

## MARKING GUIDELINES

EXAMINATION	NATIONAL SENIOR CERTIFICATE
GRADE	12
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SUBJECT	MATHEMATICAL LITERACY
PAPER	2
MARK TOTAL	150
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SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE  
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SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
D	Define
E	Explain
S	Simplification
RT/RG/RD	Reading from table/Reading from graph/Reading from diagram
F	Choosing the correct formula
SF	Substitution in a formula
O	Opinion
RO	Rounding off
P	Penalty, e.g. for no units, incorrect rounding off, etc.
NP	No Penalty for e.g. no units, incorrect rounding off etc.
R	Reason
J	Justification

- When working with percentages  $7\% = \frac{7}{100} = 0,07$  all acceptable
- Penalise only once per category for the following mistake categories:
  - Answer must be R52,90 and candidate writes R52,9 (zero missing)
  - Answer on calculator R52,9055 and candidate writes R52,90 (ignored the 3<sup>rd</sup> decimal)
  - Answer on calculator: R52,27 and candidate writes R52,30 (rounded up to the nearest 10, not asked)
  - Answer on calculator: R52,9044 and candidates writes R52,91 (fundamental error for rounding)
  - Answer on calculator: 52,9055 and candidates does not round to 2 decimals (money must be rounded to 2 decimal places without specifying)
- Penalise only once for  $m^2$  or  $m^3$  omitted or incorrect.
- Penalise only once for "R" not written when working in "Rand".
- When working with foreign currencies, accept the foreign currency symbol OR the words. Penalise if the symbol/word is not used.



QUESTION 1				[28]
No	Answer		Description	
1.1.1	a.	True ✓✓A	2A True (2)	M L1
	b.	True ✓✓A	2A True (2)	M L1
	c.	False ✓✓A	2A False (2)	M L1
	d.	True ✓✓A	2A True (2)	M L1
1.1.2	a.	24 ÷ 6 ✓ MA = 4 packs ✓A	1MA 24 ÷ 6 1A 4 packs <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (2)	M L1
	b.	Amount (R) = €5,70 × 20,39 ✓MA = R116,22 ✓A	1MA €5,70 × 20,39 1A R116,22 P Money Do not accept R116, 223 <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (2)	F L2
	c.	0% ✓✓A	2A Answer Accept $\frac{8}{24} = 33,33\%$ (2)	P L1
	d.	B ✓✓A	2A Answer Accept Euro (2)	F L1
1.1.3	a.	Toulouse ✓✓A	2A Answer (2)	Ma L1
	b.	9 ✓✓A	2A Answer Accept nine (2)	Ma L1



	c.	21:00 – 4h ✓ <b>MA</b> 17:00 ✓ <b>A</b>	1 MA Subtracting 4hrs 1A 17:00 <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (2)	M L1
	d.	20 × 1 000 ✓ <b>MA</b> = 20 000 m ✓ <b>A</b>	1MA Multiply by 1 000 1A 20 000 <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (2)	M L1
1.1.4	a.	Left ✓ <b>A</b>	1A Answer	Ma L1
	b.	Fourth ✓ <b>A</b>	1A Answer	
	c.	North - Easterly ✓ <b>A</b>	1A Answer	
	d.	Gustave Eiffel Avenue ✓ <b>A</b>	1A Answer (4)	
				<b>[28]</b>



QUESTION 2		[29]	
No	Answer	Description	
2.1.1	<p>Length = <math>\frac{12\,000\text{cm}}{100} = 120\text{ m}</math> ✓C</p> <p>Width = <math>\frac{90\,000\text{ mm}}{1000} = 90\text{ m}</math> ✓C</p> <p>Area = Length × Width</p> <p>= 120 m × 90 m ✓SF</p> <p>= 10 800 m<sup>2</sup> ✓CA</p> <p><u>cm</u></p> <p>Length= 12 000 m</p> <p>Breadth= 9 000 cm</p> <p>Area = Length × Width</p> <p>= 12 000 m × 9 000 m</p> <p>= <math>\frac{108\,000\,000\text{ cm}^2}{(100)^2}</math></p> <p>= 10 800 m<sup>2</sup> (4 marks)</p> <p><u>mm</u></p> <p>Length= 12 0000 m</p> <p>Breadth= 9 0000 cm</p> <p>Area = Length × Width</p> <p>= 12 0000 m × 9 0000 m</p> <p>= <math>\frac{108\,000\,000\,00\text{ mm}^2}{(1000)^2}</math></p> <p>= 10 800 m<sup>2</sup> (4 marks)</p>	<p>1C 120m</p> <p>1C 90 m</p> <p>1SF Subs</p> <p>1CA 10 800 m<sup>2</sup></p> <p>Either the length or width must be correct to get CA</p> <p>P m<sup>2</sup></p> <p>(4)</p>	M L2
2.1.2	<p>Perimeter= (2 × Length) + (2 × Width)</p> <p>= (2 × 120) + (2 × 90) ✓SF</p> <p>= 420 m ✓CA</p> <p>Distance in m = 2 × 1000</p> <p>= 2 000 m ✓C</p> <p>Number of laps = <math>\frac{2\,000}{420}</math> ✓MCA</p>	<p>CA 2.1.1</p> <p>1SF Subs</p> <p>1CA 420 m</p> <p>1C 2 000 m</p> <p>1MCA ÷ Correct values</p>	

