GAUTENG PROVINCE
EDUCATION
REPUBLIC OF SOUTH AFRICA

GAUTENG DEPARTMENT OF EDUCATION

PREPARATORY EXAMINATION

2021

MARKING GUIDELINES

MATHEMATICAL LITERACY PAPER 2 (10602)

Codes	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
D	Define
J	Justification/Reason/Explain
S	Simplification
RT/RD/RG	Reading from a table OR a graph OR a diagram OR a map OR a 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

10 pages

QUESTION 1

Q	Answer	Explanation	Level	
1.1.1	Personal care ✓✓	2A correct answer	CA	(2)
1.1.2	2 x 60 = 120 seconds ✓✓	1M multiplying by 60 1A correct answer	M1	(2)
1.1.3	236 –198 = 38 mins✓✓	1M subtraction 1A correct answer	M1	(2)
1.1.4	93 minutes ÷ 60 = 1 hour 33 minutes ✓✓	1M dividing by 60 1A correct answer	M1	(2)
1.1.5	1 : 2 93 : 109 1 : 1,17✓ His claim is INCORRECT.✓	1M ratio 1M statement	M1	(2)
1.1.6	They are older and more mature/more capable of handling the responsibility of household maintenance. ✓✓ OR Any other logical reason.	2A correct answer	MP4	(2)
1.1.7	(i) 26 ✓	1A correct answer	MP1	(1)
	(ii) 1 437 ✓	1A correct answer	MP1	(1)

Q	Answer	Explanation	Level	
1.2.1	Boom Street✓ Paul Kruger Street✓	1A correct answer 1A correct answer	MP1	(2)
1.2.2	2 ✓✓	2A correct answer	MP1	(2)
1.2.3	North East ✓✓ **OR** NE ✓✓	2A correct answer	MP1	(2)
1.2.4	• Lion✓ • Rhinoceros✓ • Leopard • Buffalo • Elephant	1A correct answer 1A correct answer **Any 2 correct answers**	MP1	(2)
1.2.5	6 : 2✓ 3 : 1✓	1A correct answer 1 S simplification **AO**	MP1	(2)
1.2.6	Cableway✓✓	2A correct answer	MP1	(2)
1.2.7	80×100^2✓ = 800 000 m^2✓ **OR** 80 x 10 000✓ = 800 000 m^2✓	1C multiplying by 100^2 1A correct answer	MP1	(2)
1.2.8	Western✓✓ **OR** On the left-hand side✓✓	2A correct answer	MP1	(2)
				[30]

QUESTION 2

Q	Answer	Explanation	Level	
2.1.1	at Buffs	1A correct answer	RT1	(1)
2.1.2	Some runners may not be able to complete this course of 42,2 km. To encourage aspiring long-distance runners to be competitive To encourage more people to compete To encourage fitness amongst people To encourage more participation in the event (Accept any TWO reasonable answers.)	2A correct answers	MP4	(2)
2.1.3	39 – 27 = 12 km ✓✓	2A correct answer	RG	(2)
2.1.4	Time taken = 8,75 h – 5 h ✓✓ = 3,75 h ✓ **OR** Time taken = 08:45 – 05:00 = 03h45 minutes = 3,75 h	1M time 1M substraction 1M correct answer	MP3	(3)
2.1.5	Distance = Average speed x time 21 = x x 0,75 ✓ $x = \frac{21,2}{0,75}$ ✓ = 5,65 ✓ = 5,7 km/h ✓	1SF substitution correct values 1M change subject of formula 1CA answer	MP3	(3)
2.1.6	Distance = Average speed x time 42,2 = 5,7 x x ✓ $x = \frac{42,2}{5,7}$ ✓ x = 7,406 ✓ = 7 hours and 24,36 minutes ✓ He started at 5:00 so he should complete the marathon by 12:24 (5:00 + 7 h 34)	1M substitution 1M calculation 1M answer 1M hours and minutes	MP3	(4)

