GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

JUNE EXAMINATION
GRADE 12

2023

MARKING GUIDELINES

MATHEMATICAL LITERACY

(PAPER 2)

Stanmorephysics.com

Codes	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Definition
J	Justification/Reason/Explain
S	Simplification
RT/RD/RG	Reading from a table/graph/diagram/map/plan
F	Choosing the correct formula
SF	Substitution in a formula
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding-off, etc.
R	Rounding-off
NP	No penalty for rounding-off **OR** omitting units

KEY TO TOPIC SYMBOL:

M = Measurement; MP = Maps, Plans and other representations;
P = Probability

6 pages

QUESTION 1

Q		Solution: Answer only = full marks.	Explanation	Marks	Level
1.1	1.1.1	Thermometers ✓✓**2A**	2A correct answer	(2)	M1
	1.1.2	40 °C ✓✓**2A**	2A correct answer	(2)	M1
	1.1.3	A ✓✓**2A**	2A correct answer	(2)	M1
1.2	1.2.1	Eight minutes past twelve in the afternoon ✓✓**2A**	1A correct time 1A afternoon	(2)	M1
	1.2.2	11:54 ✓✓**2A**	2A correct answer **Accept 11:53**	(2)	M1
	1.2.3	12:08 – 11:54 ✓**1M** = 14 minutes ✓**1A**	**CA from 1.2.2** 2A correct answer **Accept 15 minutes**	(2)	M1
1.3	1.3.1	N4 ✓✓**2A**	2A correct answer	(2)	MP1
	1.3.2	NE ✓✓**2A**	2A correct answer	(2)	MP1
	1.3.3	8 ✓✓**2A**	2A correct answer	(2)	MP1
	1.3.4	Southerly ✓✓**2A**	2A correct answer	(2)	MP1
				[20]	

QUESTION 2

Q		Solution	Explanation	Marks	Level
2.1	2.1.1	Free State ✓✓**2A**	2A correct answer	(2)	MP1
	2.1.2	Bar scale/linear scale/graphic scale ✓✓**2A**	2A correct answer	(2)	MP1
	2.1.3	Centurion ✓✓**2A**	2A correct answer	(2)	MP1
2.2	2.2.1	• Travel towards the **east** ✓**A** • Use **N4** ✓**A** • Pass **the toll gate** ✓**A** • Bronkhorstspruit will be on the left. ✓**A**	4A correct answer	(4)	MP2
	2.2.2	1/One ✓✓**2A**	2A correct answer	(2)	MP1
	2.2.3	Bar length = 2,2 cm ✓**A** Map length = 8,5 cm ✓**A** Actual distance = $\frac{8{,}5\ \text{cm}\ ✓}{2{,}2\ \text{cm}\ ✓}$ **2MCA** × 30 km ✓**M** = 115,90 km ✓**CA** *(Measure on final printed copy.)	1A measured bar length 1MCA measure map length 1MCA numerator 1MCA denominator 1M multiplying by 30 1CA answer **NPR**	(6)	MP3
2.3		Distance = 398 km ✓**RT** Time = 11:30 −07: 20 − 40 min ✓**M** = 3,5 h ✓**CA** Distance = Time × $speed$ Average speed = $\frac{398\ \text{km}}{3{,}5\ \text{h}}$ ✓**SF** = 113,71 km/h ✓**CA** ∴ The claim is invalid. ✓**O**	1RT correct value 1M subtracting correct values 1CA answer 1SF correct values 1CA answer 1O conclusion	(6)	MP4
				[24]	

