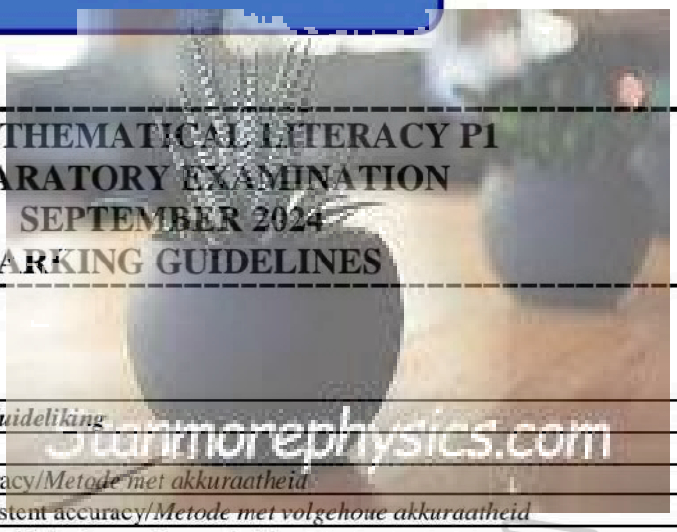
LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

# NATIONAL SENIOR CERTIFICATE

## GRADE 12




## MATHEMATICAL LITERACY P1
## PREPARATORY EXAMINATION
## SEPTEMBER 2024
## MARKING GUIDELINES

**MARKS/*PUNTE*: 150**

| Symbol/*Kode* | Explanation/*Verduideliking* |
|---|---|
| **M** | Method/*Metode* |
| **MA** | Method with accuracy/*Metode met akkuraatheid* |
| **MCA** | Method with consistent accuracy/*Metode met volgehoue akkuraatheid* |
| **CA** | Consistent accuracy/*Volgehoue akkuraatheid* |
| **A** | Accuracy/*Akkuraatheid* |
| **C** | Conversion/*Herleiding* |
| **S** | Simplification/*Vereenvoudiging* |
| **RT** | Reading from a table/graph/document/diagram/*Lees vanaf tabel/grafiek/dokument/diagram* |
| **SF** | Correct substitution in a formula/*Korrekte vervanging in 'n formule* |
| **O** | Opinion/Explanation/*Opinie/Verduideliking* |
| **P** | Penalty, e.g. for no units, incorrect rounding off, etc./*Penalisasie, bv. vir geen eenhede, verkeerde afronding, ens.* |
| **NPR** | No penalty for correct rounding/*Geen penalisasie vir korrekte afronding nie* |
| **NPU** | No penalty for omitting unit, but wrong unit is penalised/*Geen penalisasie indien die eenheid uitgelos is, maar wel indien 'n verkeerde eenheid gebruik word.* |
| **AO** | Answer only/*Slegs antwoord* |

**These marking guidelines consist of 12 pages.**
***Hierdie nasienriglyne bestaan uit 12 bladsye.***

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**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 item presented.
- Rounding is an independent mark.
- General principle of marking, if the candidate makes one mistake he loses one mark.
- A conclusion mark can only be given if relevant calculations precedes it.

***LET WEL:***
- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas; dit hou egter op by die tweede berekeningsfout.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.*
- *Afronding tel as 'n afsonderlike punt.*
- *Die algemene beginsel van merk as 'n leerder een fout maak verloor hy een punt.*
- *'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan.*

| **QUESTION/*VRAAG* 1 [31 MARKS/*PUNTE*] ANSWER ONLY FULL MARKS** | | | |
|---|---|---|---|
| **Q/*V*** | **Solution/*Oplossing*** | **Explanation/*Verduideliking*** | **T&L** |
| 1.1.1 | -8,8°C; -8,6°C; -7,4°C; -5,7°C; -5,7°C; -4,7°C. -0,8°C; -0,6°C; 6,1°C; 7,0°C ✓RT ✓A | 1RT all correct values<br>1A correct order<br>(2) | D<br>L1<br>E |
| 1.1.2. | 22 December 2023✓✓RT | 2RT correct date<br>(2) | D<br>L1<br>E |
| 1.1.3. | Continuous ✓✓A | 2A correct answer.<br>(2) | D<br>L1<br>M |
| 1.1.4. | ✓RT<br>Difference = - 0,9°C – (-8,8°C)✓MA<br>= 7,9°C✓A | 1RT correct values<br>1MA subtracting correct values<br>1A simplification<br>(3) | D<br>L1<br>E |
| 1.1.5 | 5 OR Five ✓✓A | 2A correct number of days.<br>(2) | D<br>L1<br>E |

