



Western Cape  
Government

Western Cape Education Department  
**Directorate: Curriculum FET**

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**TERM 2 REVISION MATERIAL**

**GRADE 12**

**SUBJECT: MATHEMATICAL LITERACY**

**MEMORANDUM**

Symbol/Kode	Explanation/Verduideliking
M	Method/Metode
MA	Method with accuracy/Metode met akkuraatheid
CA	Consistent accuracy/Volgehoue akkuraatheid
A	Accuracy/Akkuraatheid
C	Conversion/Herleiding
S	Simplification/Vereenvoudiging
RT	Reading from a table/graph/document/diagram/Lees vanaf 'n tabel/grafiek/dokument/diagram
SF	Correct substitution in a formula/Korrekte vervanging in 'n formule
O	Opinion/Explanation/Opinie/Verduideliking
P	Penalty, e.g. for no units, incorrect rounding off, etc./Penalisasie, bv. vir geen eenhede, verkeerde afronding, ens.
R	Rounding off /Afronding
NPR	No penalty for rounding/Geen penalisasie vir afronding nie
AO	Answer only/Slegs antwoord
MCA	Method with constant accuracy/Metode met volgehoue akkuraatheid

## FINANCE / FINANSIES

### QUESTION / VRAAG 1

Q/V	Solution/Oplissing	Explanation/Verduideliking
1.1.1	Marco van der Merwe ✓✓RT	2RT reading from table
1.1.2	$\frac{R139,80}{2} \checkmark \text{MA}$ $= R69,90 \checkmark \text{CA}$	1MA divide by 2 1CA simplification
1.1.3	21:07 – 18:45 ✓MA ✓A = 2 hours and 22 minutes/2 ure en 22 minute	1MA subtraction 1A time duration
1.1.4	No/Nee ✓✓RT	2RT reading from table
1.2.1	✓A <b>Interest rate</b> – the percentage used to determine the amount of interest ✓A <b>Rentekoers</b> – die persentasie wat gebruik om die hoeveelheid rente te bereken	1A percentage 1A determine amount
1.2.2	R69 ✓✓RT	2RT reading from table
1.2.3	R2 173,89 – R1 447,30 ✓M = R726,59 ✓A	1M subtraction 1A amount

1.2.4	$\frac{60}{12} \checkmark \text{MA}$ = 5 years/jaar $\checkmark \text{CA}$	1MA divide by 12 1CA simplification
1.3.1	18872,05 – 3472,08 $\checkmark \text{M}$ = R15 399,97 $\checkmark \text{CA}$	1M Subtracting 3472,08 1 CA
1.3.2	(a) R11,10 $\checkmark \text{RT} \checkmark \text{A}$	1 RT 1 A
	(b) $4,54 + 1,41 \times 5,00 \checkmark \text{M}$ = 4,54 + 7,05 $\checkmark \text{M}$ = 11,59 $\checkmark \text{CA}$	1M 1M 1CA
	(c) 14665,69 - 95,45 $\checkmark \text{MA}$ = R14 570,24 $\checkmark \text{CA}$	1 M subtract 95,45 1 CA
1.4.1	$\text{Balloon payment} = \frac{179900 \times 20}{100} \checkmark \text{M}$ = R35 980,00 $\checkmark \text{CA}$	1 M calculate % 1 CA
1.4.2	179900 – 15000 + 1207,50 $\checkmark \text{M} \checkmark \text{M}$ = 166107,50	1M subtracting deposit 1 M Adding initiation fee
1.4.3	$R3492,27 \times 60 + 15000,00 + 35980,00 \checkmark \text{M} \checkmark \text{M}$ = 209536,20 + 15000,00 + 35980,00 $\checkmark \text{S}$ = R260 516,20 $\checkmark \text{CA}$	1M multiplying 60 1M Adding 1S Simplification 1CA
1.4.4	$179900 \times 1,0635 \times 1,0635 \checkmark \text{M} \checkmark \text{M}$ = R203 472,70 $\checkmark \text{CA}$	1M multiplying 1M multiplying 1CA

## QUESTION / VRAAG 2

2.1.1	9 months/maande $\checkmark \checkmark \text{RT}$	2RT number of months
2.1.2	R113 000 $\checkmark \checkmark \text{RT}$	2RT correct amount <b>(omitting 000 = 0 marks)</b>
2.1.3	$\checkmark \text{MA}$ $R(4\ 001 + 2\ 195 + 2\ 173 + 2\ 794 + 1\ 735 + 910)'000$ = R13 808 000 $\checkmark \text{CA}$	1MA addition 1CA simplification
2.1.4	$R2\ 195\ 000 - R1\ 994\ 000 \checkmark \text{MA}$ = R201 000 $\checkmark \text{CA}$	1MA subtraction 1CA simplification