Q	Answer	Explanation	Level	
2.1.7	Cut-off time is a time limit by which all participants must cross a demarcation/line to ensure they can finish the race before the event shuts down.	2A correct explanation	M2	(2)
2.1.8	Increasing fitness levels Improve camaraderie Meet new people (Any ONE)	1M correct answer	MP2	(1)

Q	Answer	Explanation	Level	
2.2.1	Gauteng ✓✓	1A correct answer	MP1	(1)
2.2.2	Craighall ✓✓	2A correct answer	MP1	(2)
2.2.3	4 cm = 30 km ✓✓ 1,6 cm = 12 km ✓✓	2A correct answer	MP2	(2)
2.2.4	Kempton Park ✓✓	2A correct answer	MP2	(2)
2.2.5	Randburg to Soweto is approximately 6,5 cm on the map. ✓ 4 cm = 30 km ✓ 1 cm = 7,5 km ✓ 6 cm = 45 km ✓ No, they will not be justified since the distance from Randburg to Soweto according to the scale bar is approximately 46,4 km. The Buffalo marathon is 42,2 km. ✓✓	1M read scale 1M measurement 1M correct answer 2M motivation	MP5	(5)
2.2.6	1USD = R14, 05 X = R1 000 ✓ R1 000 ÷ R14,05 = USD 71, 17 ✓✓	1M calculation 2M correct answer	MP2	(3)
2.3.1	A ✓ B✓ R✓		P2	(3)
2.3.2	$\frac{1}{8}$ ✓✓	1A numerator 1A denominator	P2	(2)
				[38]

QUESTION 3

Q	Answer	Explanation	Level	
3.1.1	Radius = $\frac{100\ mm}{2}$ ✓ = 50 mm✓	1M divide by 2 1A correct answer **AO**	M2	(2)
3.1.2	**Capacity** is the amount of space available to hold something.✓✓ whereas **volume** is the amount of space occupied by a geometric object. ✓✓	2A definition of capacity 2A definition of volume	M2	(4)
3.1.3	2 000 mℓ = 2 000 cm^3 ✓ 50 mm = 5 cm✓ Volume of dispenser A = 3,142 × (5 cm)^2 × h✓ 2 000 cm^3 = 78,55 cm^2 × h✓ ∴ h = 25,46 cm✓ **OR** 2 000 mℓ = 2 000 cm^3 ✓ 50 mm = 5 cm✓ Volume = $\pi\ r^2$ x h Height = $\frac{volume}{\pi\ r^2}$✓ = $\frac{2\ 000}{3{,}142 \times 5 \times 5}$ ✓ = 25,46 cm✓	1C conversion to cm^3 1C conversion to cm 1SF correct values 1MA value of 2 000 cm^3 1CA answer **OR** 1C conversion to cm^3 1C conversion to cm 1MA subject of the formula 1SF correct values 1CA answer	M3	(5)
3.1.4	80 mm = 8 cm✓ Capacity of dispenser B = 13,7 cm × 8 cm × 20,8 cm✓ = 2279,68 cm^3 ✓✓ ∴ The claim is invalid✓	1C conversion to cm 1SF correct values 1CA answer 1A correct unit 1O conclusion	M4	(5)

