Bergvliet High School

GRADE 11

MATHEMATICAL LITERACY PAPER 2

MARKING GUIDELINES

NOVEMBER 2024

MARKS : 100

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 rounding
NPU	No penalty for units
AO	Answer only
MCA	Method with consistent accuracy

This marking guidelines consists of 14 pages

QUESTION 1

1.1.1	**D ✓✓**	(2)
1.1.2	**G ✓✓**	(2)
1.1.3	**F ✓✓**	(2)
1.1.4	**B ✓✓**	(2)
1.1.5	**E ✓✓**	(2)
1.2.1	**Economy Class ✓✓**	(2)
1.2.2	**16 ✓ : 104 ✓** OR $\frac{16}{104}$ ✓ Maximum 1 out of 2 **2 ✓ : 13 ✓** OR $\frac{2}{13}$ ✓ Maximum 1 out of 2	(2)
1.3.1	**Insert SIM 1 into the SIM card 1 slot ✓✓**	(2)
1.3.2	**Dual SIM ✓** **There are two ports to insert SIM cards ✓** **(Accept any relevant answer)**	(2)
1.3.3	**Do not need to carry two phones at the same time ✓✓** **OR** **You can use two different numbers at the same time ✓✓** **OR** **Balance work and personal life, work number and business number ✓✓** **(Accept any relevant answer)**	(2)

	[20]

QUESTION 2

2.1	**National road map (Accept Road Map) ✓✓**	(2)
2.2	**South West OR SW ✓✓**	(2)
2.3	**N1 ✓✓** OR Maximum 1 out of 2 if another road is added	(2)
2.4	**7 ✓✓**	(2)
2.5	**1 397 = Speed × 15 hours 54 min ✓** SF **Speed = 1 397 ÷ 15 hours 54 min ✓** S **Speed = 1 397 ÷ 15,9 hours ✓** C **Speed = 87, 861…. Km/h ✓** CA **Speed ≈ 90 km/h ✓** R	(5)
2.6	**21:30 + 15 hours 54 min ✓** M **= 13:24 OR 1:24 pm Saturday 7 September ✓** A **They will arrive on time ✓** O	(3)

2.7	**1 397 ÷ 100 ✓ M = 13,97** **13,97 × 7,8l ✓ M = 108,966l ✓ A** **108,966l × R21,79 ✓ MCA = R2 374,37 ✓ CA** **R2 374,37 ÷ 4 ✓ MCA = R593,59 ✓ CA** **OR** **1 397 × 7,8l ✓ M = 10 896,6** **10 896,6 ÷ 100 ✓ M = 108,966l ✓ A** **108,966l × R21,79 ✓ MCA = R2 374,37 ✓ CA** **R2 374,37 ÷ 4 ✓ MCA = R593,59 ✓ CA** **OR** **1 397 ÷ 100 ✓ M = 13,97** **13,97 × 7,8l ✓ M = 108,966l ✓ A** **108,97l × R21,79 ✓ MCA = R2 374,46 ✓ CA** **R2 374,46 ÷ 4 ✓ MCA = R593,62 ✓ CA** **OR** **1 397 × 7,8l ✓ M = 10 896,6** **10 896,6 ÷ 100 ✓ M = 108,966l ✓ A** **108,97l × R21,79 ✓ MCA = R2 374,46 ✓ CA** **R2 374,46 ÷ 4 ✓ MCA = R593,62 ✓ CA**	(7)
		[23]

QUESTION 3

3.1.1	**Diameter** $=$ **1,82m** $\times$ **100** ✓ **= 182cm** ✓ C **Height** $=$ **2,255m** $\times$ **100 = 225,5cm** ✓ C	(3)
3.1.2	**Radius** $=$ **182cm** $\div$ **2 = 91 cm** ✓ CA from Q3.1.1 **Volume** $=$ **3,142** $\times$ $(\mathbf{91cm})^2$ $\times$ **225,5cm** ✓ SF $=$ **5 867 262,401** $\mathbf{cm^3}$ ✓ CA	(3)
3.1.3	**5 867 262, 401** $\div$ **1 000** ✓ C $=$ **5 867,262401** ✓ CA from Q3.1.2 $\approx$ **5 867l** ✓ R	(3)
3.1.4	**Safety margins** ✓✓ **OR** **Manufacturing tolerance** ✓✓ **OR** **Liquids expand** ✓✓ **(Accept any relevant answer)**	(2)