	<p><math>= 4,7... \checkmark CA</math>  <math>\approx 5 \text{ laps } \checkmark RO</math>  <math>\therefore \text{Correct } \checkmark J</math></p> <p>Or</p> <p>Length = <math>\frac{120}{1000}</math>  <math>= 0,12 \text{ km}</math></p> <p>Width = <math>\frac{90}{1000}</math>  <math>= 0,09 \text{ km}</math></p> <p>Perimeter = <math>(2 \times \text{Length}) + (2 \times \text{Width})</math>  <math>= (2 \times 0,12) + (2 \times 0,09) \checkmark SF</math>  <math>= 0,42 \text{ km } \checkmark A</math></p> <p>Number of laps = <math>\frac{2 \text{ km}}{0,42 \text{ km}} \checkmark M</math>  <math>= 4,7... \checkmark CA</math>  <math>\approx 5 \text{ laps } \checkmark RO</math>  <math>\therefore \text{Correct } \checkmark J</math></p>	<p>1CA 4,7  1RO 5  1J correct.  PR if round down  If stop at 4,7 justifications should say incorrect then 2 marks for justification (full marks)</p> <p>1C 0, 12km and 0,09km</p> <p>1SF Subs  1A 0,42 km  1M <math>\div</math> Correct values  1CA 4,7  1RO 5  1J correct.</p> <p>(7)</p>	<p>M  L4</p>
<p>2.1.3</p>	<p><b>With preparation:</b>  Fertiliser: <math>R3 \times 11\ 000 \text{ m}^2 = R33\ 000 \checkmark MA</math>  Rolling: <math>R15 \times 11\ 000 \text{ m}^2 = R165\ 000 \checkmark MA</math>  Plant: <math>R41 \times 11\ 000 \text{ m}^2 = R451\ 000 \checkmark MA</math>  Delivery: <math>R33 \times 11\ 000 \text{ m}^2 = \underline{R363\ 000} \checkmark MA</math>  R1 012 000 <math>\checkmark CA</math></p> <p><b>Without preparation:</b>  Plant: <math>R41 \times 11\ 000 \text{ m}^2 = R451\ 000 \checkmark MCA</math>  Del: <math>R33 \times 11\ 000 \text{ m}^2 = \underline{R363\ 000}</math>  R814 000 <math>\checkmark CA</math></p> <p><b>Difference</b> = <math>R1\ 012\ 000 - R814\ 000 \checkmark MA</math>  = <math>R198\ 000 \checkmark CA</math></p>	<p>CA 2.1.1  1MA 33 000  1MA 165 000.  1MA 451 000  1MA 363 000  1CA 1 012 000</p> <p>1MCA 451 000 and 363 000  1CA R814 000  1MA subtracting  1CA difference</p>	<p>O</p>

