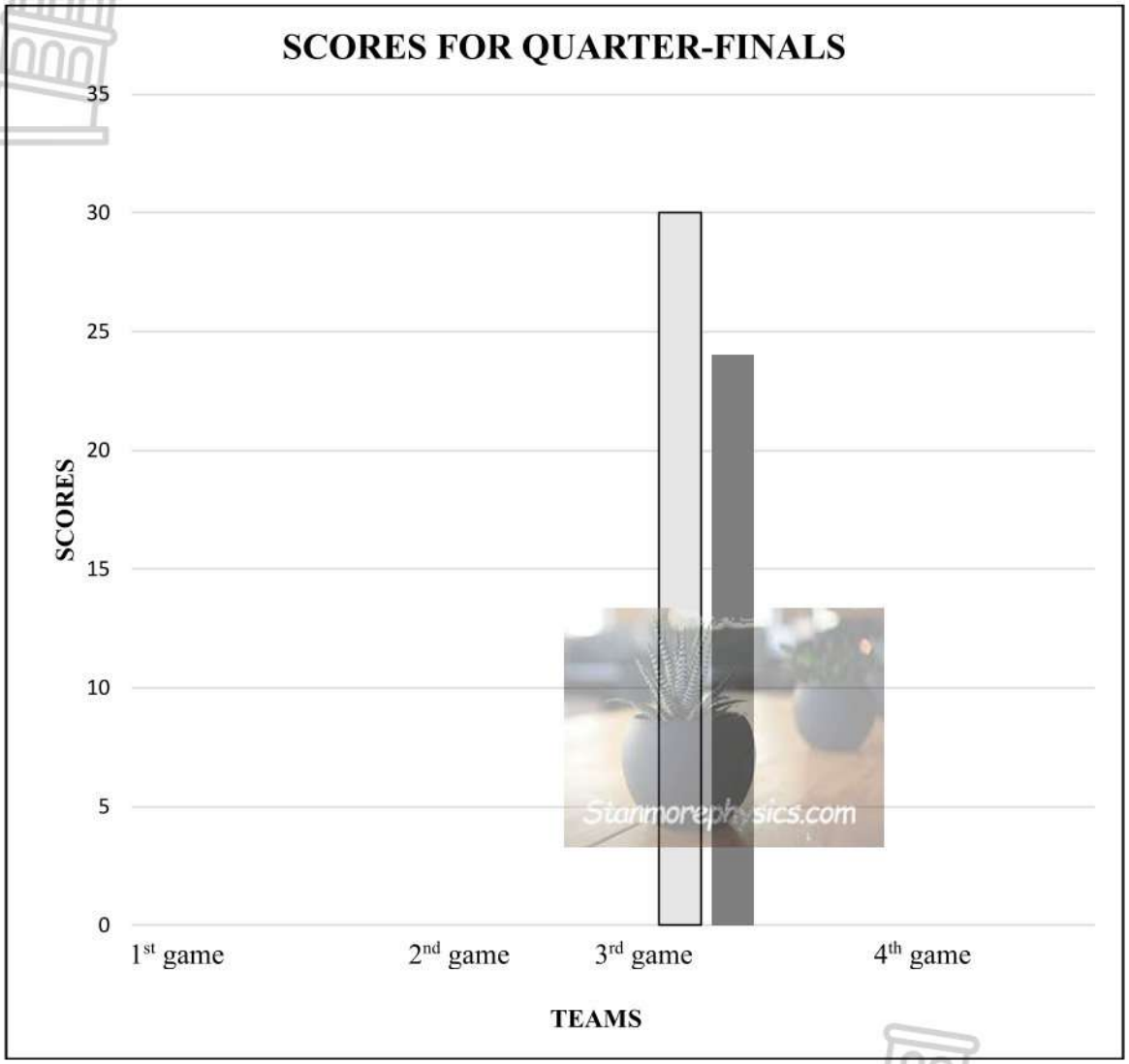
Calculate the interquartile range for 2024/2025 medium term estimation. (7)
[25]

