MARKING GUIDELINES / *NASIENRIGLYNE*

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SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE

SUID-AFRIKAANSE KOMPREHENSIEWE ASSESSERINGSINSTITUUT

FINAL APPROVED MARKING GUIDELINES / *FINAAL GOEDGEKEURDE NASIENRIGLYNE*	
DATE OF MEETING / *VERGADERINGSDATUM*	
UMALUSI MODERATOR / *UMALUSI-MODERATOR*	
CHIEF MARKER / *HOOFNASIENER*	
INTERNAL MODERATOR / *INTERNE MODERATOR*	

SYMBOL / *SIMBOOL*	EXPLANATION / *VERDUIDELIKING*
M	Method/*Metode*
MA	Method with accuracy/*Metode met akkuraatheid*
MCA	Method with consistent accuracy/*Metode met volgehoue akkuraatheid*
CA	Consistent accuracy/*Volgehoue akkuraatheid*
A	Accuracy/*Akkuraatheid*
C	Conversion/*Herleiding*
S	Simplification/*Vereenvoudiging*
RT/RG	Reading from a table/graph/diagram/ *Lees uit 'n tabel/grafiek/diagram*
SF	Correct substitution in a formula/*Korrekte vervanging in 'n formule*
O	Opinion/Example/Definition/Explanation/ *Opinie/Voorbeeld/Definisie/Verduideliking*
P	Penalty, e.g. for no units/incorrect rounding off, etc./ *Straf, bv. vir geen eenhede/verkeerde afronding, ens.*
R	Rounding off/*Afronding*
NPR	No penalty for rounding or omitting units/ *Geen penalisering vir afronding of weglating van eenhede nie*
AO	Answer only, if correct, full marks/ *Slegs antwoord, indien korrek, volpunte*

QUESTION/VRAAG 1					[30]
	Solution/Oplossing		Explanation/Verduideliking		
1.1.1	25 December/Desember 2020 ✓A✓A		2A	25 December/Desember 2020 (2)	M L1
1.1.2	Netflix✓A✓A		2A	Netflix (2)	M L1
1.1.3	3 **OR** Three/**OF** Drie ✓A✓A		2A	3 **OR** Three/**OF** Drie (2)	M L1
1.1.4	United States **OR** US/Verenigde State **OF** VS ✓A✓A		2A	United States **OR** US/Verenigde State **OF** VS (2)	M L1
1.1.5	57 minutes/minute ✓A✓A		2A	57 minutes/minute (2)	M L1
1.2.1	a.	False/Vals ✓A✓A	2A	False/Vals (2)	Ma L1
	b.	True/Waar ✓A✓A	2A	True/Waar (2)	Ma L1
	c.	False/Vals ✓A✓A	2A	False/Vals (2)	Ma L1
	d.	False/Vals ✓A✓A	2A	False/Vals (2)	Ma L1
1.2.2	Formula/Formule 2 **OR**/**OF** 2 ✓A✓A		2A	Formula/Formule 2 **OR**/**OF** 2 (2)	M L1

1.3.1	✓**MA** Length/Lengte = $\frac{1\,500mm}{1\,000}$ = 1,5m ✓**A**		1MA $\frac{1\,500mm}{1\,000}$ 1A 1,5m (2) ANSWER ONLY, FULL MARKS/ SLEGS ANTWOORD, VOLPUNTE	M L1
1.3.2	m **OR** metres/**OF** meters ✓**A**✓**A**		2A m **OR** metres/**OF** meters (2)	M L1
1.3.3	Width/Breedte = 1 500 mm – 1 420 mm ✓**MA** = 80 mm ✓**A**		1MA 1 500 mm – 1 420 mm 1A 80 mm (2) ANSWER ONLY, FULL MARKS/ SLEGS ANTWOORD, VOLPUNTE	M L1
1.3.4	a	Strapless/Mouloos ✓**A**✓**A**	2A Strapless/Mouloos (2)	P L1
	b	Yellow/Geel ✓**A**✓**A**	2A Yellow/Geel (2)	P L1
				[30]

QUESTION/VRAAG 2 [42]