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| | | | |
|---|---|---|---|
| **Q/*V*** | **Solution/*Oplossing*** | **Explanation/*Verduideliking*** | **T&L** |
| 1.2.1 | 1 218 000 000✓✓A | 2A correct answer (2) | D L1 E |
| 1.2.2 | 55 – 64 ✓✓A | 2A correct answer. (2) | D L1 E |
| 1.2.3 | Total % of Facebook male users.<br>= 2,7% + 12,6% + 17,6% + 10,9% + 6,1% + 3,5% + 2,6%✓MA<br>= 56% ✓A | 1MA adding all correct values.<br>1A simplification. (2) | D L1 E |
| 1.2.4 | Douyin ✓✓ RT | 2RT correct answer (2) | D L1 E |
| 1.3 | | | |
| 1.3.1 | The amount of money it costs Tumelo to make the jam tarts.✓✓A<br>OR<br>The price at which Tumelo spent to buy the ingredients.✓✓A<br>OR<br>The amount of money Tumelo use/spent to make the jam tarts.✓✓A | 2A correct definition. (2) | F L1 E |
| 1.3.2 (i) | A = R 30,00 × $\frac{5\ ml}{100\ ml}$ ✓MA<br>= R1,50✓CA<br>OR<br>100 ml ÷ 5ml = 20✓MA<br>A = $\frac{R30,00}{20}$<br>= R1,50 ✓CA<br>OR<br>A = R54,00 – (R6,00 + R3,66 + R3,30 + R17,99 + R1,75 + R19,80)✓MA<br>= R54,00 – R52,50<br>= R1,50 ✓CA | 1MA multiplying correct values.<br>1CA simplification<br>OR<br>1MA dividing correct values.<br>1CA simplification<br>OR<br>1MA adding and subtracting correct values.<br>1CA simplification. (2) | F L1 M |

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| | | | |
|---|---|---|---|
| 1.3.2<br><br>(ii) | ✓A<br>$B = \frac{6}{2} \times R3,66$ ✓MA<br><br>$= R10,98$ ✓A<br><br>OR<br>✓A<br>$B = 3 \times R3,66$ ✓MA<br>$= R10,98$ ✓A | 1A correct fraction<br>1MA multiplying by R3,66.<br><br>1CA simplification.<br><br>OR<br><br>1A correct value 3<br>1MA multiplying by R3,66.<br>1CA simplification.<br>(3) | |

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| | | | |
|---|---|---|---|
| 1.3.3 | $24 \div 6 = 4$ ✓ M<br><br>Actual Cost<br><br>$= \frac{R54,00}{4}$ ✓MA<br>= R13,50 ✓A<br><br>OR<br><br>Actual Cost<br><br>$= \frac{R54,00}{24} \times 6$ ✓M ✓MA<br>= R13,50✓A | 1M dividing values.<br><br>1MA multiplying or dividing correct values.<br>1CA simplification.<br><br>OR<br><br>1M dividing values.<br>1MA multiplying or dividing correct values.<br>1CA simplification<br>(3) | F<br>L2<br>M |
| 1.3.4 | Number of batches $= \frac{200\ g}{10\ g}$ ✓MA<br><br>= 20 ✓A | 1MA dividing correct values.<br><br>1A simplification.<br>(2) | F<br>L1<br>E |
| | | **[31]** | |