TOTAL: 150

ANSWER SHEET 1

QUESTION 3.2.3

NAME AND SURNAME: _____

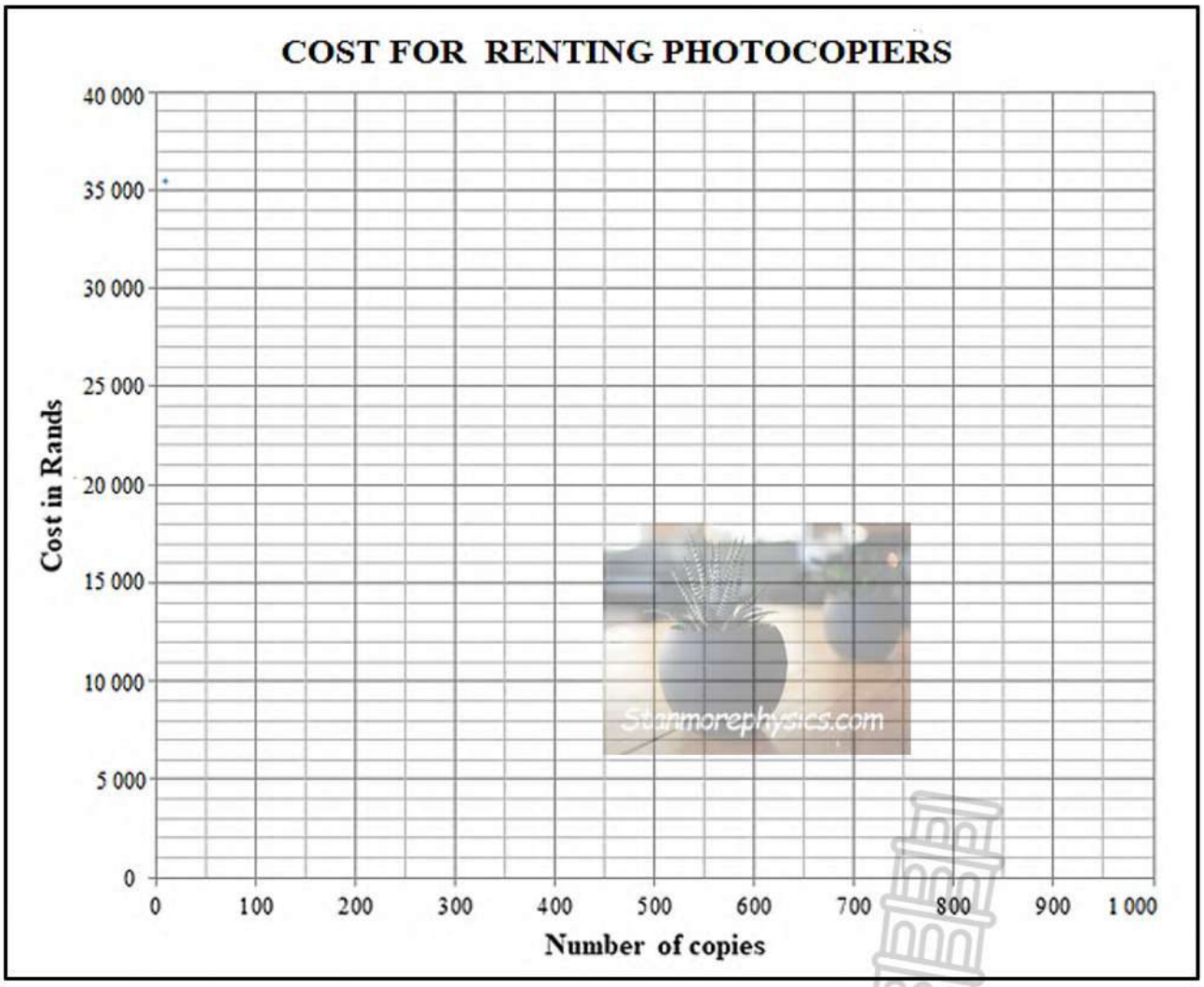


ANSWER SHEET 2

QUESTION 4.1.2

NAME AND SURNAME: _____

NO. OF COPIES	0	100	300	500	700	900
OFFER 1: Cost (R)	450					
OFFER 2: Cost (R)			620			