2.1.5	$\frac{10,5}{100} \times R685\ 000$ ✓MA $= R71\ 925$ ✓CA $\approx R72\ 000$ ✓R	1MA multiply by percentage  1CA simplification 1R rounding
2.1.6	3 ✓✓RT	2RT number of persons
2.1.7	Prof. Schoonwinkel ✓✓RT	2RT correct person
2.1.8	$\frac{1}{6} \times 100\%$ ✓MA $= 16,666\dots$ $= 16,67\%$ ✓CA	1A 1 out of 6  1MA $\times 100\%$  1CA probability
2.1.9	$\text{Interest/Rente} = \frac{9,5}{100} \times R155\ 000 \times 2$ $= R29\ 450$ $\text{Totale bedrag/Total amount} = R155\ 000 + R29\ 450$ $= R184\ 450$	1MA calculating 9,5% 1MA $\times 2$ 1CA simplification 1MA adding interest  1CA simplification
2.2.1	R1 999 ✓✓RT	2RT correct amount
2.2.2	Brochures, files, magazines and calendars/ <i>Brosjures, lêers, tydskrifte en kalenders</i> ✓✓A	2A items (Only 3 or less items = 1 mark)
2.2.3	$R1\ 999 \times 1,14$ ✓MA $= R2\ 278,86$ ✓CA  $R2\ 298,85 - R2\ 278,86$ $= R19,99$ ✓CA  <b>OR/OF</b> $R1\ 999 + \left(\frac{14}{100} \times R1\ 999\right)$ ✓MA $= R2\ 278,86$ ✓A  $R2\ 298,85 - R2\ 278,86$ $= R19,99$ ✓CA  <b>OR/OF</b> $15\% - 14\% = 1\%$ ✓MA $R1\ 999 \times \frac{1}{100}$ ✓MA $= R19,99$ ✓CA	1MA multiply by 1,14 1CA simplification  1CA simplification <b>OR</b> 1MA adding 14% 1A amount  1CA simplification <b>OR</b> 1MA subtracting % 1MA calculating 1% 1CA simplification

2.2.4	<p>✓RT  <math>R1\ 148,85 \div 5\ 000</math> ✓M  <math>= R0,23</math> ✓CA</p>	<p>1RT reading from table  1M divide by 5 000  1CA simplification</p>
2.2.5	<p>✓MA ✓MA  <math>R1\ 148,85 + (R343,85 \times 2) + R3\ 448,85 + R918,85</math>  <math>= R6\ 204,25</math> ✓CA</p> <p>✓M ✓M  <math>R6\ 204,25 - \left(\frac{25}{100} \times R6\ 204,25\right)</math>  <math>= R4\ 653,19</math> ✓CA</p>	<p>1MA multiply by 2  1MA addition  1CA simplification  1M subtraction  1M amount discount  1CA simplification</p>
2.3.1	<p>Deposito = <math>\frac{10}{100} \times 49\ 999,99</math> ✓M  <math>= R4\ 999,99</math> ✓CA  <math>= R5\ 000</math></p> <p><b>OR</b>  Deposito = <math>76\ 353,12 - 71\ 353,13</math> ✓M  <math>= R4\ 999,99</math> ✓CA</p> <p><b>OR</b>  Deposito = <math>(49\ 999,99 + 1000 + 500 + 375) - 46\ 875</math> ✓M  <math>= R4\ 999,99</math> ✓CA</p>	<p>1M multiplying by 10%  1CA answer  NPR</p> <p>1M subtracting correct values  1CA answer</p>
2.3.2	<p>Credit is obtaining goods and services before payment ✓A and payment will be done later on agreement including interest. ✓A  <i>Krediet is wanneer goedere en dienste verkry word voordat betaling gedoen word ✓A en die betaling met rente ✓A word later gedoen volgens die ooreenkoms.</i></p>	<p>1A goods before payment  1A payment with interest  1A goedere voor betaling  1A betaling met rente</p>
2.3.3	<p>Interest / Rente = <math>\frac{10\ 078,13}{24}</math> ✓M  <math>= R419,92</math> ✓A</p> <p><b>OR</b>  Interest / Rente = <math>\frac{10,75\%}{12} \times 46\ 875</math> ✓M  <math>= R\ 419,92</math> ✓A</p>	<p>1M division  1A answer  OR  1M dividing % by 12 and multiply by 46 875  1A answer</p>
2.3.4	<p>1/8/2021 ✓✓A</p>	<p>2A correct date</p>
2.3.5	<p>VAT / BTW = <math>R114\ 400 - \frac{100}{115} \times R14\ 400</math> ✓M  <math>= 14\ 400 - 12\ 521,74</math> ✓M  <math>= R1\ 878,26</math> ✓A</p> <p><b>OR</b>  Insurance amount = <math>\frac{14\ 400}{1,15}</math> ✓M  <math>= 12\ 521,74</math></p> <p>VAT / BTW = <math>14\ 400 - 12\ 521,74</math> ✓M  <math>= R1\ 878,26</math> ✓A</p> <p><b>OR</b></p>	<p>1M amount exclusive of VAT  1M subtraction  1A answer</p> <p>1M divide by 1,15</p> <p>1M subtraction  1A answer</p> <p>1M working with ratio %</p>