		Solution/Oplossing	Explanation/Verduideliking	
2.1.1	a.	✓**MA** Litres/Liters = $\frac{750\ ml}{1\ 000}$ = 0,75 litres/liters ✓**A**	1MA $\frac{750\ ml}{1\ 000}$ 1A 0,75 litres/Liters (2) ANSWER ONLY, FULL MARKS/ SLEGS ANTWOORD, VOLPUNTE	M L1
	b.	0,75 litres/liters = 0,75 kg ✓**A** Weight/Gewig = 0,75 kg x 2 ✓**MCA** = 1,5 kg ✓**CA**	1A Identifying they are equal/Identifiseer dat dit gelyk is 1MCA Multiplication by/Maal met 2 1CA 1,5 kg (3) ANSWER ONLY, FULL MARKS/ SLEGS ANTWOORD, VOLPUNTE	M L2
2.1.2	a.	Half an hour/Halfuur = 30 minutes/minute ✓**A** Calories/Kalorieë = $\frac{30}{10} \times 50$ ✓**MA** = 3 x 50 = 150 calories/kalorieë ✓**A**	1 A 30 minutes/minute 1MA $\frac{30}{10} \times 50$ 1A 500 calories/kalorieë (3) ANSWER ONLY, FULL MARKS/ SLEGS ANTWOORD, VOLPUNTE	M L2
	b.	Time/Tyd = $\frac{450}{50} \times 10 = 90$ min ✓**MA** Time/Tyd = $\frac{90\ minutes}{60}$ ✓**C(CA)** = 1,5 hours/ure ✓**CA**	1MA $\frac{450}{50} \times 10 = 90$ minutes/minute 1C(CA) Division by/Deel deur 60 1CA 1,5 hours/ure (CA one error only/CA slegs met een fout) (3) ANSWER ONLY, FULLMARKS/SLEGS ANTWOORD,VOLPUNTE	M L2

	c.	1,5 litres/liters = 1 500 mℓ Water left/oor = 1 500 mℓ – 350mℓ =1 150 mℓ ✓**C** % = $\frac{1\,150\ ml}{1\,500} \times 100\%$ ✓**M** ✓**MA** = 76,6% ✓**CA**	1C 1 150 mℓ 1MA Division by/Deel deur 1 500 1M x 100 1CA 76.6% (CA one error only/CA slegs met een fout) **NPR** (4)	M L3
2.2.1	NW **OR** Northwest/**OF** Noordwes ✓**A**✓**A**		2A NW **OR** Northwest/**OF** Noordwes (2)	Ma L1
2.2.2	2,1 km ✓**A**✓**A**		2A 2,1 km (2)	Ma L1
2.2.3	Ruler/liniaal = 3 cm ✓**A** **(confirm final print/bevestig met finale druk)** Real life/Werklikheid = 3 cm x 10 000 = 30 000 cm ✓**MA** Real life/Werklikheid = $\frac{30\,000\ cm}{100}$ = 300 m ✓**MCA** She is correct./Sy is korrek ✓**O(CA)**		1A 3 cm 1MA 3 cm x 10 000 = 30 000 cm 1MCA $\frac{30\,000\ cm}{100}$ = 300 m 1O(CA) She is correct/Sy is korrek. (4)	Ma L4

2.2.4	Distance/Afstand = 5,5 km Speed/Spoed = 3 km/h Time/Tyd = $\frac{5{,}5\ km}{3\ km/h}$ ✓SF = 1,833…hours/ure = 1hour/ure 50 minutes/minute ✓A ✓A	1SF $\frac{5{,}5\ km}{3\ km/h}$ 1A 1 hour/uur 1A 50 minutes/minute (3) ANSWER ONLY, FULL MARKS/SLEGS ANTWOORD, VOLPUNTE	Ma L2
2.3.1	✓MA Sugar/Suiker = $\frac{60}{22} \times 300\ g$ ✓M = 818,18 g ≈ 818 g ✓R(CA)	1MA $\frac{60}{22}$ 1M x 300 g 1R 818 g (CA if one error only/CA slegs met een fout) (3) ANSWER ONLY, FULL MARKS IF FULLY CORRECT/SLEGS ANTWOORD, VOLPUNTE INDIEN VOLLEDIG KORREK	M L2
2.3.2	Preparation time 60 cookies/Voorbereidingstyd vir 60 koekies ✓MA Time/Tyd = $\frac{60}{22} \times 10$ $= 27{,}27$ ...minutes/minute ✓A Baking time 60 cookies/Bak tyd vir 60 koekies ✓MA Time/Tyd = $\frac{60}{22} \times 20$ = 54,54…minutes/minute ✓A Total time/Totale tyd = 27,27…+ 54,54…✓MCA = 81,81 minutes/minute ≈ 82 minutes/minute ✓R(CA)	1MA $\frac{60}{22} \times 10$ 1A 27,27 ...minutes/minute 1MA $\frac{60}{22} \times 20$ 1A 54,54…minutes/minute 1MCA Addition/Optel 1R(CA) 82 minutes/minute (6)	M L3