ANNEXURE A

QUESTION 1.1

4th Quarter Income and Expenditure (Oct–Dec 2023)

INCOME				
Opening Balance = R612,20				
Description	**October Amounts (R thousand)**	**November Amounts (R thousand)**	**December Amounts (R thousand)**	**Totals Amounts (R thousand)**
Coca	R4 102,70	R3 654,50	R540,00	R8 297,00
Fundraising	R500,00	R6 000,00		R6 500
Donations	R1 000,00	R2 000,00		R3 000
Poor Fund	R1 000,00	R790,00	R600,00	R2 390
TOTALS	**R6 602,70**	**R12 444,50**	**R1 140,00**	**R20 187,00**
Total Income + Opening Balance = **A**				
EXPENDITURE				
Description	**October Amounts (R thousand)**	**November Amount (R thousand)**	**December Amount (R thousand)**	**Totals Amount (R thousand)**
Electricity	R400,00	R300,00	R300,00	R1 000,00
Wages	R3 000,00	R3 000,00	R3 000,00	R9 000,00
Envelopes	R288,00			R288,00
Cleaning material	R350,00			R350,00
Tokens		R5 500,00		**B**
Mission work	R1 500	R790,00	R600,00	R2 890
Maintenance				0
TOTALS	**R5 538,00**	**R9 590,00**	**R3 900**	**R19 028,00**

Total expenditure = R19 028,00
Closing balance = R20 187,00 – **R19 028,00** = R1 159,00

ANNEXURE B

QUESTION 2.1

EMPLOYEE INCOME TAX CERTIFICATE INFORMATION

Transaction year: 2023 Year of assessment: 2023 Period of reconciliation: 2023/02

TYPE OF CERTIFICATE: IRP5

EMPLOYEE INFORMATION

Surname: Sese
First Name: Pie
Date of birth: 20030719
Income Tax: 0609781234

EMPLOYER INFORMATION

Trading or other name: Department of Education

INCOME RECEIVED		**INCOME RECEIVED**		**TAX CREDITS, CONTRIBUTIONS**	
AMOUNT	**SOURCE CODE**	**AMOUNT**	**SOURCE CODE**	**AMOUNT**	**SOURCE CODE**
R363 721	3601	**GROSS RETIREMENT FUNDING INCOME**		**PAYE**	
R30 533	3605	**R363 721**	**3697**	**R87 959,49**	**4102**
R102 853	3713	**GROSS NON-RETIREMENT FUNDING INCOME**		**TOTAL TAX AND UIF**	
R12 168	3810	**R145 554**	**3698**	**R87 959,49**	**4149**
		DEDUCTIONS/CONTRIBUTIONS/INFORMATION		**MEDICAL SCHEME FEES TAX CREDIT**	
		R86 238	4001	**R4 164,00**	**4116**
		R47 403	4005		
		R12 168	4474		
		TOTAL DEDUCTIONS/CONTRIBUTIONS/INFORMATION			
		R **A**	4497		

SOME SOURCE CODES: 3603 – INCOME TAXABLE; **3605** – ANNUAL PAYMENT – TAXABLE; **3713** – OTHER ALLOWANCE – TAXABLE; **3810** – MEDICAL AID CONTRIBUTION OF EMPLOYEE

