



education

Department:
Education
PROVINCE OF KWAZULU-NATAL

**NATIONAL
SENIOR CERTIFICATE**

GRADE 12

MATHEMATICAL LITERACY P1

JUNE EXAMINATION

MARKING GUIDELINE

2020

MARKS: 100

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
MCA	method with consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD/RM	Reading from a table/ graph/ diagram/Map
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example/Explanation
J	Justification
R	Rounding off
F	deriving a formula
AO	Answer only full marks
P	Penalty e.g. for units, incorrect rounding off etc.
NPR	No penalty for rounding / units

This marking guideline consists of 7 pages.

QUESTION 1[30 MARKS]			
Ques. No	Solution	Explanation	T&L
1.1.1	Time taken by flight = 1 hour 06 minutes = 60 minutes + 06 minutes ✓C = 66 minutes ✓A	1C conversion 1A correct time AO (2)	M L1
1.1.2	Departure time = 11:08 – 66 minutes ✓M = 10 :02 ✓A	1M subtraction 1A departure time AO (2)	M L1
1.2.1	Total amount = R2,83 × 15,2 km ✓M = R43,016 ✓A ≈ R43,02 ✓R	1M multiplication 1A amount 1R rounding (3)	F L1
1.2.2	Amount from each passenger = $\frac{R43,02}{2}$ ✓M = R21,51 ✓CA	1M dividing by 2 1CA amount AO (2)	F L1
1.2.3	Change = R50,00 – R43,02 ✓M = R6,98 ≈ R6,90	CA from 1.2.1 1M subtraction 1CA change (2)	F L1
1.2.4	1,6 km = 1 mile 15,2 km = $\frac{15,2 \text{ km} \times 1 \text{ mile}}{1,6 \text{ km}}$ ✓M = 9,5 miles ✓A	1M multiplication 1M dividing 1A miles (3)	M L1
1.3.1	Discount = $\frac{15}{100} \times R1\ 250,00$ ✓M = R187,50 Price after discount = R1 250,00 – R187,50 ✓M = R1 062,50 ✓A OR Price after discount = R1 250,00 – (15% × R1 250,00) ✓M ✓M = R1 062,50 ✓A OR Price after discount = $\frac{85}{100} \times R1\ 250,00$ ✓M ✓M = R1 062,50 ✓A	1M multiplication 1M subtraction 1A price OR 2M subtraction and multiplication 1A price OR 1M subtracting 15% from 100% 1M multiplication 1A price (3)	F L1
1.4.1	Mode = 21 ✓A and 22 ✓A	2A two modes (2)	DH L1
1.4.2	mean = $\frac{27+25+25+27+29+29+31}{7}$ = $\frac{193}{7}$ ✓M = 27,57 ✓M	1M adding all values 1M dividing by 7	DH L1

	$= 27,57 \checkmark CA$	1CA mean (3)	
1.4.3	Difference = $31^\circ - 20^\circ \checkmark M$ $= 11^\circ \checkmark A$	1M subtraction 1A difference (2)	DH L1
1.4.4	Chance = 0 $\checkmark \checkmark A$	2A correct answer (2)	P L1
1.5.1	Number scale $\checkmark \checkmark A$ OR Ratio scale $\checkmark \checkmark A$	2A correct answer OR 2A correct answer (2)	MP L1
1.5.2	1:300 It means that one unit on paper represents three hundred units in real life. $\checkmark \checkmark E$ OR 1:300 It means that one unit on paper is three hundred times bigger in real life. $\checkmark \checkmark A$	2E explanation OR 2E explanation (2)	MP L1
		[30]	
QUESTION 2 [25 MARKS]			
Ques. No	Solution	Explanation	T&L
2.1	One million and eighty thousand one hundred and fifty rands. $\checkmark \checkmark A$	2A correct words (2)	F L1
2.2	Transfer costs = $9\% \times R1\ 080\ 150,00 \checkmark MA$ $= R97\ 213,50 \checkmark A$	1MA multiplication 1A transfer costs (2)	F L1
2.3	Percentage = $\frac{R5\ 599,00}{R55\ 999,00} \times 100\% \checkmark MA$ $= 9,998\dots \checkmark A$ $\approx 10\% \checkmark R$	1MA % concept 1A percentage 1R rounding (3)	F L1
2.4	Total amount = Deposit + $R1\ 999,00 \times 36 \checkmark M$ $= R5\ 599,00 + R71\ 964 \checkmark M$ $= R77\ 563$	1M multiplying by 36 1M adding deposit (2)	F L1
2.5	Production cost = $R1\ 050,00 + R150,00 \times \text{number of boxes} \checkmark \checkmark F$	2F formula (2)	F L2
2.6	Income = $R307,99 \times \text{number of boxes sold} \checkmark \checkmark F$	2F formula (2)	F L2
2.7	A = $R1\ 050,00 \checkmark \checkmark A$ B = $50 \times R307,99 \checkmark M$ $= R15\ 399,50 \checkmark A$ C = $R76\ 997,50 \div R307,99 \checkmark \checkmark M$ $= 250 \checkmark A$ OR	2A fixed cost 1M multiplication 1A value of B 1M identifying both correct values 1M dividing by R307,99 1A value of C OR	F L2