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| **UESTION 2 [33 MARKS]** | | | |
|---|---|---|---|
| **Ques** | **Solution** | **Explanation** | **Level** |
| 2.1.1 | 2237654213✓✓RT | 2A correct tax number<br>(2) | F<br>L1<br>E |
| 2.1.2 | 12 months✓✓ A | 2A correct answer<br>(2) | F<br>L 1<br>E |
| 2.1.3 | Monthly tax credits<br>✓MA<br>= (R347 × 2) + (R234 × 2)✓MA<br>= R694 + R468<br>= R1 162<br>Annual tax credits<br>= R1 162 × 12 ✓MCA<br>= R13 944 ✓CA | 1MAmultiplying correct values<br>1MA multiplying correct values.<br>1MCA multiplying by 12.<br>1CA simplification.<br>(4) | F<br>L3<br>M |
| 2.1.4 | Tax before rebates.<br>✓RT<br>= R73 726 + 31% × (R474 441 – R353 100)✓SF<br>= R73 726 + 31% × R121 341<br>= R73 726 + R37 615,71✓S<br>= R111 341,71✓CA<br>Tax after rebates<br>✓MA ✓MCA<br>= R111 341 − R16 425 – R13 944<br>= R80 972,71✓CA<br>His statement is not valid.✓O | **CA from 2.1.3**<br>1RT correct bracket.<br>1SF substitute R474 441.<br>1S simplification<br>1CA amount before rebates.<br>1MA subtracting rebate.<br>1MCA subtracting medical tax credits.<br>1CA simplification.<br>1O conclusion.<br>(8) | F<br>L4<br>M |
| 2.2 | | | |
| 2.2.1 | Buying goods on credit.✓✓A<br>OR<br>Buying goods on small regular payments until debt is completely paid.✓✓A | 2A correct definition.<br>(2) | F<br>L1<br>E |

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| | | | |
|---|---|---|---|
| 2.2.2 | Original Selling Price<br>= R10 999,00 + R2 000,00✓MA<br>= R12 999,00✓A | 1MA adding correct amounts.<br>1A simplification.<br>**AO** (2) | F<br>L1<br>E |
| 2.2.3 | ✓A<br>VAT amount = $\frac{15}{115}$ × R10 999,00 ✓MA<br>= R1 434,65✓CA<br>OR<br>Price excluding VAT<br>= $\frac{\text{R10 999,00}}{1,15}$ ✓MA<br>OR<br>= $\frac{100}{115}$ × R10 999,00 ✓MA<br>= R9 564,35 ✓A<br>VAT amount = R10 999,00 – R9 564,35<br>= R1 434,65✓CA | 1A correct VAT calculation.<br>1MA multiplying by R10 999.<br>1CA simplification.<br>OR<br>1MA dividing by 1,15<br>OR<br>1MA multiplying by $\frac{100}{115}$<br>1A VAT excluded amount.<br>1CA simplification. (3) | F<br>L2<br>M |
| 2.2.4 | The stove function on dual purpose of gas and electricity.✓✓O | 1O correct explanation. (2) | F<br>L4<br>E |

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| | | | |
|---|---|---|---|
| 2.2.5 | Deposit<br>= 20% × R10 999,00<br>= R2 199,80✓A<br>Total cost including deposit.<br>✓MA<br>= R609,00 × 30 months + R2 199,80✓MCA<br>= R20 469,80✓CA<br>One third of the amount<br>= R20 469,80 × ⅓ / ÷ 3 ✓MCA<br>= R6 823,27✓CA<br>Amount saved = R20 469,80 – R10 999,00<br>= R9 470,80✓CA<br>Her statement is valid.✓O | 1A deposit amount.<br>1MA correct value × 30<br>1MCA adding deposit.<br>1CA simplification.<br>1MCA dividing by 3 or × by ⅓.<br>1CA simplification.<br>1CA amount saved.<br>1O conclusion.<br>(8) | F<br>L4<br>D |
| | | **[33]** | |

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| **QUESTION 3 [28 MARKS]** | | | |
|---|---|---|---|
| **Ques** | **Solution** | **Explanation** | **Level** |
| 3.1.1 | Questionnaire/ Survey/ Google form/interview✓✓A | 2 RT correct instrument (2) | D L1 E |
| 3.1.2. | Total number ✓RT = 4 567 497 + 4 083 742 + 1 623 467 + 7 846 125 + 5 200 602 + 2 151 336 ✓MA = 25 472 769 ✓CA | 1RT all correct values. 1MA adding all correct values. 1CA simplification, (3) | D L2 E |
| 3.1.3. | ✓RT Total population = $\frac{31\ 029\ 291}{59{,}93617\%}$ ✓MA = 51 770 560✓A Total number of persons younger than 25 years. = 51 770 560 – 31 029 291✓MCA = 20 741 269 ✓CA | 1RT correct value. 1MA dividing by correct %. 1A total population, accept 51 770 561. 1MCA subtracting correct values. 1CA simplification, accept 20 741 270. (5) | D L3 D |
| 3.1.4. | ✓A Probability = $\frac{14\ 122\ 681}{62\ 027\ 503}$ ✓A = 0,23 / 0,228 / 0,2✓CA | 1A numerator. 1A denominator. 1CA simplification. (3) | P L2 E |
| 3.2 | | | |
| 3.2.1 | 25,2; 28,6; 29,0; 32,8; 33,3; 34,3; 37,7; 39,0; 40,9 ✓A Median = 33,3 ✓A Western Cape✓CA | 1A arranging values. 1A correct median. 1CA correct province. (3) | D L2 M |
| 3.2.2 | ✓A Probability = $\frac{3}{9}$ ✓A × 100% = 33% /33,3% / 33,33% ✓CA | 1A numerator. 1A denominator. 1CA simplification. (3) | P L2 M |