QUESTION 3

Q		Answer	Explanation	Marks	Level
3.1	3.1.1	Amount of space in a bucket occupied by water. ✓✓**2D** (Accept: Any logical/sensible explanation.)	2D correct definition	(2)	M1
	3.1.2	18,46 × 1 000 ✓**C** = 18 460 cm^3 ✓**A** 18 460 ✓**SF**= 30 × 22 × h ✓**SF** h = $\frac{18\ 460}{660}$ ✓**M** ∴ h = 28 cm ✓**CA**	1C multiplying by 1 000 1A answer 1SF for volume 1SF for length and width 1M changing subject of formula 1CA rounded answer	(6)	M3
	3.1.3	Circumference = 3,142 × 44 ✓✓**SF** = 138,248	2SF correct values	(2)	M2
3.2	3.2.1	Prevents rapid loss of heat ✓✓**2J**	2O Opinion	(2)	M2
	3.2.2	Radius = $\frac{44}{2}$ ✓**MA** = 22 cm ✓**A**	1MA dividing by 2 1A correct answer **AO**	(2)	M2
	3.2.3	380 mm – 40mm✓MA h = $\frac{340}{10}$ ✓MCA = 34 cm ✓CA Area = 2 × 3,142 × 22 × 34 ✓**SF** = 4700,432✓**CA** cm^2	**CA radius from 3.2.2** 1MA for subtracting 40mm 1MCA dividing by 10 1CA correct answer 1SF correct values 1CA correct answer **NPR**	(5)	M3
	3.2.4	V = 3,142 × $(22)^2$ × 38 ✓**SF** = 57 787,66 cm^3 ✓**CA**	**CA radius from Q3.2.2** 1SF values CA final answer	(2)	M2

Q	Answer	Explanation	Marks	Level
3.3	$V = 3{,}142 \times (22)^2 \times 34$ $= 51\,704{,}752\ cm^3$ ✓**CA** $\frac{51\,704{,}752}{18460}$ ✓**M** $= 2{,}8$ ✓**CA** = 3 buckets ✓**R**	**CA from 3.2.4** 1CA simplification 1M dividing values correct order 1CA simplification 1R rounding	(4)	M3
			[25]	

QUESTION 4

Q		Answer	Explanation	Marks	Level
4.1	4.1.1	$= 7 \times 2{,}54$ ✓**M** $= 17{,}78$ cm ✓**A**	1M multiplying 1A correct answer	(2)	M2
	4.1.2	$\frac{45}{8}$ ✓✓**2A** $= 5{,}625$ ✓**A** ≈ 6 ✓**R**	1A numerator 1A denominator 1A answer 1R rounding-up	(4)	M2
	4.1.3	75 g × 3 ✓**MA** = 225 g✓**A** $\frac{225}{200}$ ✓**M** = 1,125 ✓**CA** ≈ 1 full cup ✓**R**	1MA multiplying by 3 1A answer in grams 1M dividing correct values 1CA answer 1R rounding-down	(5)	M3
	4.1.4	2,5 kg × 1 000 ✓**MA** = 2 500 g ✓**C** $\frac{2\ 500\ g}{150\ g} \times 8$ ✓**M** $= 133{,}3$ ≈ 134 people ✓**A** ∴ The claim is invalid. ✓**O**	1MA multiplying by 1000 1C conversion to grams 1M calculation 1A correct answer 1O conclusion	(5)	M4
	4.1.5	150 : 75 ✓**RT**✓**A** 2 : 1 ✓**S**	1RT correct values 1A correct order 1S simplification	(3)	M2

4.2	193 + 74 + 24 + 158 ✓✓**2A** = 449✓**A** × 2 ✓**M** = 898 km ✓**CA** ∴ The claim is invalid. ✓**O**		2A for adding 2 correct values 1A answer 1M multiplied by 2 1CA answer 1O conclusion	(6)	MP4
4.3	4.3.1	(i)Y✓**A** (ii)S✓**A**	1A correct answer 1A correct answer	(2)	P2
	4.3.2	8✓✓**2A**	2A correct answer	(2)	P2
	4.3.3	$\frac{4}{8}$ ✓**RT**✓**M** **OR** 50% **OR** ½ **OR** 0,5 **OR** Even Chance	1RT correct values 1M correct order	(2)	P2
				[31]	
					TOTAL: 100