4001 – CURRENT FUND CONTRIBUTION; **4005** – MEDICAL AID CONTRIBUTION; **4474** – EMPLOYEE'S MEDICAL AID CONTRIBUTIONS; **4497** – TOTAL DEDUCTIONS/CONTRIBUTIONS

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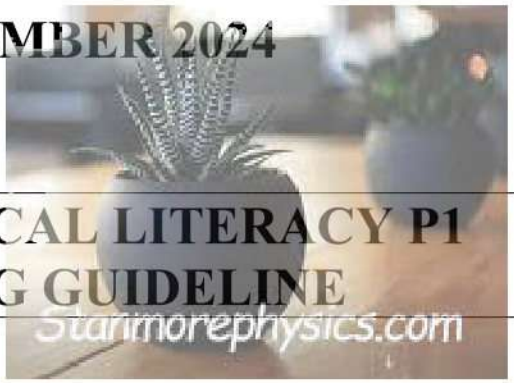


MATHEMATICAL LITERACY P1
MARKING GUIDELINE

MARKS: 150

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT	Reading from a table/graph/document/diagram
SF	Correct substitution in a formula
O	Opinion/Explanation
P	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding off
NPR	No penalty for correct rounding minimum two decimal places
AO	Answer only
MCA	Method with constant accuracy

This marking guideline consist of 11 pages.

MARKING GUIDELINES

NOTE:

- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled version).
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however it stops at the second calculation error.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra incorrect item presented.

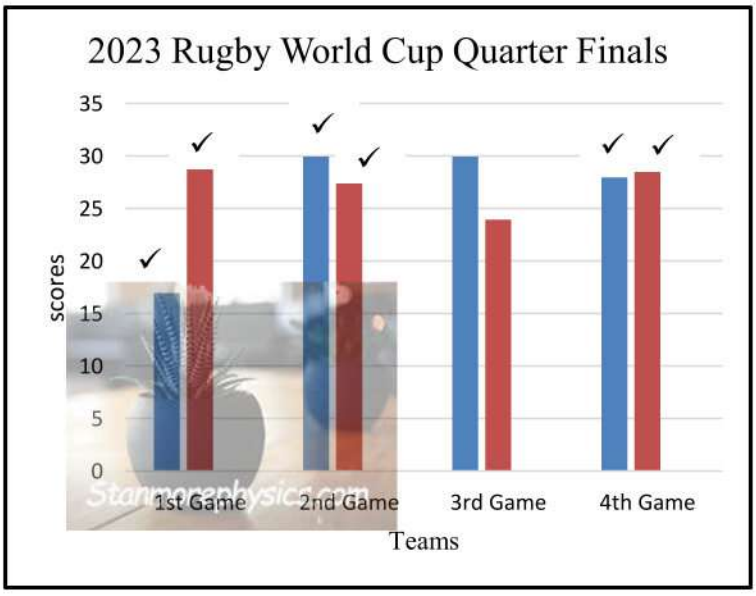
QUESTION 1 [30 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
1.1.1	A = R20 187,00 + R612,20 ✓ SF = R20 799,20 = R20 799 200 ✓A	1SF correct substitution 1A simplification (2)	**F** **L1**
1.1.2	Opening balance is the amount of money in an account at the beginning of the statement period. ✓✓A **OR** Opening balance is the balance brought forward in the account at the beginning of the statement period. ✓✓A	2A definition (2)	F L1
1.1.3	✓RT ✓ MA =(R4 102,70 + R500,00 + R1000,00 + R1000,00) thousand = R6 602,70 thousand **OR** ✓RT ✓MA = R 4 102 700,00 + R500 000,00 + R1000 000,00 + R1 000 000,00 = R6 602 700	1RT correct values 1MA adding correct values **OR** 1RT correct values 1MA adding correct values (2)	F L1
1.1.4	✓MA B = R19 028,00 – (R1000,00 + R9 000,00 + R288,00 + R350,00 + R2890,00) thousand = R5 500 thousand ✓CA **OR** ✓MA B = R19 028 000,00 – (R100 000 + R9 000 000 + 288 000 + 350 000 + R2 890 000) B = R5 500 000 ✓CA	1MA subtracting from total 1CA value of B **OR** 1MA subtracting from total 1CA value of B (2)	F L1
1.1.5	Total expenditure R19 028,00 thousand/R19 028 000,00 Ninteen million and twenty eight thousand rands ✓✓A	 2A correct value in words **NPU** (2)	F L
1.1.6	Difference = R3 000,00 – R288,00 ✓RT ✓M = R2 712,00 ✓**A**	1 RT correct values 1M subtracting 1A simplification (3)	F L1