Q	Answer	Explanation	Level	
3.1.5	Volume of sensor = 13,7 cm × 8 cm × 2 cm ✓ = 219,2 cm^3✓ Volume of dispenser B = 2 279,68 cm^3 – 219,2 cm^3 ✓ = 2 026,48 cm^3✓ ∴ Dispenser B is bigger✓ **OR** Add: V = ℓ x b x h = 13,7 x 8 x 18,8✓✓✓ = 2 026,48 cm^3✓ Dispenser **A** = 2 000 ml and dispenser **B** = 2 026,48 mℓ ∴ dispenser **B** is 26,48 mℓ bigger than A✓	**CA from 3.1.4** 1SF correct values 1MA correct answer 1M subtracting correct values 1CA answer 1O justification **OR** 2A value of 18.8 1SF correct values 1CA answer 1O justification	M4	(5)
3.1.6	• It reduces the spread of infections.✓✓ **OR** • It offers a standard amount that is enough to clean both hands. Accept any other sensible advantage.	2A correct answer	M4	(2)
3.2.1	25 ℓ = 25 000 cm^3 ✓ Number of dispensers = $\frac{25\,000}{2\,000}$✓✓ = 12,5✓ ≈ 12✓	1C conversion 1A numerator 1A denominator 1CA answer 1R correct value	M3	(5)
3.2.2	Volume of dispensers for 4 weeks = 2 000 cm^3 × 5× 4✓ = 40 000 cm^3✓ Number of 5 ℓ bottles = $\frac{40\,000}{5\,000}$✓ = 8 bottles✓	1A correct values 1A total volume 1M dividing by 5 000 1A correct answer	M3	(4)
3.2.3	Dispensers allocated to male rest rooms = $\frac{2}{5}$ × 25 ✓✓✓ = 10 dispensers✓	**CA from 3.2.2** 1A numerator 1A denominator 1M multiplying by 25 1A correct answer	M2	(4)
				[36]

QUESTION 4

Q	Answer	Explanation	Level	
4.1.1	Space inside the rooms✓✓	2A correct answer	M1	(2)
4.1.2	Perimeter = 6 m + 8 m✓ + 3 m + 5 m ✓+ 6,5 m + 5 m✓ + 3,5 m + 8 m✓ = 45 m✓	1A for every 2 correct values 1A correct value	M2	(6)
4.1.3	b = 200 cm = 2 m✓ Surface area of cabinets = (6 m × 2 m) ✓+ (3 m × 2 m) ✓ = 12 m^2 + 6 m^2 = 18 m^2✓	1C conversion to 2 m 2SF correct values 1CA answer	M2	(4)
4.1.4	Area of room A = 8 m × 6 m✓ = 48 m^2✓ Area to be tiled = 48 m^2 – 18 m^2✓ = 30 m^2✓	**CA from 4.1.3** 1MA correct values 1A correct answer 1M subtracting correct values 1CA answer	M3	(4)
4.1.5 .	Area of a tile = 0,6 m × 0,6 m✓ = 0,36 m^2✓ Number of tiles = $\frac{30}{0,36}$ ✓ = 83,3✓ = 84 tiles ✓ The claim is valid✓	**CA from 4.1.4** 1MA correct values 1A correct answer 1M dividing by area of tile 1MA answer 1R rounding up 1O for justification	M4	(6)
4.1.6	Cost of tiles = 84 × R180✓✓ = R15 120✓	**CA from 4.1.5**. 1RT value of R180 1M multiplying correct values 1A correct answer	M2	(3)
4.1.7	Number of boxes = $\frac{84}{6}$✓✓ = 14 ✓	**CA from 4.1.5**. 1A numerator 1A denominator 1A correct answer	M2	(3)

Q	Answer	Explanation	Level	
4.2.1	Number of boxes in Room B using option 1 = $\frac{5\ m}{1{,}2\ m}$ ✓ × $\frac{6{,}5\ m}{0{,}7\ m}$ ✓ = 4 ✓ × 9✓ = 36 boxes✓	2A correct values 2A correct answers 1CA answer	MP2	(5)
4.2.2	Number of boxes in Room B using option 2 = $\frac{5\ m}{0{,}7\ m}$ ✓ × $\frac{6{,}5\ m}{1{,}2\ m}$ ✓ = 7 ✓ × 5✓ = 35 boxes✓ Option 1 will enable packaging of more boxes✓ ∴ The claim is invalid✓	2A correct values 2A correct answers 1CA answer 1J justification 1O opinion	MP4	(7)
4.3.1	18 months old✓✓	2rt correct value	M1	(2)
4.3.2	Weight = 12,6 kg✓ Length = 97 cm✓ BMI = $\frac{12{,}6\ kg}{(97\ cm\ )^2}$✓ BMI = 0,00133914 kg/cm^2✓	1RT value of weight 1RT value of length 1SF correct values 1CA answer	M3	(4)
				[46]

		TOTAL:	**150**