	$C = R38\ 550,00 - R1050,00 \checkmark MA$ $= R37\ 500 \div R150,00 \checkmark MA$ $= 250 \checkmark A$	1MA subtracting R1 050,00 1MA dividing by R150,00 1A value of C (7)	
2.8	<p style="text-align: center;">Graph showing cost and income of boxes of paper</p> <p style="text-align: center;">Number of boxes</p>	2A both correct axes labels 1A graph starting at (0:0) 1CA joining points 1A two points correctly plotted (5)	F L2
		[25]	

QUESTION 3 [17 MARKS]			
Ques. No	Solution	Explanation	T&L
3.1	Area of a square opening = side \times side $= (150 \text{ mm} \div 10) \times (150 \text{ mm} \div 10) \checkmark C$ $= 15 \text{ cm} \times 15 \text{ cm} \checkmark SF$ $= 225 \text{ cm}^2 \checkmark CA$ Total area of square openings = $225 \text{ cm}^2 \times 5 \checkmark M$ $= 1\,125 \text{ cm}^2 \checkmark CA$ OR Area of a square opening = $150 \text{ mm} \times 150 \text{ mm} \checkmark SF$ $= 22\,500 \text{ mm}^2 \checkmark A$ Total area of square openings = $22\,500 \text{ mm}^2 \times 5 \checkmark M$ $= 112\,500 \text{ mm}^2 \div 100 \checkmark C$ $= 1\,125 \text{ cm}^2 \checkmark CA$	1C conversion 1SF correct substitution 1CA area 1M multiplying by 5 1CA total area OR 1SF correct substitution 1A area 1M multiplying by 5 1C conversion 1CA total area (5)	
3.2	Surface area to be covered = $(45 \text{ cm} \times 45 \text{ cm} \times 6) - \text{area of openings} \checkmark M$ $\checkmark A$ $= 12\,150 \text{ cm}^2 - 1\,125 \text{ cm}^2$ $= 11\,025 \text{ cm}^2 \checkmark CA$	CA from 3.1.1 1M subtracting area of openings 1A surface area of one side 1CA surface area (3)	M L2
3.3	Area = length \times width $11\,025 \text{ cm}^2 = \text{length} \times 36,75 \text{ cm} \checkmark SF$ $\text{length} = \frac{11\,025 \text{ cm}^2}{36,75 \text{ cm}} \checkmark M$ $= 300 \text{ cm} \checkmark A$	CA from 3.2 1SF correct substitution 1M dividing by 36.75 1A length (3)	M L2
3.4	$P(\text{yellow or orange box}) = \frac{10 \checkmark A}{18 \checkmark A}$ $= 0,555 \checkmark CA$	1A numerator 1A denominator 1CA decimal (3)	P L2
3.5	Weight 1 ounce = 28 g ounce = 50 g $= \frac{50}{28} \checkmark M$ $= 1,7857 \checkmark A$ $\approx 1,8 \text{ ounce} \checkmark A$	1M dividing by 28 1A weight 1A one decimal place (3)	M L1
		[17]	

QUESTION 4 [11 MARKS]			
Ques. No	Solution	Explanation	T&L
4.1	Pafuri gate ✓✓A	2A correct answer (2)	MP L1
4.2	8 ✓✓A	2A correct answer (2)	MP L1
4.3	North ✓✓A	2A direction (2)	MP L1
4.4	2,8 cm: 16 km 8,5 cm: km $km = \frac{16 \times 8,5}{2,8} \checkmark A$ $= 48,57142\dots$ $\approx 48,57 \text{ km } \checkmark A$ OR 28 mm: 16 km 85 mm: km $km = \frac{16 \times 85}{28} \checkmark A$ $= 48,57142\dots$ $\approx 48,57 \text{ km } \checkmark A$	1M multiplying by 8,5 1M dividing by 2,8 1A no. of km OR 1M multiplying by 85 1M dividing by 28 1A no. of km Accept 8,6 cm or 8,4 cm (3)	MP L2
4.5	Dzundzwini ✓✓A	2A correct place (2)	MP L1
		[11]	

QUESTION 5 [17 MARKS]			
Ques. No	Solution	Explanation	T&L
5.1	Percentage = $\frac{132544}{530210} \times 100\%$ $= 24,998\dots$ $= 25,0\%$	1MA both correct values 1A percentage 1A rounding (3)	DH L1
5.2	2019 ✓✓A	2A correct year (2)	DH L1
5.3	$\checkmark MA \quad \checkmark M$ Non AIDS related deaths = $526\,226 - 130\,434$ $= 395\,792 \checkmark CA$	1MA identifying correct values 1M subtraction 1CA answer (3)	DH L1
5.4	Mean = $\frac{532761 + 526226 + 530210 + 535401 + 541493}{5} \checkmark M$	1M adding values	

	$= \frac{2\,667\,091}{5} \checkmark A$ $= 533\,418,20 \checkmark CA$	1M dividing by 5 1CA mean (3)	DH L2
5.5	Range = 1 204 340 – 1 171 219 $\checkmark M$ = 33 121 $\checkmark A$	1M subtraction 1A range (2)	DH L1
5.6	133 951 ; 132 544 ; 130 434 ; 129 677 ; 126 805 $\checkmark \checkmark A$	2A correct order (2)	DH L1
5.7	1 175 282 \approx 1 175 000 $\checkmark \checkmark A$	2A correct rounding (2)	DH L1
			[17]
	TOTAL		100