1.2.1	Cost = R249,00 60 ✓MA = R4,15 ✓CA	1MA dividing by 60 1 CA simplification (2)	F L1
1.2.2	Profit = R5,00 – R4,15 ✓MA = R0,85 ✓CA	1MA calculating profit 1CA simplification (2)	F L1
1.2.3	Number of pens sold = 4 x 60 ✓RT = 240 pens ✓A	1A correct number 1A simplification (2)	F L1
1.2.4	% profit = $\frac{\text{Profit}}{\text{Cost price}}$ x 100 = $\frac{\text{R0,85}}{\text{R4,15}}$ x 100 ✓**M** = 20,48% ✓**CA**	 1M percentage calculation 1CA simplification (2)	F L1
1.2.5	Impossible **OR** 0 ✓✓A	2Acorrect probability (2)	P L1
1.3.1	Friday ✓✓A	2A correct day (2)	F L1
1.3.2	✓RT % discount = $\frac{\text{R499,00 – R336,75}}{\text{R 499,00}}$ x 100 ✓MA = 32,52% ✓CA	 1RT both values 1MA percentage calculation 1CA simplification (3)	F L1
1.3.3	Price before VAT = R499,00 ÷ $\frac{115}{100}$ **OR** 1,15 ✓A = R433,91 ✓CA **OR** VAT = R499,00 x $\frac{15}{115}$ ✓MA = R65,09 = R499,00 – R65,09 = R433,91 ✓CA **OR** VAT = R499,00 x $\frac{100}{115}$ ✓A = R433,91 ✓CA	1A ÷ 1,15 1CA simplification 1CA simplification 1MA correct value x $\frac{15}{115}$ 1CA simplification 1A $\frac{100}{115}$ 1CA simplification (2)	F L2
		[30]	

QUESTION 2 [35 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
2.1.1	R30 533 ✓✓A	2A correct salary (2)	F L1
2.1.2	Monthly tax credit = R4 164 ÷ 12 ✓A = R347,00 ✓A	1A dividing by 12 A1 simplification (2)	F L2
2.1.3	✓RT Contribution = R86 238 x $\frac{36,5}{100}$ ✓MA = R31 476,87 ✓A = R31 476,87 ÷ 5 ✓MA = R 6 295,37 ✓CA	1RT correct value 1MA multiplying by 36,5% 1A answer 1MA dividing by 5 1CA simplification (5)	F L2
2.2.1	Exchange rate is the value of one currency relative to the value of another currency. ✓✓	2A definition (2)	F L2
2.2.2	Weaker ✓✓	2A Weaker (2)	F L2
2.2.3	R1 = 0,05 US dollar = $\frac{300 \text{ US dollar}}{0,05}$ ✓ = R6000,00 ✓ Joy's sister is correct. ✓	1MA dividing by 0,05 1A simplification 1A conclusion (2)	F L2
2.3.1	Amount received = R334 159 x $\frac{1}{3}$ ✓ ✓ = R111 386,33 ✓	1A correct value 1A multiplying $\frac{1}{3}$ 1A simplification (3)	F L2