2.3.3	℃ $= (198 - 32) \times \frac{5}{9}$ ✓**SF** = 92,2222…✓**A** ≈ 90 ℃ ✓**R**	1SF Substitution/vervanging 1A 92,222… 1R 90℃ (3)	M L2
2.3.4	Starting time/Begin tyd: 16h00 – 82 minutes/minute ✓**MCA** = 14h38 ✓**CA** Rest/Rustyd: 14h38 – 10h30 ✓**MCA** = 4 hours/ure 8 minutes/minute ✓**CA**	1MCA 16h00 – Q2.3.2 (82mins/min) 1CA 14h38 1MCA 14h38 – 10h30 1CA 4 hours/ure 8 minutes/minute CA (2.3.2) (4)	M L3
			[42]

QUESTION/VRAAG 3 [34]

	Solution/Oplossing	Explanation/Verduideliking	
3.1.1	Wheel height/Wielhoogte = $\frac{180\ mm}{10}$ = 18 cm ✓**MA** Height table/Tafelhoogte = $\frac{145\ mm}{10}$ = 14,5 cm ✓**MA** Total height/Totale hoogte = 18 + 14,5 ✓**MCA** = 32,5 cm ✓**CA** **OR/OF** Total height/Totale hoogte = 180 + 145 ✓**M** = 325 mm ✓**A** Total height/Totale hoogte = $\frac{325\ mm}{10}$ ✓**MCA** = 32,5 cm ✓**CA**	1MA $\frac{180\ mm}{10}$ = 18 cm 1MA $\frac{145\ mm}{10}$ = 14,5 cm 1MCA 18 + 14,5 1CA 32,5 cm **OR/OF** 1M 180 + 145 1A 325 mm 1MCA $\frac{325\ mm}{10}$ 1CA 32,5 cm (4)	M L2
3.1.2	a. Length/Lengte = 80 + 120 + 80 + 120 = 400cm✓**MA** Length/Lengte = $\frac{400\ cm}{100}$ ✓**MCA** = 4 m ✓**CA**	1MA 80 + 120 + 80 + 120 = 400 cm 1MCA $\frac{400\ cm}{100}$ Division by/Deel deur 100 1CA 4 m (3)	M L2

	b.	Strips/Stroke = $\frac{4\ m}{3}$ ✓**MCA** = 1,33….✓**A** ≈ 2 strips/stroke ✓**R**	1MCA $\frac{4\ m}{3}$ 1A 1,33…. 1R 2 strips/stroke (Must round up/Moet oprond) Independent R if only 1 error/Onafhanklike R indien slegs een fout (3)	M L2
3.2.1	a.	11,5 ✓**A**	1A 11,5 (1)	Ma L4
	b.	8,84 ✓**CA**	1CA 8,84… (1)	Ma L4
	c.	8 ✓**R (CA)**	1R 4 (CA 3.2.1b) Must round down/Moet afrond (1)	Ma L4
	d.	1,3 ✓**A**	1A 1,3 (1)	Ma L4
	e.	10 ✓**CA**	1CA 10 (CA 3.2.1d) (1)	Ma L4
3.2.2	2,4 m = 94,48 inches/duim ✓**MA** $\frac{2{,}4\ m}{2.4} = \frac{94{,}48\ inches}{2{,}4}$ 1 m = 39,36666…. 1 m = 39,37 inches/duim ✓**A**		1MA 2,4 m = 94,48 inches/duim 1A correct ratio/korrekte verhouding (2)	M L2
3.2.3	Bad weather, no sunlight./Slegte weer, geen sonlig Any suitable answer/Enige gepaste antwoord ✓✓**O**		2O Any suitable answer/Enige gepaste antwoord (2)	M L4
3.3.1	Strip map/Strookkaart ✓**A**✓**A**		2A Strip map/Strookkaart (2)	Ma L1