	<p>&lt;R300 000                  ∴ Incorrect ✓J</p>	<p>1J incorrect                  Only allow 2 errors to get last 3 marks                  (10)</p>	
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<p>2.2</p>	<p>Length of six pack = <math>7\text{cm} \times 3</math> bottles  <math>= 21\text{ cm}</math> ✓MA</p> <p>Width of six pack = <math>7\text{cm} \times 2</math> bottles  <math>= 14\text{ cm}</math> ✓MA</p> <p>Number of packs in length = <math>\frac{45}{21}</math> ✓MCA  <math>= 2,1</math>  <math>= 2</math> packs ✓CA</p> <p>Number of packs in width = <math>\frac{30}{14}</math>  <math>= 2,1</math>  <math>= 2</math> packs ✓CA</p> <p>Number of packs in height = <math>\frac{60}{20}</math>  <math>= 3</math> packs ✓CA</p> <p>Number of six packs that will fit  <math>= 2 \times 2 \times 3</math> ✓MCA  <math>= 12</math> packs ✓CA</p>	<p>1MA length of six pack</p> <p>1MA width of six pack</p> <p>1MCA dividing</p> <p>1CA 2 packs in length</p> <p>1CA 2 packs in width</p> <p>1CA 3 packs in height</p> <p>1MCA multiplied</p> <p>1CA answer</p> <p>Either length of width must be correct. Height must be correct to get LAST two marks</p> <p>(8)</p>	<p>M</p> <p>L3</p>
<p><b>[29]</b></p>			



<p>3.1.6</p>	<p>Distance on the map = 6,5 cm</p> <p>Actual distance</p> <p>= 6,5 cm x 1 600 000 ✓MCA</p> <p>= 10 400 000 cm ✓CA</p> <p>= <math>\frac{10\,400\,000\text{ cm}}{100\,000}</math> ✓C</p> <p>= 104 km ✓CA</p> <p><b>OR</b></p> <p>Actual distance</p> <p>= 6,5 cm x 1 500 000 ✓MCA</p> <p>= 9 750 000 cm ✓CA</p> <p>= <math>\frac{9\,750\,000\text{ cm}}{100\,000}</math> ✓C</p> <p>= 97,5 km ✓CA</p> <p><b>OR</b></p> <p>Actual distance</p> <p>= 6,5 cm x 1 700 000 ✓MCA</p> <p>= 11 050 000 cm ✓CA</p> <p>= <math>\frac{11\,050\,000\text{ cm}}{100\,000}</math> ✓C</p> <p>= 110,5 km ✓CA</p>	<p>CA 3.1.5</p> <p>1MCA multiplied by scale factor</p> <p>1CA answer</p> <p>1C dividing by 100 000</p> <p>1CA actual distance</p> <p>1MCA multiplied with scale factor</p> <p>1CA answer</p> <p>1C dividing by 100 000</p> <p>1CA actual distance</p> <p>1MCA multiplied by scale factor</p> <p>1CA answer</p> <p>1C dividing by 100 000</p> <p>1CA actual distance</p> <p style="text-align: right;">(4)</p>	<p>Ma</p> <p>L3</p>
<p>3.2.1</p>	<p>Time = <math>\frac{\text{Distance}}{\text{Speed}}</math></p> <p>= <math>\frac{93\text{ km}}{60\text{ km/h}}</math> ✓SF</p> <p>= 1,55 h ✓A</p> <p>= 1 h + (0,55 x 60 min) ✓C</p> <p>= 1 hour 33 minutes ✓CA</p>	<p>1SF substitution</p> <p>1A 1,55 hours</p> <p>1C Conversion to hours and minutes (does not need to show)</p> <p>1CA 1 hour 33 minutes</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Answer only full marks</p> </div> <p style="text-align: right;">(4)</p>	<p>M</p> <p>L3</p>

3.2.2	Time = 09:30 – 1 hour 33 min ✓MCA = 07:57 ✓CA	1MCA 09:30 – 1 hour 33 min 1A 07:57 Accept answer in words CA 3.2.1  (2)	M L3
3.2.3	VAT exclusive = R850 x $\frac{100}{115}$ ✓MA = R739,13 ✓A ≈ R740 ✓R  Or VAT exclusive = R850 x $\frac{15}{115}$ ✓MA = R 850 – R110,86 = R739,13 ✓A ≈ R740 ✓R	1MA x $\frac{100}{115}$ 1A R739,13 1R rounding  (3)	F L2
3.2.4	Welcome drinks or Water/drinks onboard or Guide fees or Admin fees etc. ✓✓✓✓O	4O Any TWO suitable reasons  (4)	M L4
3.3.1	i	45 ✓A	1A Answer
	ii	60 ✓A	1A Answer
	iii	156 ✓A	1A Answer (3)
3.3.2	$P = \frac{135}{240}$ ✓MA ✓A = 56,25% ✓A	1MA division 1A correct values 1A % form NPR (56, 56.2, 56,3) <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (3)	P L2
3.3.3	Did not see any whales. Got seasick on the cruise. Scared of water Not up to their expectations Not affordable	2O Opinion 1 2O Opinion 2  (4)	M L4