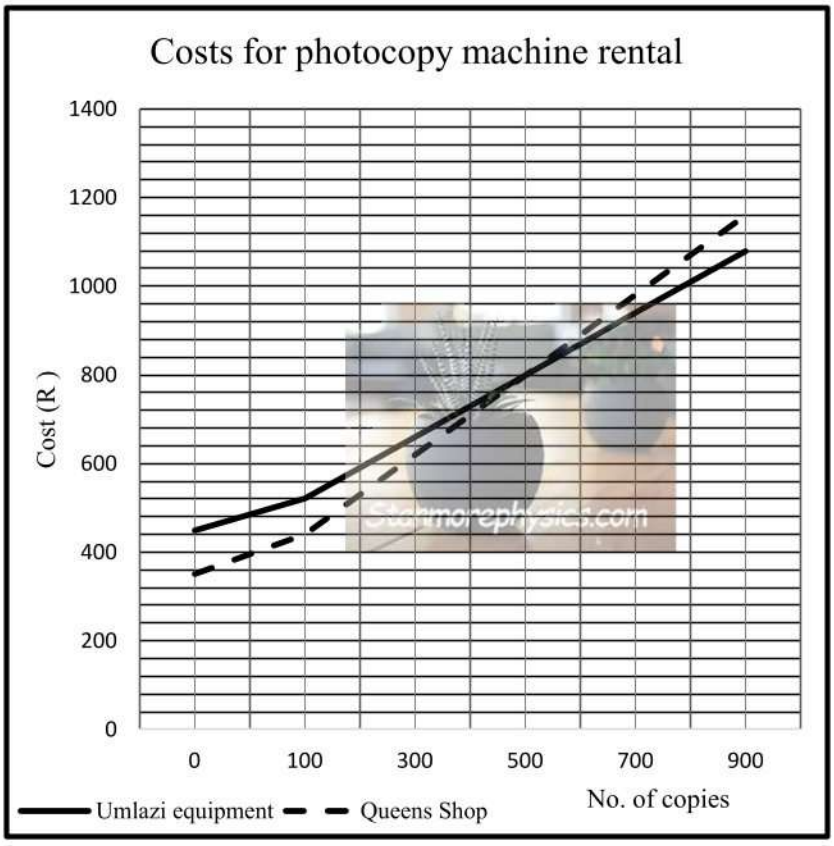
2.3.2	Amount interest 1st six months = 111 386,33 x 4,5 ✓**MA** 100 = R5 012,38 + R111 386,33 = R116 398,71485 ✓**A** 2nd six months = R116 398,71485 x 4,5 100 = R5 237,9421 + R116 398,71485 = R121 636,6570 ✓ **CA** 3rd six months = R121 636,6570 x 4,5 100 = R5 473,649 + R121 636,6570 = R127 110,3065 ✓**CA** 4th six months = R127 110,3065 x 4,5 100 = R5 719,9637 + R127 110,3065 = R132 830,2702 = R132 830,27 ✓ Interest earned = R132 830,27 – R111386,33✓**M** = R21 443,94 ✓CA Statement is incorrect. ✓O **OR** Amount interest 1st six months = R111 386,33 x 1,045 ✓**MA** = R116 398,71 ✓**A** 2nd six months = R116 398,71 x 1,045 = R121 636,66 ✓ **CA** 3rd six months =R121 636,66 x 1,045 = R127 110,31 ✓ **CA** 4th six months = R127 110,31 x 1,045 = R132 830,27 ✓ **CA** Interest earned = R132 830,27 – R111 386,33 = R21 443,94 ✓ Statement is incorrect. **OR** Amount interest ✓MA ✓MA ✓MA ✓MA = R111 386,33 x 1,045 x 1,045 x 1,045 x 1,045 = R132 830,27 ✓ CA = R132 830 – R111 386,33 ✓MA = R21 443,94 ✓CA Statement is incorrect. ✓O	**CA from QUESTION 2.3.1** MA calculating 4,5% **1A interest 1st six months** **1CA amount 2nd six months** **1CA amount 3rd six months** **1CA final answer** 1M subtracting values 1CA simplification 1O conclusion 1MA calculating 4,5% 1A amount 1st six months 1CA 2nd six months 1CA 3rd six months 1CA final answer 1CA difference 1O conclusion 4MA multiplying by 1,045 1CA simplification 1MA difference 1CA simplification 1O conclusion (8)	F L4