3.1.5	**4 750l** $\times$ **1 000** $=$ **4 750 000** $\mathbf{cm^3}$ ✓ C $\frac{1}{4}$ $\times$ **4 750 000** ✓ MCA $=$ **1 187 500** $\mathbf{cm^3}$ ✓ CA **1 187 500** $=$ **3,142** $\times$ $(91)^2$ $\times$ **height** ✓ SF **Height** $=$ $\frac{1\ 187\ 500}{3{,}142 \times (91)^2}$ ✓ S **Height** $=$ $\frac{1\ 187\ 500}{26\ 018{,}902}$ **Height** $=$ **45,6398…….** ✓ CA **Height** $\approx$ **46cm** ✓ R **OR** $\frac{1}{4}$ $\times$ **4 75l** ✓ M $=$ **1 187,5l** ✓ A **1 187,5l** $\times$ **1 000** $=$ **1 187 500** $\mathbf{cm^3}$ ✓ C **1 187 500** $=$ **3,142** $\times$ $(91)^2$ $\times$ **height** ✓ SF **Height** $=$ $\frac{1\ 187\ 500}{3{,}142 \times (91)^2}$ ✓ S **Height** $=$ $\frac{1\ 187\ 500}{26\ 018{,}902}$ **Height** $=$ **45,6398…….** ✓ CA **Height** $\approx$ **46cm** ✓ R	(7)

3.2	**Length = 3 930 ÷ 1 000 = 3,93m** ✓ C for both length and width **Width = 1 860 ÷ 1 000 = 1,86m** **Length = 3,93m ÷ 1,82m** ✓ M **= 2,159 ≈ 2** ✓ A **Width = 1,86m ÷ 1,82m** **= 1,021 ≈ 1** ✓ A **Total = 2 × 1** ✓ MCA **= 2** ✓ CA **Minimum trips = 6 ÷ 2** ✓ MCA **= 3** ✓ CA **OR** **Diameter = 1,82m × 1 000 = 1 820mm** ✓ C **Length = 3 930mm ÷ 1 820mm** ✓ M **= 2,159 ≈ 2** ✓ A **Width = 1 860mm ÷ 1 820mm** **= 1,021 ≈ 1** ✓ A **Total = 2 × 1** ✓ MCA **= 2** ✓ CA **Minimum trips = 6 ÷ 2** ✓ MCA **= 3** ✓ CA **OR**	(8)

	Length = 3 930mm ÷ 10 = 393cm **Width = 1 860 ÷ 10 = 186cm** ✓ C for length, width and diameter **Diameter = 1,82m × 100 = 182cm** **Length = 393cm ÷ 182cm** ✓ M **= 2,159 ≈ 2** ✓ A **Width = 186cm ÷ 182cm** **= 1,021 ≈ 1** ✓ A **Total = 2 × 1** ✓ MCA **= 2** ✓ CA **Minimum trips = 6 ÷ 2** ✓ MCA **= 3** ✓ CA	
		[26]

QUESTION 4

4.1	**View from the top of a building ✓✓**	(2)
4.2	**One unit on the map represents fifty units in reality ✓✓** **(Maximum 1 out 2 if mm, cm or m are added)**	(2)
4.3	$\frac{\mathbf{7\ 240\ mm}}{\mathbf{50\ mm}}$ ✓ M $=$ **144,8 mm ÷ 10** ✓ C $=$ **14,48 cm** ✓ R	(3)
4.4	**5 ✓✓**	(2)
4.5	**North West OR NW ✓✓**	(2)
4.6	$\frac{\mathbf{1}\ ✓}{\mathbf{5}\ ✓}$ $=$ **0,2** ✓ CA	(3)
4.7	**Length $=$ 3 080 mm ÷ 1 000 $=$ 3,08 m** ✓ C for both length and width **Width $=$ 2 540 ÷ 1 000 $=$ 2,54 m** **Area $=$ 3,08m $\times$ 2,54m** ✓ SF $=$ **7,8232 m^2** ✓ CA $\approx$ **7,8 m^2** **OR**	(3)

	Area $=$ **3 080mm** $\times$ **2 540mm** ✓ SF $=$ **7 823 200** $\mathbf{mm^2}$ $\div$ **1 000 000** ✓ C $=$ **7,8232** $\mathbf{m^2}$ ✓ CA $\approx$ **7,8** $\mathbf{m^2}$	
		[17]