	Any suitable reason relating to the cruise. ✓✓✓✓○		
			<b>[39]</b>

QUESTION 4			[30]
No	Answer	Description	
4.1.1	3 ✓✓A	2A Answer (2)	Ma L2
4.1.2	2 ✓✓A	2A Answer (2)	Ma L2
4.1.3	East ✓✓A	2A Answer (2)	Ma L2
4.1.4	Lounge ✓A, because it is closest to the terrace ✓O Or Bedroom 3 because it is closest to the terrace	1A Answer 1O suitable/relevant reasoning (2)	Ma L4
4.1.5	4 ✓✓A	2A Answer Accept 5 (2)	Ma L2
4.1.6	People have more privacy. ✓✓O Convenience Luxury Any suitable reason	2O Any suitable reason (2)	Ma L4
4.2.1	$^{\circ}\text{F} = \left(\frac{9}{5} \times ^{\circ}\text{C}\right) + 32$ $400 = \left(\frac{9}{5} \times ^{\circ}\text{C}\right) + 32$ ✓SF $400 - 32 = \left(\frac{9}{5} \times ^{\circ}\text{C}\right)$ ✓M $\frac{5}{9} \times 368 = \frac{9}{5} \times ^{\circ}\text{C} \times \frac{5}{9}$ ✓M $^{\circ}\text{C} = 204,4444 \dots$ ✓CA $^{\circ}\text{C} = 200^{\circ}$ ✓RO	1SF Substitution 1M -32 1M x 5 and ÷ 9 1CA $^{\circ}\text{C} = 204,4444 \dots$ 1RO $^{\circ}\text{C} = 200$ Independent rounding (5)	M L2
4.2.2	No. of dozen = $\frac{60}{12}$ ✓MA = 5 dozen ✓A	1MA division 1A answer <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div>	M L2

		(2)	
4.2.3	<p>1 cup = 250 ml</p> <p>1 tbs = 15 ml</p> <p>Number of tablespoons = <math>\frac{250}{15}</math> ✓MA</p> <p>= 16,67... ✓A</p> <p>≈ 17 ✓RO</p>	<p>CA 4.2.2</p> <p>1MA division</p> <p>1A answer</p> <p>1RO rounding up.</p> <p>P (no rounding or round down)</p> <p>(3)</p>	<p>M</p> <p>L3</p>
4.2.4	<p>07:50 + 25 min ✓MA</p> <p>= 08:15 ✓A</p>	<p>1MA Adding 25 mins</p> <p>1A Answer</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>Answer only full marks</p> </div> <p>(2)</p>	<p>M</p> <p>L2</p>
4.3	<p>✓A ✓A ✓A ✓A ✓A ✓A</p> <p>B A D C F E</p>	<p>6A Correct order</p> <p>(6)</p>	<p>Ma</p> <p>L2</p>
			<b>[30]</b>

QUESTION 5		[24]	
No	Answer	Description	
5.1.1	In meters = $10\,000\text{ ft} \times 0,3048$ ✓MA = 3 048 m ✓A	1MA $10\,000\text{ ft} \times 0,3048$ 1A 3 048 m <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (2)	M L2
5.1.2	2:54 pm ✓✓A	2A Answer Do not accept words (2)	M L1
5.1.3	Diameter = 400 m Radius = $\frac{400\text{m}}{2} = 200\text{ m}$ ✓M Circumference = $2 \times 3,142 \times 200$ ✓SF = 1 256,8 m ✓CA	1M Correct radius 1SF Substitution 1CA Answer NP Accept 1257m (3)	M L2
5.1.4	Number of days = $22 - 3$ ✓MA = 19 days ✓A	1MA $22 - 3$ 1A 19 days Accept 18 days <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (2)	M L2
5.1.5	No of people = $\frac{45}{100} \times 2\,400\,000$ ✓MA = 1 080 000 people ✓A  OR $\frac{45}{100} \times R2,4\text{ million}$ ✓MA = 1,08 million ✓A	1MA $\frac{45}{100} \times 2\,400\,000$ 1A Answer  1MA $\frac{45}{100} \times R2,4\text{ million}$ 1A Answer If 1,08 without "million" 1 mark Accept 1, 08 m or 1,08 mil <div style="border: 1px solid black; padding: 2px; display: inline-block;">Answer only full marks</div> (2)	M L2