2.4	10 Mbps LTE = R299,00 x 24 ✓ MA = R7 176 – R3 600,00 ✓ **MA** = R 3 576,00 x 4 ✓**MA** = R14 304 ✓ **A** 20 Mbps LTE = R399,00 x 24 = R9 576,00 – R6 000 = R3 576 x 2 ✓ **MA** = R7 152,00 ✓ **CA** 50 Mbps fibre optic = R749,00 x 24 = R17 976 – R2 400 = R 15 576 ✓ **CA** Mr walker's statement is not valid. ✓ **O**	1MA multiplying by 24 1MA subtracting savings 1MA multiplying by 4 1A amount for 10 Mbps 1MA multiplying by 2 1CA amount for 20 Mbps 1CA amount for 50 Mbps 1O conclusion (8)	F L4

QUESTION 3 [27 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
3.1.1	A = 82,3% – 85,7% ✓ MA = –3,4% ✓ CA	1MA subtracting correct values 1CA simplification (2)	D L1
3.1.2	Mathematical Literacy ✓✓ **RT**	2RT correct subject (2)	D L1
3.1.3	Range = max. value – min. value = 8,5% – (–3,4%) ✓ RT✓M = 8,5% + 3,4% ✓ MA = 11.9% ✓ **A**	1RT correct values 1 M subtract min from max 1MA adding correct values 1A simplification (4)	D L1
3.1.4	Mean ✓**RT** 78,2% = $\frac{(76,9 + 80,5 + 81,8 + B + 86,2 + 87,7 + 75,6 + 82,3 + 63,5 + 76,2)}{10}$ ✓ **M** 78,2% = $\frac{710,2\% + B}{10}$ B = 782 % – 710,2% ✓ **M** B = 71,3% ✓ **CA**	1RT correct values 1M concept of mean 1M changing the subject 1CA simplification (4)	D L2
3.1.5	P (subject with % decrease) = $\frac{2}{10}$ ✓RT ✓RT = 0,2 ✓ CA	1RT numerator 1A denominator 1CA simplification (3)	P L2
3.2.1	RSA ✓✓**A**	2A correct team (2)	D L2
3.2.2	New Zealand ✓✓**A**	2A correct team (2)	D L2
3.2.3		✓✓✓✓✓✓ one mark for each bar (6)	D L2
3.2.4	No mode ✓✓ **A**	2A correct mode	D L1

QUESTION 4 [33 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
4.1.1	Cost will vary according to the number of copies made. ✓✓D	2D definition (2)	F L1
4.1.2	Umlazi Office = R450,00 + (R0,70 x no of colour print) ✓✓**A** Queens Shop = R350,00 + (R0,90 x no of colur print) ✓✓**A**	2A correct formula 2A correct formula (4)	F L4
4.1.3	ANSWER SHEET 2	✓ ✓✓ **for each two correct values**	F L4

No colour copies	0	100	300	500	700	900
Cost for Umlazi	450	520	660	800	940	1080
Cost for Queens	350	440	620	800	980	1160



✓ starting point for Umlazi
✓starting point for Queens
✓break-even point
✓✓plotting all the points
✓joining the points
(9)

4.1.4	500 copies ✓✓**A**	2A correct number of copies (2)	F L1
4.1.5	Umlazi Office equipment ✓✓**A**	2A correct company (2)	F L1
4.2.1	Continuous data. ✓**A** Data is obtained by measuring. ✓✓**A**	1A correct answer 2A explanation (3)	D L2
4.2.2	13 years ✓✓**A**	2A correct age (2)	D L1