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|---|---|---|---|
| 3.2.3 | Data is per province.✓✓A<br><br>OR<br><br>The percentages given represent the number of people with grade 12 as a percentage of the number of people 25 years and older in each province and not nationally.✓✓O<br><br>OR<br><br>Rounding. | 2O correct explanation.<br>(2) | D<br>L4<br>D |
| 3.2.4 | $Q1 = \frac{28,6 + 29,0}{2}$ ✓MA<br>$= 28,8\%$ ✓A<br>$IQR = Q3 - Q1$✓MA<br>$= 38,35\% - 28,8\%$✓MCA<br>$= 9,55\%$✓CA | 1MA correct values ÷ by 2.<br>1A correct Q1.<br>1MA correct formula.<br>1MCA subtracting correct values.<br>1CA simplification.<br>(5) | D<br>L3<br>M |
| 3.2.5 | The percentages do not add up to 100%.✓✓O<br><br>OR<br><br>The degrees do not add up 360º.✓✓O<br><br>OR<br><br>There are too many sectors.✓✓O | 2O reason.<br>(2) | D<br>L4<br>M |
| | | **[28]** | |

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| | **QUESTION 4 [30 MARKS]** | | |
|---|---|---|---|
| 4.1.1 | ZAR✓✓A | 2A correct abbreviation. (2) | F L1 E |
| 4.1.2 | 1 ZAR = US \$0,05288 ✓RT<br>US \$1 = $\frac{1}{0,05288}$ ✓MA<br>= R18,91074 ✓A | 1RT correct exchange rate.<br>1MA dividing correct values.<br>1A simplification.<br>NPR (3) | F L2 M |
| 4.1.3 | US dollar / US \$✓✓RT | 2A correct currency (2) | F L1 E |
| 4.1.4 | USA offer in rands.<br>✓A<br>= $\frac{3\ 998}{0,05288}$ ✓MA<br>= R75 605,14✓A<br>OR<br>✓A<br>= 3 998 × R18,91074 ✓MA<br>= R75 605,14✓A<br>Canadian offer in rands.<br>= 5 384 × R14,01✓MA<br>= R75 429,84✓A<br>Difference in rand = R75 605,14 – R75 429,84✓MCA<br>= R175,30 ✓CA<br>His statement is invalid / not valid.✓O | 1A correct exchange rate.<br>1MA dividing/multiplying with correct exchange rate.<br>1A simplification.<br>OR<br>1A correct exchange rate.<br>1MA dividing/multiplying with correct exchange rate.<br>1A simplification.<br>1MA multiplying with correct exchange rate.<br>1A simplification.<br>1MCA subtracting values.<br>1CA simplification.<br>1O conclusion. (8) | F L4 M |
| 4.2 | | | |
| 4.2.1 | Value of D in thousands of rand.<br>✓MA<br>= 601 228 – (141 319 + 130 692 + 97 390)✓ RT<br>= 601 228 – 371 835<br>= 229 393✓CA | 1MA subtracting from 601 228.<br>1RT 3 correct values.;<br>1CA simplification. (3) | F L2 M |