$\text{VAT / BTW} = \frac{14\,400}{115\%} \times 15\% \quad \checkmark\text{M}$ $= \text{R}1\,878,26 \quad \checkmark\text{A}\checkmark\text{A}$	2A answer
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**QUESTION / VRAAG 3**

3.1	<p>Withdrawal fee of R20 000 at Bank A  <math>= \text{R}5,95 + 0,015 \times \text{R}20\,000 \quad \checkmark\text{SF}</math>  <math>= \text{R}305,95 \quad \checkmark\text{CA}</math>  Fees for 4 withdrawals: <math>\text{R}305,95 \times 4 \quad \checkmark\text{M}</math>  <math>= \text{R}1\,223,80 \quad \checkmark\text{CA}</math></p> <p>Withdrawal fee for R20 000 at Bank B  <math>= \text{R}4,00 + 1,25\% \times \text{R}20\,000</math>  <math>= \text{R}254 \quad \checkmark\text{CA}</math>  Fees for 4 withdrawals <math>= \text{R}254 \times 4</math>  <math>= \text{R}1\,016 \quad \checkmark\text{CA}</math></p> <p>Difference in fees <math>= \text{R}1\,223,80 - \text{R}1\,016</math>  <math>= \text{R}207,80 \quad \checkmark\text{CA}</math></p> <p>Statement is valid <math>\checkmark\text{O}</math></p> <p><b>OR</b></p> <p>Withdrawal fee of R20 000 at Bank A  <math>= \text{R}5,95 + 0,015 \times \text{R}20\,000 \quad \checkmark\text{SF}</math>  <math>= \text{R}305,95 \quad \checkmark\text{CA}</math>  Withdrawal fee for R20 000 at Bank B  <math>= \text{R}4,00 + 1,25\% \times \text{R}20\,000</math>  <math>= \text{R}254 \quad \checkmark\text{CA}</math>  Difference in fees <math>= \text{R}305,95 - \text{R}254 \quad \checkmark\text{MCA}</math>  <math>= \text{R}51,95 \quad \checkmark\text{CA}</math>  Saving on 4 withdrawals <math>= \text{R}51,95 \times 4 \quad \checkmark\text{M}</math>  <math>= \text{R}207,80 \quad \checkmark\text{CA}</math></p> <p>Statement is valid <math>\checkmark\text{O}</math></p>	<p>1SF substituting  1CA weekly charges  1M multiplying by 4  1CA fees for 4  withdrawals</p> <p>1CA weekly charges  1CA fees for 4  withdrawals  1CA difference  1O conclusion</p> <p><b>OR</b></p> <p>1SF substituting  1CA weekly charges  1CA weekly charges  1MCA calculating the  difference  1CA difference  1M fees for 4  withdrawals  1CA saving  1O conclusion</p>
3.2.1	$\frac{20}{100} \times \text{R}800\,000 = \text{R}160\,000 \quad \checkmark\text{CA}$  $\text{R}800\,000 - \text{R}160\,000 \quad \checkmark\text{MCA}$ $= \text{R}640\,000 \quad \checkmark\text{CA}$ <p><b>OR</b></p> $\checkmark\text{M} \quad \checkmark\text{MA}$ $80\% \times \text{R}800\,000$ $= \text{R}640\,000 \quad \checkmark\text{CA}$	<p>1A calculating deposit  1MCA subtracting  deposit  1CA answer</p> <p>1M calculating 80%  1MA multiplying by  R800 000  1CA answer</p>
3.2.2	$\frac{6\,176,14}{6\,606,01} \times 100 \quad \checkmark\text{MA}$ $= 93,49\%$ $\approx 93\% \quad \checkmark\text{R}$	<p>1MA calculating %</p> <p>1R nearest %</p>