4.2.3	✓ O For high jump you measure the height the athletes jumps and for long jump and shot put you measure the distance an athlete throws. ✓✓**O**	1O High jump 2O shot put and long jump (3)	D L2
4.2.4	3,80 m 4,10 m; 4,10 m; 4,40 m; 4,50 m;4,60 m; 4,80 m;5,20 m ✓**A** Median = $\frac{4,40\text{ m} + 4,50\text{ m}}{2}$ ✓**MA** = $\frac{8,9\text{ m}}{2}$ = 4,5m ✓**CA** Range = max value – min value = 5,20 m – 3,80 m ✓**A** = 1,4m ✓**CA** The statement is correct. The range is small so the results are closer to the median. ✓**J**	1A order, ascending or descending 1MA concept of a mean 1CA simplification 1A difference 1CA simplification 1Justification (6)	D L2

QUESTION 5 [25 MARKS]			
Ques.	**Solution**	**Explanation**	**T&L**
5.1.1	Consumption = 32 kℓ RT ✓MA ✓RT 6 kℓ x R18,12 kℓ = R108,72 -------- 32 kℓ – 6 kℓ = 26 kℓ 9 kℓ x R29,26 kℓ = R263,34 ---------26 kℓ – 9 kℓ = 17 kℓ 15 kℓ x R36,58 = R548,70 ----------17 kℓ – 15 kℓ = 2 kℓ 2 kℓ x R45,52 = R91,04 = R1 011,80 ✓CA = R1 011,80 + R59,96 = R1 071,76 ✓**A** ✓**A** Grand total = R1 071,76 x 1,15 ✓**A** = R1 232,52 ✓**CA** **OR** ✓**A** Grand total = R1 071,76 x 15/100 = R160,76 + R1 071,76 ✓**A** = R1 232,52 ✓**CA**	1RT correct consumption 1MA all (4) correct kℓ 1RT 4 tariffs 1CA finding total charge 1A simplification 1A correct amount 1A x by 1,15 1CA simplification 1A correct amount 1 A adding VAT 1CA simplification (8)	F L3
5.1.2	Median = (R29,26 + R36,58)/2 ✓**RT** ✓**A** = R32,92 ✓**CA**	1RT correct values 1A concept of a mean 1CA simplification (3)	D L2
5.2	0 to 6kℓ bracket: ✓**RT** = (R18,12 – R16,18)/R16,18 x 100 ✓**MA** = 11,99% ✓**A** 7 kℓ to 15 kℓ bracket: ✓**RT** = (R29,86 – R26,68)/R26,68 x 100 ✓**MA** = 12% ✓ **CA** 7 kℓ to 15 kℓ bracket had a high percentage increase. ✓**O**	1RT correct values 1MA multiplying correct values with 100 1A simplification 1RT correct values 1MA multiplying by 100 1CA simplification 1O opinion (7)	F L2

5.3	2,6 ; 74,7; 244,0 ; 255,4 ; 265,3 ; 271,9 ; 387,3 ; 480,6 ✓MA $Q_2 = \frac{255,4 + 265,3}{2}$ ✓**A** = 260,5 billion ✓**CA** $Q_1 = \frac{74,7 + 244,0}{2}$ = 159,35 billion ✓**CA** $Q_3 = \frac{271,9 + 387,3}{2}$ = 329,6 billion ✓ **CA** IQR = $Q_3 - Q_1$ = 329,6 billion – 159,35 billion ✓**M** = 170,25 billion ✓**CA**	1MA order, ascending or descending 1A concept of median Or other learners will indicate the mean on the arranged data. 1CA Q_2 1CA Q1 1CA Q_3 1M subtracting quartile 1CA IQR value **(No penalty for omitting billion.)** (7)	D L4
		[25]	
		TOTAL: 150	