QUESTION 5

5.1.1	**Surface Area = (2 × 15m × 1,5m) ✓** SF **+ (2 × 8m × 1,5m)✓**SF **= 45 + 24** **= 69 m^2 ✓** CA	(3)
5.1.2	**20 ÷ 100 = 0,2m ✓** C **Tile Area = 0,2m × 0,2m ✓** M **= 0,04 m^2 ✓** A **Tiles needed = 69 m^2 ÷ 0,04 m^2 ✓** MCA from Q5.1.1 **= 1 725 ✓** CA **OR** **69 m^2 × 10 000 = 690 000 cm^2 ✓** C **Tile Area = 20cm × 20cm ✓** M **= 400 cm^2 ✓** **Tiles needed = 690 000 cm^2 ÷ 400 cm^2 ✓** MCA from Q5.1.1 **= 1 725 ✓** CA **OR**	(5)

5.1.1	**Tile Area** $=$ **20cm** $\times$ **20cm** ✓ M $=$ **400** $\mathbf{cm^2}$ $\div$ **10 000** ✓ C $=$ **0,04** $\mathbf{m^2}$ ✓ A **Tiles needed** $=$ **69** $\mathbf{m^2}$ $\div$ **0,04** $\mathbf{m^2}$ ✓ MCA from Q5.1.1 $=$ **1 725** ✓ CA **OR** **20** $\div$ **100** $=$ **0,2m** ✓ C **Length: 15m** $\div$ **0,2m** $=$ **75 tiles** ✓ **Width: 8m** $\div$ **0,2m** $=$ **40 tiles** ✓ **Depth: 1,5m** $\div$ **0,2m** $=$ **7,5 tiles** ✓ **Tiles needed** $=$ **(75** $\times$ **7,5** $\times$ **2)** $+$ **(40** $\times$ **7,5** $\times$ **2)** $=$ **1125** $+$ **600** $=$ **1725** ✓ **OR** **Length** $=$ **15m** $\times$ **100** $=$ **1 500cm** **Width** $=$ **8m** $\times$ **100** $=$ **800cm** ✓ C for ALL three **Depth** $=$ **1,5m** $\times$ **100** $=$ **150cm** **Length: 1 500cm** $\div$ **20cm** $=$ **75 tiles** ✓ **Width: 800cm** $\div$ **20cm** $=$ **40 tiles** ✓ **Depth: 150cm** $\div$ **20cm** $=$ **7,5 tiles** ✓ **Tiles needed** $=$ **(75** $\times$ **7,5** $\times$ **2)** $+$ **(40** $\times$ **7,5** $\times$ **2)** $=$ **1125** $+$ **600** $=$ **1725** ✓ **OR**	

	20 ÷ 100 = 0,2m ✓ C **Length: 15m ÷ 0,2m = 75 tiles** ✓ **Width: 8m ÷ 0,2m = 40 tiles** ✓ **Depth: 1,5m ÷ 0,2m = 7,5 ≈ 8 tiles** **Tiles needed = (75 × 8 × 2) + (40 × 8 × 2)** **= 1200 + 640** **= 1840** ✓ CA **OR** **Length = 15m × 100 = 1 500cm** **Width = 8m × 100 = 800cm** ✓ C for ALL three **Depth = 1,5m × 100 = 150cm** **Length: 1 500cm ÷ 20cm = 75 tiles** ✓ **Width: 800cm ÷ 20cm = 40 tiles** ✓ **Depth: 150cm ÷ 20cm ≈ 8 tiles** **Tiles needed = (75 × 8 × 2) + (40 × 8 × 2)** **= 1200 + 640** **= 1840** ✓ CA	
5.2.1	**Perimeter = 2(17m + 10m)** ✓ SF **= 2(27)** **= 54m** ✓ CA	(2)
5.2.2	**R850 × 54m** ✓ MCA from Q5.2.1 **= R45 900** ✓ CA	(2)

5.3	$°C = (\mathbf{82} - \mathbf{32}) \div \mathbf{1,8}$ ✓ SF **= 27,78** ✓ NPR **(Accept: 27,8 OR 27 OR 28)**	(2)
		[14]
		TOTAL MARKS: 100