3.2.3	<p>✓RT  <math>\frac{13\,762,10}{60\%} = R22\,930,83</math> ✓CA          ✓M          His claim was not correct. ✓O</p>	<p>1RT calculating rate          1M dividing by 60%          1CA answer</p> <p>10 opinion</p>
3.2.4	<p>There was a 1% discount because he's a GEPF member. ✓✓O  <b>OR</b>          Government employees get 1% discount.</p>	<p>20 opinion</p>
3.2.5	<p>✓SF      ✓RT  <math>\frac{640\,000,00}{1000} \times 9,65 = R6\,176,00</math> ✓CA          No, the instalment is 14 cents more. ✓O  <b>OR</b>          No, the instalment was rounded off to the nearest rand. ✓O</p>	<p>1SF substitution into formula          1RT correct factor from table          1CA answer          10 opinion</p>

## MAPS AND PLANS / KAARTE EN PLANNE

### QUESTION / VRAAG 1

1.1.1	Lynwood <b>OR/OF</b> Roper Street/ <i>Straat</i> ✓✓RT	2RT street
1.1.2	South West/ <i>Suid-Wes</i> ✓✓RT	2RT direction
1.1.3	Waterkloof ✓✓RT	2RT neighbourhood/area
1.1.4	<p>✓A                      ✓A          Florence Ribeiro/Nicholson/Justice Mahomed</p>	<p>1A Florence Ribeiro          1A Nicholson/Justice Mahomed</p>
1.1.5	<ul style="list-style-type: none"> <li>• From entrance of main campus travel west in Lynnwood/<i>Vanaf die hoofkampus se ingang, ry in 'n westelike rigting in Lynnwood</i> ✓A</li> <li>• Turn left at first traffic light, continue pass Magnolia Dall/<i>Draai links by eerste verkeerslig, hou aan verby Magnolia Dal</i> ✓A</li> <li>• Turn left in Florence Ribeiro/<i>Draai links in Florence Ribeiro</i> ✓A</li> <li>• Continue with Florence Ribeiro and then turn right into George Storrar Drive/<i>Hou aan met Florence Ribeiro en draai dan regs in George Storrarstraat</i> ✓A</li> </ul>	<p>1A westerly direction in Lynnwood</p> <p>1A left at traffic light and pass          Magnolia Dell</p> <p>1A turn left in Florence Ribeiro</p> <p>1A turn right in George Storrar</p>

	<ul style="list-style-type: none"> <li>Turn right in Leyds street and then first entrance on the left/<i>Draai regs in Leydsstraat en dan eerste ingang op linkerkant</i> ✓A</li> </ul>	1A turn right in Leyds
1.1.6	6 ✓✓RT	2RT traffic lights
1.1.7	$\begin{aligned} \text{Distance/Afstand} &= (30 \text{ mm} \times 50\,000) \div 1\,000\,000 \\ &= 1\,500\,000 \text{ mm} \div 1\,000\,000 \\ &= 1,5 \text{ km} \end{aligned}$ ✓M ✓MA ✓CA ✓A	1M multiply by scale 1MA division by 1 000 1CA simplification 1A correct unit
1.2.1	N1 and N3 ✓✓A	2A answer
1.2.2	South ✓✓A	2A answer
1.2.3	Woodmead, ✓A Sunninghill, ✓A Wynberg ✓ <b>Any two</b>	2A answer
1.2.4	$\begin{aligned} \text{Time} &= \frac{\text{Distance}}{\text{speed}} \\ &= \frac{22 \text{ km}}{125 \text{ km/h}} \quad \checkmark \text{SF} \\ &= 0,176 \text{ hours} \quad \checkmark \text{CA} \\ &\approx 0 \text{ hour } 10,6 \text{ minutes} \quad \checkmark \text{C} \end{aligned}$ MA	1SF substitution 1 CA answer 1C conversion <b>NPR</b>
1.2.5	6,5 cm : 22 km ✓MA <b>OR</b> 6,5 cm : 22 km ✓MA 6,5 : 2 200 000 ✓C        0,000065 : 22 ✓C 1 : 338 468,5 ✓S        1 : 338 468,5 ✓S	1 MA method 1C conversion 1S simplification
1.3.1	Entrance/ <i>Ingang</i> 1 ✓✓RM	2RM reading from the map
1.3.2	Store/ <i>Winkel</i> 218 ✓✓RM	2RM reading from the plan
1.3.3	Store/ <i>Winkel</i> 255 ✓RM Bandit Brothers ✓A	1RM reading from the plan 1A correct name of the store
1.3.4	Turn left/west at Vodacom (Store 230) ✓A Follow the corridor until you reach store 215 or 218 ✓A Turn right/north at store 215 / 218 ✓A Store 205 is at the end of the corridor on your right-hand side ✓A	1A turning left/west 1A going straight reaching store 215 or 218 1A turning right/north

