GAUTENG PROVINCE
Department: Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY
GRADE 11
INVESTIGATION

TERM 1
SCHOOL BASED ASSESSMENT TASK

TOPIC: MEASUREMENTS

MARKS: 50

MARKING GUIDELINE

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

QUESTION 1 (20)

Quest	Solution	Explanation	Topic and level
1.1	Measured diameter = 52mm ✔ Actual diameter = $52mm \times 2,5$ ✔ $= 130\ mm$ ✔	1A measured diameter 1M Multiply by 2,5 1A actual diameter	M1
1.2	$radius = 65mm$ ✔ $Circumference = 3,142\ (65)$ ✔ $= 204,23\ mm$ ✔	1A radius 1SF Substitution 1 CA Answer	M2
1.3	Measured height = 78 mm ✔ Actual height = $78mm \times 2,5$ $= 195\ mm$ ✔	1A measured height 1A actual height	M1
1.4	Radius in meters = 0,65m ✔ $A = 3,142\ (0,65)^2$ ✔ $A = 1,327495m^2$ ✔	1C conversion of radius 1S Substitution 1 CA Answer	M3
1.5	$A = 204,23\ \times 195$ ✔ $A = 398,2485$ mm^2 ✔ A = 400 mm^2 ✔	1S Substitution 1 CA Answer 1R Rounding	M1
1.6	$A = 1,327495 \times 1,95$ ✔ ✔ $A = 2,58861525$ ✔ $A = 2,589$ ✔	CA from 1.4 1C conversion of height 1SF Substitution 1 CA Answer 1R Rounding	M3
1.7	Cylinder ✔ ✔	2A Name	M1

QUESTION 2 [15]

Quest	Solution	Explanation	Topic and level
2.1	6 ✓ ✓	2A Number	M1
2.2	$A = 145 \times 185$ ✓ $A = 26\,825\ mm^2$ ✓	1SF Substitution 1 CA Answer in mm^2	M2
2.3	$A = 145 \times 90$ ✓ $A = 13\,050\ mm^2$ ✓	1SF Substitution 1 CA Answer in mm^2	M2
2.4	$A = 90 \times 185$ ✓ $A = 16\,650\ mm^2$ ✓	1SF Substitution 1 CA Answer in mm^2	M2
2.5	Total area of all faces = $2 \times 26\,825 + 2 \times 13\,050 + 2 \times 16\,650$ ✓ Total area of all faces = 113 050 mm^2 ✓	1M Adding 1CA	M2
2.6	$V = 13\,050 \times 185$ ✓ $V = 2\,414\,250\ mm^3$ ✓ $V = 0{,}0021425\ m^3$ ✓	1M Multiplication 1C Conversion 1CA Answer	M3
2.7	Rectangular prism ✓ ✓	2A Name	M1

QUESTION 3 [9]

Quest	Solution	Explanation	Topic and level
3.1	$750g = 0{,}75kg$ ✓ $Number\ of\ kilograms\ from\ 15\ boxes = 0{,}75kg \times 15$ ✓ $= 11{,}25kg$ ✓	1C Conversion 1M Multiplication 1CA Answer	M2
3.2	11,25 kg is available for the year $Total\ grams\ for\ all\ members\ per\ day = 16 \times 4 = 64g$ ✓ $Total\ grams\ for\ all\ member\ per\ year = 23\ 360g$ ✓ $Total\ kg\ for\ all\ member\ per\ year = 23{,}36\ kg$ ✓ 15 boxes wont be enough ✓	1M total grams per member 1M total grams for all members 1C Conversion to kg 1 Conclusion	M4
3.3	1 sachet = 4g $Number\ of\ sachets = \frac{750g}{4g}$ ✓ = 188 ✓	1M Division 1 R Rounding up or down	M1

QUESTION 4 [4]

Quest	Solution	Explanation	Topic and level
4.1	Ricoffy from SHOP A is smaller than the Ricoffy from SHOP B	2R Reason	F4
4.2	R 99 + R37 = R 136	1MA Addition 1 A Answer	F1