5.2.1	Double story ✓ <b>A</b> Have stairs that will take a person to the first floor ✓✓ <b>J</b>	1A double story 2J reason (3)	Ma L4
5.2.2	4 ✓✓ <b>A</b>	2A Answer Accept 3 (2)	Ma L1
5.2.3	Help to get people away safely from an area where there is a threat to people's lives Easier to escape in case of danger Any suitable answer ✓✓ <b>O</b>	2O Suitable reason (2)	Ma L4
5.3.1	a = Banana ✓ <b>A</b> b = CAT ✓ <b>A</b> c = BBW ✓ <b>A</b>	1A banana 1A CAT 1A BBW Accept words (3)	P L2
5.3.2	$P = \frac{1}{8}$ ✓ <b>MA</b> = 12,5% ✓ <b>A</b> ≈ 13% ✓ <b>RO</b>	1 MA $\frac{1}{8}$ 1A 12,5 1RO rounding. No independent rounding (3)	P L3
			[24]
<b>GRAND TOTAL: [150]</b>			

## NOTES

### Question 2

<p>2.1.2</p>	<p>Perimeter= <math>(2 \times \text{Length}) + (2 \times \text{Width})</math>  <math>= (2 \times 120) + (2 \times 90)</math> ✓<b>SF</b>  <math>= 420 \text{ m}</math> ✓<b>CA</b></p> <p>Distance in m = <math>2 \times 1000</math>  <math>= 2\ 000 \text{ m}</math> ✓<b>C</b></p> <p>Perimeter = 0.42 km          Distance = <math>0,42 \times 5</math> ✓<b>MCA</b></p> <p><math>= 2,1 \text{ km}</math> ✓<b>CA</b></p> <p>Correct / incorrect ✓✓<b>J</b></p> <p>Or</p> <p>Perimeter = <math>(2 \times 120) + (2 \times 90)</math>  <math>= 420 \text{ m}</math></p> <p>Distance = <math>420 \times 5</math>  <math>= 2\ 100\text{m}</math>  <math>= 2,1 \text{ km}</math></p> <p>Correct / Incorrect</p>	
<p>2.1.3</p>	<p><b>With preparation:</b></p> <p>Fertiliser: <math>R3 \times 10\ 800\text{m}^2 = R32\ 400</math> ✓<b>MA</b></p> <p>Rolling: <math>R15 \times 10\ 800\text{m}^2 = R162\ 000</math> ✓ <b>MA</b></p> <p>Plant: <math>R41 \times 10\ 800\text{m}^2 = R442\ 800</math> ✓ <b>MA</b></p> <p>Delivery: <math>R33 \times 10\ 800\text{m}^2 = \underline{R356\ 400}</math> ✓ <b>MA</b>  <math>R993\ 600</math> ✓ <b>CA</b></p>	



	<p><b>Without preparation:</b></p> <p>Plant: <math>R41 \times 10\ 800\text{m}^2\text{m}^2 = R442\ 800</math> ✓MCA</p> <p>Del: <math>R33 \times 10\ 800\text{m}^2\ \text{m}^2 = R356\ 400</math> ✓MCA</p> <p style="padding-left: 100px;"><math>R799\ 200</math> ✓CA</p> <p><b>Difference</b> = <math>R993\ 600 - R799\ 200</math> ✓MA</p> <p style="padding-left: 40px;"><math>= R194\ 400</math> ✓CA</p> <p>&lt;R300 000</p> <p>∴ Incorrect ✓J</p>	
<p>2.2</p>	<p>Length of six pack = <math>7\text{cm} \times 3</math> bottles</p> <p style="padding-left: 40px;"><math>= 21\ \text{cm}</math> ✓MA</p> <p>Width of six pack = <math>7\text{cm} \times 2</math> bottles</p> <p style="padding-left: 40px;"><math>= 14\ \text{cm}</math> ✓MA</p> <p>Number of packs in length = <math>\frac{45}{21}</math> ✓MCA</p> <p style="padding-left: 40px;"><math>= 2,1</math></p> <p>Number of packs in width = <math>\frac{30}{14}</math></p> <p style="padding-left: 40px;"><math>= 2,1</math></p> <p>Number of packs in height = <math>\frac{60}{20}</math></p> <p style="padding-left: 40px;"><math>= 3</math> packs ✓CA</p> <p>Number of six packs</p> <p><math>2,1 \times 2,1 \times 3</math> ✓MCA</p> <p><math>= 13,23</math> ✓CA</p> <p><math>= 13</math> ✓✓CA</p>	<p><math>\frac{\text{Volume}}{\text{Volume}}</math> no marks</p>