	<p><i>Draai links/wes by Vodacom (Winkel 230) ✓A</i></p> <p><i>Volg die gang tot by winkel 215 of 218 ✓A</i></p> <p><i>Draai regs/noord by winkel 215 / 218 ✓A</i></p> <p><i>Winkel 205 is aan die einde van die gang op regterhand ✓A</i></p>	1A reaching the store on the right
1.3.5	<p>Average Speed/<i>Gemiddelde spoed</i></p> <p>✓SF</p> $= \frac{215 \text{ m}}{(15 \times 60) \text{ sec}} \quad \checkmark C$ <p>= 0,24 m/s ✓CA</p>	<p>1SF substituting both 215 m and 15 min</p> <p>1C multiplying by 60</p> <p>1CA simplification</p> <p><b>NPR</b></p>
1.3.6	North East/ <i>Noord-oos</i> ✓✓A	2A general direction
1.4.1	Six <b>OR</b> 6 ✓✓A	2A correct number of doors
1.4.2	7;8;10;11;12;20 and 21 ✓✓A	<p>2A correct number of rows</p> <div style="border: 1px solid black; padding: 5px;"> <p><b>Penalty:</b>  <b>One missing value one mark</b>  <b>Two or more missing values no marks</b></p> </div>
1.4.3	<p>Length of plane on the plan</p> <p>✓RT</p> <p>= 50m × 1000 ✓C</p> $= \frac{50\,000}{200} \quad \checkmark M$ <p>= 250 mm ✓CA</p>	<p>1RT correct value</p> <p>1C converting m to mm</p> <p>1M dividing by 200</p> <p>1CA answer in mm</p>

## QUESTION / VRAAG 2

2.1.1	<p>Less obstructions ✓✓O</p> <p><b>OR</b></p> <p>Less time spent on the road ✓✓O</p> <p><b>OR</b></p> <p>Saves fuel ✓✓O</p> <p><b>Any other relevant answer</b></p>	2O Reason
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2.1.2	<p>Distance on the map : 4,5 cm ✓M [<b>Accept 4,4 – 4,7cm</b>]</p> <p>4,5 cm : 545 km</p> <p>4,5 : 545 × 100 000 ✓C</p> <p>4,5 : 545 00 000</p> <p>1 : 12111111,11 ✓CA</p> <p>1 : 12 111 000 R✓</p> <p><b>OR</b></p> <p>45 mm : 545 km ✓M</p> <p>45 mm : 545 000 000 ✓C</p> <p>1 : 121 11111,11 ✓CA</p> <p>1 : 121 11000 ✓R</p>	<p>1M measure on map</p> <p>1C conversion</p> <p>1CA answer</p> <p>1R rounding with CA</p> <p><b>NOTE: Measure on final copy</b></p>
2.2.1	<p>Full tanks = <math>\frac{545 \text{ km}}{650 \text{ km}}</math> ✓MA</p> <p>= 0,8384615385</p> <p>For a return trip = 0,8384615385 × 2 ✓M</p> <p>= 1,676923077....tanks</p> <p>≈ 2 full tanks ✓R</p> <p>He will need 2 full tanks.</p>	<p>1MA division</p> <p>1M multiplying by 2</p> <p>1R answer</p>
2.2.2	<p>Total cost of petrol = 2 tanks × 55ℓ ✓MA</p> <p>= 110 ℓ</p> <p>110 ℓ × R15,54 ✓M</p> <p>= R1 709,40 ✓CA</p>	<p><b>CA from 2.3.1</b></p> <p>1MCA multiplying by 55</p> <p>1M multiplying by R15,54</p> <p>1CA answer</p>
2.3	<p><b>Total operating cost</b> ✓SF</p> <p>= [788 + (8,03 × 15,54 + 22,73 + 16,70)] × 545 ✓M</p> <p>= 518957,83<sup>c</sup> ✓S</p> <p>= R5 189,58 ✓CA</p>	<p>1SF correct values</p> <p>1M adding and multiplying</p> <p>1S answer in cents</p> <p>1CA answer in rand</p>