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|---|---|---|---|
| 4.2.2 | Total income in thousands of rand.<br>= 184 556 + 196 353 + 2 613 + 264 029 + 85 381✓MA<br>= 732 932✓A<br>Total expenditure in thousands of rand.<br>= 199 891 + 20 101 + 79 285 + 19 481 + 164 979 + 1 020 + 279 769<br>= 764 526 ✓A<br>E = 732 932 – 764 526✓MCA<br>= - 31 584 / (31 584) ✓CA<br>It is a deficit.✓O | 1MA adding correct values.<br>1A simplification<br><br>1A simplification.<br>1MCA subtracting correct values.<br>1CA simplification.<br>1O conclusion.<br>(6) | F<br>L3<br>M |
| 4.3 | | | |
| 4.3.1 | % ordering Egusi soup = 15%✓A<br>If 20% of the total = 60<br>1% of the total = 60÷ 20 = 3✓MA<br>15% of the total = 15 × 3✓MA<br>= 45✓CA<br>OR<br>Total number of customers = $\frac{60}{20\%}$ ✓MA<br>= 300✓A<br>Number of customers ordering Egusi soup<br>= 15% × 300✓MA<br>= 45✓CA<br><br>OR<br><br>✓MA ✓A<br>20%: 60 = 15%: X<br>X = $\frac{15\%}{20\%}$ × 60 ✓MA<br>= 45✓CA | 1A % ordering Egusi soup.<br>1MA calculating 1%.<br>1MA multiplying by 15.<br>1CA simplification.<br>OR<br>1MA dividing 60 by 20%.<br>1A total number of customers.<br>1MA calculating 15%.<br>1CA simplification.<br><br>OR<br><br>1MA correct ratio.<br>1A % ordering Egusi soup.<br>1MA calculating number of customers.<br>1CA simplification.<br>(4) | D<br>L2<br>D |
| 4.3.2 | Probability (not ordering Pounded Yam)<br>= $\frac{65}{100}$ ✓A✓A OR = $\frac{13}{20}$ ✓A✓A | 1A numerator.<br>1A denominator.<br>(2) | D<br>L3<br>M |
| | | **[30]** | |

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| | **QUESTION 5 [26 MARKS]** | | |
|---|---|---|---|
| 5.1.1 | 2021 Range (in millions) = 175,61 – 168,49✓MA<br>= 7,12✓A<br>2022 Range (in millions) = 178,53 – 171,27<br>= 7,26✓CA<br>The year with the largest range = 2022✓CA | 1MA subtracting correct values.<br>1A simplification.<br><br>1CA simplification.<br>1CA correct year.<br>(4) | D<br>L2<br>E |
| 5.1.2 | Average coffee consumption.<br>$= \frac{165,64+170,88+167,59+168,57+175,61+178,53}{6}$ ✓MA<br>$= \frac{1026,82}{6}$ ✓MA<br>= 171,14 ✓CA | 1MA mean concept.<br><br>1MA adding all correct values.<br>1CA simplification.<br>NPR (3) | D<br>L2<br>M |
| 5.2 | | | |
| 5.2.1 | Tariff increase = R2,3846 – R1,7322✓MA<br>= R0,6524<br>= R0,65✓R | 1MA subtracting correct values.<br><br>1R correct rounding.<br>(2) | F<br>L2<br>E |
| 5.2.2 (a) | P = R332,74 – R173,22✓MA<br>= R159,52✓A | 1MA subtracting correct amounts.<br>1A simplification.<br>(2) | F<br>L2<br>M |
| (b) | $Q = \frac{R2\ 666,23 - R2\ 242,48}{R2\ 242,48} \times 100\%$ ✓MA<br>= 18, 8964896✓CA | 1MA subtracting and dividing correct amounts.<br>1MA calculating %.<br>1CA simplification.<br>NPR (3) | |
| (c) | S = R3 643,28 × 138,5693% ✓MA<br>= R5 048,47✓A<br>OR<br>S = R3 643,28 × 38,5693% + R3 643,28 ✓RT<br>= R1 405,19 + R3 643,28<br>= R5 048,47✓A | 1RT correct amount.<br>1MA calculating % increase.<br>1A simplification.<br><br>1MA calculating % increase.<br>1RT correct amount.<br><br>1A simplification.<br>(3) | |

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| | | | |
|---|---|---|---|
| 5.2.3 | Amount payable.<br>✓RT ✓RT ✓MA<br>= (50 kwh × R0) + (100 kwh × R1,7322)<br>= R173,22 | 1RT 50 kwh.<br>1RT 100 kwh.<br>1MA multiplying with the correct tariff.<br>(3) | F<br>L2<br>E |

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