Use a bottle

$$\text{In length} = \frac{45}{7} \checkmark \text{MA}$$

$$= 6,42 \text{ bottles}$$

$$= 6 \checkmark \text{A}$$

$$\text{Number of six packs} = \frac{6}{3}$$

$$= 2 \text{ six packs} \checkmark \text{A}$$

$$\text{In width} = \frac{30}{7}$$

$$= 4,28 \text{ bottles}$$

$$= 4 \checkmark \text{A}$$

$$\text{Number of six packs} = \frac{4}{2}$$

$$= 2 \text{ six packs} \checkmark \text{A}$$

$$\text{In height} = \frac{60}{20}$$

$$= 3 \text{ packs} \checkmark \text{A}$$

Number of six packs that will fit

$$= 2 \times 2 \times 3 \checkmark \text{MCA}$$

$$= 12 \text{ packs} \checkmark \text{CA}$$

Or

$$4 \times 3 \times 12$$

$$= 72 \text{ bottles}$$

$$= \frac{72}{6}$$

$$= 12 \text{ packs}$$



### Question 3

<p>3.1.5</p> <p><b>25 mm = 40 km</b> ✓A                  = 40 x 1000 000 cm ✓C</p> <p><math>\frac{25 \text{ mm}}{25 \text{ mm}} = \frac{40\,000\,000 \text{ mm}}{25 \text{ mm}}</math> ✓M</p> <p>1: 1 600 000 ✓A</p> <p>OR</p> <p><b>26 mm = 40 km</b> ✓A                  = 40 x 1000 000 cm ✓C</p> <p><math>\frac{26 \text{ mm}}{26 \text{ mm}} = \frac{400\,000\,000 \text{ mm}}{26 \text{ mm}}</math> ✓M</p> <p>1:1 538 462</p> <p>1: 1 500 000 ✓RO</p> <p>OR</p> <p><b>24 mm = 40 km</b> ✓A                  = 40 x 1000 000 cm ✓C</p> <p><math>\frac{24 \text{ mm}}{24 \text{ mm}} = \frac{4\,000\,000 \text{ cm}}{24 \text{ mm}}</math> ✓M</p> <p>1:1 666 667</p> <p>1: 700 000 ✓RO</p> <p>Or</p> <p>1, 1 cm = 20 km ✓A                  = 20 x 100 000 cm ✓C</p> <p><math>\frac{1,1 \text{ cm}}{1,1 \text{ cm}} = \frac{2\,000\,000 \text{ cm}}{1,1 \text{ cm}}</math> ✓M</p> <p>1: 1 800 000 ✓A</p> <p>Or</p>	<p>MM OPTION</p>
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$$1 \text{ cm} = 20 \text{ km} \checkmark \mathbf{A}$$

$$= 20 \times 100\,000 \text{ cm} \checkmark \mathbf{C}$$

$$\frac{1 \text{ cm}}{1 \text{ cm}} = \frac{2\,000\,000 \text{ cm}}{1 \text{ cm}} \checkmark \mathbf{M}$$

$$1: 2\,000\,000 \checkmark \mathbf{A}$$

**Or**

$$1,2 \text{ cm} = 20 \text{ km} \checkmark \mathbf{A}$$

$$= 20 \times 100\,000 \text{ cm} \checkmark \mathbf{C}$$

$$\frac{1,2 \text{ cm}}{1,2 \text{ cm}} = \frac{2\,000\,000 \text{ cm}}{1,2 \text{ cm}} \checkmark \mathbf{M}$$

$$1: 1\,700\,000 \checkmark \mathbf{A}$$

**Or**

$$11 \text{ mm} = 20 \text{ km} \checkmark \mathbf{A}$$

$$= 20 \times 1\,000\,000 \text{ cm} \checkmark \mathbf{C}$$

$$\frac{11 \text{ mm}}{11 \text{ mm}} = \frac{2\,000\,000 \text{ cm}}{11 \text{ mm}} \checkmark \mathbf{M}$$