# MEASUREMENT / METING

## QUESTION / VRAAG 1

1.1.1	$\begin{aligned} \text{Length}/\text{lengte} &= 2\,440 \div 1\,000 && \checkmark \text{MA} \\ &= 2,44 \text{ m} && \checkmark \text{A} \\ \\ \text{Width}/\text{breedte} &= 2\,100 \div 1\,000 \\ &= 2,1 \text{ m} && \checkmark \text{A} \end{aligned}$	1MA divide by $1\,000(\div 100 \div 10)$ 1A length  1A width
1.1.2	$\begin{aligned} &&& \checkmark \text{MA} \\ A &= 5\,480 - (2 \times 2\,240) - (2 \times 150) \\ &= 300 \text{ mm} && \checkmark \text{CA} \end{aligned}$	1MA subtraction of correct values 1CA simplification
1.1.3	$\begin{aligned} &&& \checkmark \text{M} \quad \checkmark \text{SF} \\ \text{Total(e) area} &= 2 \times (2,44 \times 2,1) \\ &= 10,248 \text{ m}^2 && \checkmark \text{CA} \\ \\ &&& \text{OR/OF} \\ \\ &&& \checkmark \text{M} \quad \checkmark \text{SF} \\ \text{Total(e) area} &= 2 \times (2\,440 \times 2\,100) \\ &= 10\,248\,000 \text{ mm}^2 && \checkmark \text{CA} \end{aligned}$	1SF substitution in formula 1M multiply by 2 1A total area  <b>OR</b> 1SF substitution in formula 1M multiply by 2 1A total area
1.1.4	$\begin{aligned} B &= 1,5 \times 3 && \checkmark \text{MA} \\ &= 0,45 \text{ m} && \checkmark \text{A} \\ \\ &&& \checkmark \text{M} \\ \text{Total(e) area} &= 5,48 \times (2,1 + 0,45) && \checkmark \text{M} \\ &= 13,974 \text{ m}^2 && \checkmark \text{CA} \\ \\ \text{Area of bricks}/\text{van bakstene} &= 13,974 - 10,248 && \checkmark \text{M} \\ &= 3,726 \text{ m}^2 && \checkmark \text{CA} \end{aligned}$	<b>CA from Question 1.1.2            and 1.1.3</b> 1MA multiply by 3 1A value of B 1M multiply by 5,48 1M adding 0,45 1CA simplification 1M subtraction 1CA simplification
1.2.1 (a)	$\begin{aligned} &&& \checkmark \text{MA} \\ 245 \text{ mm} &\div 10 \\ &= 24,5 \text{ cm} && \checkmark \text{CA} \end{aligned}$	1MA dividing by 10 1CA simplification
1.2.1 (b)	$\begin{aligned} &&& \checkmark \text{MA} \\ 17,5 \text{ cm} &\div 2 \\ &= 8,75 \text{ cm} && \checkmark \text{CA} \end{aligned}$	1MA divide by 2 1CA simplification
1.2.2	$\begin{aligned} &&& \checkmark \text{SF} \\ \text{Volume} &= 3,142 \times (8,75 \text{ cm})^2 \times 24,5 \text{ cm} \\ &= 5\,893,70 \text{ cm}^3 && \checkmark \text{A} \\ &\approx 5\,890 \text{ cm}^3 && \checkmark \text{R} \end{aligned}$	<b>CA from Question 1.2.1(b)</b> 1SF substitution in formula 1CA simplification 1R rounding

**QUESTION / VRAAG 2**

2.1.1	$P = \frac{85}{2} \checkmark \text{MA}$ $= 42,5 \text{ cm} \div 100 \quad \checkmark \text{C}$ $= 0,43 \text{ m} \quad \checkmark \text{CA}$	1MA dividing by 2 1C conversion 1CA correct height
2.1.2	$\text{Width/Breedte} = \frac{75}{2} \quad \checkmark \text{MA}$ $= 37,5 \text{ cm} \quad \checkmark \text{A}$ $\text{Length/Lengte} = 43,5 \text{ cm} \quad \checkmark \text{A}$	
2.1.3	<p>Area of rectangular lid / <i>Oppervlakte van reghoekige deksel</i></p> $= 37,5 \times 43,5 \quad \checkmark \text{SF}$ $= 1\,631,25 \text{ cm}^2 \times 100 \quad \checkmark \text{C}$ $= 163\,125 \text{ mm}^2 \quad \checkmark \text{CA}$ <p style="text-align: center;"><b>OR/OF</b></p> <p>Area of rectangular lid / <i>Oppervlakte van reghoekige deksel</i></p> $= 375 \times 435 \quad \checkmark \text{SF} \quad \checkmark \text{C}$ $= 163\,125 \text{ mm}^2 \quad \checkmark \checkmark \text{CA}$	1SF substitution in the formula 1A correct area 1C conversion 1CA correct area in mm <sup>2</sup> <p style="text-align: center;"><b>OR/OF</b></p> 1SF substitution in the formula 1C conversion 2CA correct area in mm <sup>2</sup>
2.1.4	$\text{Height/Hoogte} = 120 - 85 \quad \checkmark \text{MA}$ $= 35 \text{ cm} \quad \checkmark \text{A}$ $\text{Volume} = 75 \text{ cm} \times 43,5 \text{ cm} \times 35 \text{ cm} \quad \checkmark \text{SF}$ $= 114\,187,5 \text{ cm}^3 \quad \checkmark \text{CA}$ $= 114\,000 \text{ cm}^3 \quad \checkmark \text{R}$	1MA subtracting correct values 1A correct height 1SF substitution in the formula 1CA volume 1R rounded volume
2.2.1	$80 \text{ yards/jaart} \div 1,0936 \quad \checkmark \text{MA}$ $= 73,15 \text{ m} \quad \checkmark \text{A}$	1MA dividing with 1,0936 1A distance in meter
2.2.2	<p>Soccer field/<i>sokkerveld</i></p> $= \text{length} \times \text{width/lengte} \times \text{wydte}$ $= 110 \text{ m} \times 73,15 \text{ m} \quad \checkmark \text{SF}$ $= 8\,046,50 \text{ m}^2 \quad \checkmark \text{CA}$	1SF correct substitution 1CA simplification

2.2.3	<p>Grass blocks/<i>grasblokke</i>          = 150 cm × 80 cm          = 12 000 cm<sup>2</sup> ✓A          ≈ 1,2 m<sup>2</sup> ✓C          Number/<i>aantal</i> = 8 046,50 ÷ 1,2 ✓MA                            = 6 705,41 ✓CA                            = 6 706 ✓R</p>	<p><b>CA from Q2.2.2</b>          1A area of 1 block          1C conversion          1MA dividing by area of 1 block          1CA simplification          1R rounding</p>
2.2.4	<p>Radius = 14,64 ÷ 2 ✓MA                    = 7,32 m ✓A</p>	<p>1MA dividing by 2          1A radius</p>
2.2.5	C ✓✓ A	2A correct formula

### QUESTION / VRAAG 3

3.1.1	2 years to 20 years ✓✓A	2A answer
3.1.2	It means that 15% of the girls weigh more than this girl and 85% weigh less. ✓✓O	2O explanation
3.1.3 (a)	This girl's BMI-for-age relationship is positioned between 85 <sup>th</sup> and 95 <sup>th</sup> percentage. She is at risk for overweight. ✓A ✓A	1A percentiles 1A answer
3.1.3 (b)	$\text{BMI} = \frac{\text{Weight (in kilograms)}}{(\text{Height in metres})^2}$ $24,5 \text{ kg/m}^2 = \frac{36 \text{ kg}}{(\text{Height in metres})^2} \quad \checkmark \text{SF}$ <p>✓M</p> $\text{Height} = \sqrt{\frac{36}{24,5}} \quad \checkmark \text{M}$ $= 1,21 \text{ m} \quad \checkmark \text{CA}$	<p>1SF correct values</p> <p>1M new subject 1M finding sq. root</p> <p>1CA simplification</p>
3.1.4	${}^{\circ}\text{F} = (1,8 \times {}^{\circ}\text{C}) + 32$ $= (1,8 \times 5,99) + 32 \quad \checkmark \text{SF}$ $= 42,782{}^{\circ}\text{F} \quad \checkmark \text{A}$ $\approx 43{}^{\circ}\text{F} \quad \checkmark \text{R}$	<p>1SF substitution 1A answer 1R rounding</p>
3.2.1	<p>Total perimeter = 2 × 3 000 + 2 × 9754 ✓M                                = 6 000 + 19 508                                = 25 508 mm ✓A</p> <p>Perimeter of the waiting room = <math>\frac{2}{3} \times 25 508 \text{ mm}</math> ✓M            = 17 005,33 mm ✓A</p>	<p>1M Method 1A answer</p> <p>1M Method 1A answer <b>NPR</b></p>

3.2.2	$3\,000\text{ mm} = 300\text{ cm}$ $9\,754\text{ mm} = 975,4\text{ cm} \quad \checkmark\text{C}$  $\text{Area} = 975,4\text{ cm} \times 300\text{ cm} \quad \checkmark\text{SF}$ $= 292\,620\text{ cm}^2 \quad \checkmark\text{CA}$	1C conversion (both)  1SF substitution 1CA answer
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QUESTION / VRAAG 4