$$1: 1\,800\,000 \checkmark \mathbf{RO}$$

**Or**

$$10 \text{ mm} = 20 \text{ km} \checkmark \mathbf{A}$$

$$= 20 \times 1\,000\,000 \text{ cm} \checkmark \mathbf{C}$$

$$\frac{10 \text{ mm}}{10 \text{ mm}} = \frac{2\,000\,000 \text{ cm}}{10 \text{ mm}} \checkmark \mathbf{M}$$

$$1: 2\,000\,000 \checkmark \mathbf{RO}$$

**Or**

$$12 \text{ mm} = 20 \text{ km} \checkmark \mathbf{A}$$

$$= 20 \times 1\,000\,000 \text{ cm} \checkmark \mathbf{C}$$

$$\frac{12 \text{ mm}}{12 \text{ mm}} = \frac{2\,000\,000 \text{ cm}}{12 \text{ mm}} \checkmark \mathbf{M}$$

$$1: 1\,700\,000 \checkmark \mathbf{RO}$$

Accept 0,2 cm = 10 km

0,3 cm = 10 km

0,1 cm = 10 km



**Top bar (40 km):**

$$1,8 \text{ cm} = 40 \text{ km}$$

$$= 40 \times 100\,000 \text{ cm}$$

$$\frac{1,8 \text{ cm}}{1,8 \text{ cm}} = \frac{4\,000\,000 \text{ cm}}{1,8 \text{ cm}}$$

$$1: 2\,222\,222$$

$$1: 2\,000\,000$$

**Or**

$$1,7 \text{ cm} = 40 \text{ km}$$

$$= 40 \times 100\,000 \text{ cm}$$

$$\frac{1,7 \text{ cm}}{1,7 \text{ cm}} = \frac{4\,000\,000 \text{ cm}}{1,7 \text{ cm}}$$

$$1: 2\,352\,941$$

$$1: 2\,400\,000$$

**Or**

$$1,9 \text{ cm} = 40 \text{ km}$$

$$= 40 \times 100\,000 \text{ cm}$$

$$\frac{1,9 \text{ cm}}{1,9 \text{ cm}} = \frac{4\,000\,000 \text{ cm}}{1,9 \text{ cm}}$$

$$1: 2\,105\,263$$

$$1: 2\,100\,000$$

**Top bar (40 km):**

$$0,7 \text{ cm} = 20 \text{ km}$$

$$= 20 \times 100\,000 \text{ cm}$$

$$\frac{0,7 \text{ cm}}{0,7 \text{ cm}} = \frac{2\,000\,000 \text{ cm}}{0,7 \text{ cm}}$$

$$1: 2\,857\,143$$

$$1: 2\,900\,000$$

**Or**

$$0,8 \text{ cm} = 20 \text{ km}$$

$$= 20 \times 100\,000 \text{ cm}$$

$$\frac{0,8 \text{ cm}}{0,8 \text{ cm}} = \frac{2\,000\,000 \text{ cm}}{0,8 \text{ cm}}$$

$$1: 2\,500\,000$$



3.2.3	<p>VAT exclusive = R850 <math>\div</math> 1.15 <b>✓MA</b></p> <p style="padding-left: 40px;">= R739,13 <b>✓A</b></p> <p style="padding-left: 40px;"><math>\approx</math> R740 <b>✓R</b></p> <p>If multiply <math>\frac{15}{100}</math> and subtract 0 marks</p> <p>No independent rounding</p>	
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#### Question 4

4.1.5	Accept 5	
4.2.3	<p>CA FROM 4.2.2</p> <p><math>5 \times 250</math></p> <p>= 1250</p> <p>= <math>\frac{1\ 250}{15}</math></p> <p>= 83,3</p> <p>= 84 teaspoons</p>	

#### Question 5

5.1.3	<p>If use diameter 2/3</p> <p>Diameter = 400 m</p> <p>Radius = <math>\frac{400m}{2}</math> = 200 m <b>✓M</b></p> <p>Circumference = <math>2 \times 3,142 \times 200</math> <b>✓SF</b></p> <p style="padding-left: 40px;">= 1 256,8 m <b>✓CA</b></p> <p>Circumference = <math>2 \times \pi \times 200</math> <b>✓SF</b></p> <p style="padding-left: 40px;">= 1256,6 m <b>✓CA</b></p> <p style="padding-left: 40px;">= 1257 m</p>	
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5.3.1	A = Banana B = Chicken, Apple, Tea C= Beef, Banana, Water  Afrikaans A = Piesang B= Hoender, Appel, Tee C= Bees, Piesang, Water	
5.3.2	$P = \frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	