4.1.1	$1\text{ foot/ voet} = 30,48\text{ cm}$  $4 \times 30,48\text{ cm} \quad \checkmark\text{C}$ $= 121,92\text{ cm} \quad \checkmark\text{CA}$  $r = \frac{121,92\text{ cm}}{2} \quad \checkmark\text{M}$ $= 60,96\text{ cm} \quad \checkmark\text{CA}$	1C conversion 1CA simplification  1M dividing by 2  1CA simplification
4.1.2	$H = 12 \times 2,54\text{ cm}$ $= 30,48\text{ cm} \quad \checkmark\text{C}$  $\text{Volume} = 3,142 \times (60,96\text{ cm})^2 \times 30,48\text{ cm} \quad \checkmark\text{SF}$ $\quad \quad \quad \checkmark\text{S}$ $\text{Volume} = 3,142 \times 3716,1216\text{ cm}^2 \times 30,48\text{ cm}$  $= 355\,886,13\text{ cm}^3 \quad \checkmark\text{CA}$	<b>CA from Question 4.1.1</b>  1C conversion 1SF substitution of correct values 1S simplification  1CA simplification <b>NPR</b>
4.1.3	$\text{Area} = 3,142 \times (60,96\text{ cm})^2 \quad \checkmark\text{SF}$ $= 3,142 \times 3\,716,1216\text{ cm}^2 \quad \checkmark\text{S}$ $= 11\,676,05407\text{ cm}^2$  $\frac{11\,676,05407\text{ cm}^2}{10\,000} \quad \checkmark\text{MA}$ $= 1,167605407\text{ m}^2$ $= 1,17\text{ m}^2 \quad \checkmark\text{CA}$  John is correct/ <i>korrek</i> They have $0,83\text{ m}^2$ more than required/ <i>Hulle het <math>0,83\text{ m}^2</math> meer as wat benodig word.</i> $\checkmark\text{O}$	<b>CA from Question 4.1.1</b> 1SF substitution into formula 1S simplification  1MA dividing by 10 000  1CA simplification  1O opinion
4.1.4	$3 \times 5\text{ gallon}$ $= 15\text{ gallon} \quad \checkmark\text{MA}$  $15 \times 3,7854\text{ l} \quad \checkmark\text{C}$ $= 56,781\text{ l} \quad \checkmark\text{CA}$	1MA multiply by 3  1C conversion 1CA simplification

	$20\ell \times 2,75$ $= 56\ell \quad \checkmark A$  $56,781\ell - 56\ell$ $= 0,781\ell \quad \checkmark CA$  <p style="text-align: center;"><b>OR/OF</b></p> $5 \times 3,7854\ell$ $= 18,927\ell \quad \checkmark C$  $18,927\ell \times 3 \quad \checkmark MA$ $= 56,781\ell \quad \checkmark CA$  $20\ell \times 2,75$ $= 50\ell \quad \checkmark A$  $56,781\ell - 56\ell$ $= 0,781\ell \quad \checkmark CA$  No, she is not correct. There will be a shortage of 0,781 ℓ if she only uses two and three quarter 20 ℓ buckets / <i>Nee, sy is verkeerd.</i> <i>Daar sal 'n tekort van 0,781 ℓ wees indien sy net twee en 'n drie-kwart 20 ℓ emmers gebruik.</i>	1A number of litres  1CA simplification  <p style="text-align: center;"><b>OR</b></p> 1C conversion  1MA multiply by 3 1CA simplification  1A number of litres  1CA simplification  1O opinion
4.2.1	$r = 60,96\text{ cm} \quad \checkmark CA$  <p style="text-align: center;"><math>\checkmark SF</math></p> Circumference / <i>Omtrek</i> $= 2 \times 3,142 \times 60,96\text{ cm}$ $= 383,07264\text{ cm} \quad \checkmark A$	<b>CA from Question 4.1.1</b> 1CA radius 1SF substitution of correct values 1CA simplification
4.2.2	Length of 1 brick / <i>Lengte van 1 baksteen</i> $220\text{ mm} \div 10 = 22\text{ cm} \quad \checkmark MA$  $\frac{383,07264\text{ cm}}{22\text{ cm}} \quad \checkmark MA$ $= 17,41239273 \quad \checkmark CA$ $\approx 18 \quad \checkmark R$ $18\text{ bricks} \times 4 \quad \checkmark MA$ $= 72\text{ bricks} \quad \checkmark CA$	<b>CA from Question 4.2.1</b>  1MA dividing by 10  1MA dividing by length of one brick 1CA simplification 1R rounding 1MA multiply by 4 layers 1CA simplification
4.2.3	$R2,90 \times 72 \quad \checkmark MA$ $= R208,80 \quad \checkmark CA$  R200,00 is not enough / <i>R200,00 is nie genoeg nie.</i> It is R8,80 more than R200,00 / <i>Dit is R8,80 meer as R200,00.</i> <p style="text-align: center;"><math>\checkmark O</math></p>	<b>CA from Question 4.2.2</b> 1MA multiplying with cost of one brick 1CA simplification  1O opinion