3.3.2	A1 and/en A2 and/en A3 ✓A✓A **OR/OF** A1 and/en A3 ✓A✓A	2A A1 and/en A2 **OR** A1 and/en A3 (2)	Ma L1
3.3.3	Distance/Afstand = 455 + 232 + 303 ✓MA = 990 km ✓A	1MA 455 + 232 + 303 1A 990km ANSWER ONLY, FULL MARKS/SLEGS ANTWOORD, VOL PUNTE (2)	Ma L2
3.3.4	Time/Tyd = 9hrs/ure 46mins/min = 9,766……hrs/ure ✓C Speed/Spoed = $\frac{983}{9,766...}$ ✓MCA = 100,64…….km/h ✓CA	1C 9,766……hrs mins to hrs/ure en min na ure 1MCA $\frac{983}{9,766...}$ 1CA 100,64……km/h ANSWER ONLY, FULL MARKS/SLEGS ANTWOORD, VOL PUNTE NPR Accept/Aanvaar 100km/h, 101km/h (3)	Ma L3
3.3.5	Liters/liters = $\frac{500}{23,46}$ ✓MA = 21,31liters/liters ✓A Distance on/Afstand op 21,31ℓ = 21,31 x 13 ✓M = 277,03 km Distance/Afstand Via A2 to/na Sekoma =45 km + 46 km + 163 km ✓MA = 254 km ✓A Yes, she will reach Sekoma///Ja, sys al Sekoma bereik✓R(CA)	1MA $\frac{500}{23,46}$ 1A 21,31liters/liters 1M 21,31 x 13 1MA 45 km + 46 km + 163 km 1A 254 km 1R(CA) Yes, she will reach Sekoma///Ja, sy sal Sekoma bereik (6)	Ma L4
			[34]

QUESTION/VRAAG 4			[24]
	Solution/Oplossing	**Explanation/Verduideliking**	
4.1.1	Radius = $\frac{18}{2}$ = 9 inches/duim ✓**MA** Feet/voet = $\frac{9}{12}$ = 0,75 feet/voet ✓**C** V = 3,142 x $(0,75)^2$ x 2 ✓**SF** = 3,53475 ≈ 3,5 ft/vt^3 ✓**CA**	1MA $\frac{18}{2}$ = 9 inches/duim 1C Conversion to feet/omskakeling na voet 0,75 1SF $3,142(0,75)^2x2$ P to one decimal/na een desimaal (4)	M L4
4.1.2	1 cubic foot/kubieke voet = 7,48 gallons/gallonne 3,5 ft^3/vt^3 = 7,48 x 3,5 ✓**MCA** = 26,18 gallons/gallonne ✓**CA**	1MCA 7,48 x 3,5 1CA 26,18 gallons/gallonne NPR (2)	M L2
4.1.3	Number of cups/aantal koppies = $\frac{26,18}{0,0625}$ ✓**MCA** = 418,88 ✓**CA** ≈ 418 ✓**R** **OR/OF** Cubic feet/kubieke voet = $\frac{0,0625}{7,48}$ ≈ 0,008355…ft^3/vt^3 ✓**MA** Number of cups/Aantal koppies = $\frac{3,5}{0,008355...}$ ✓**MCA** = 418,88 ≈ 418 ✓**R**	1MCA $\frac{26,18}{0,0625}$ (CA with 4.1.2) 1CA 418,88 1R 418 **OR** 1MA $\frac{0,0625}{7,48}$ ≈ 0,008355…ft^3/vt^3 1MCA $\frac{3,5}{0,008355...}$ = 418,88 1R 418 P (down/af) Independent rounding/onafhanklike afronding (3)	M L2
4.2.1	Area rectangle/Oppervlak reghoek = 2 x (32 x 2) + 2 x (15 x 2) ✓**MA** =128 m^2 + 60 m^2 =188 m^2 ✓**A** **OR**	1MA 2x(32x2) + 2x(15x2) 1A 188 m^2 1MCA 188 m^2 + 10,18 m^2 **OR**	M L3

	Area of rectangle/Oppervlak van reghoek = 2 x (19 x 2) + 2 x (28 x 2) ✓**MA** = 76 m^2 + 112 m^2 = 188 m^2 ✓**A** Total Area/Totale Oppervlakte = 188 m^2 + 10,18 m^2 ✓**MCA** = 198,18 m^2	1MA 2x(19x2) + 2x(28x2) 1A 188 m^2 1MCA 188 m^2 + 10,18 m^2 (3)	
4.2.2	Litres needed/Liters benodig = $\frac{198,18}{14}$ ✓MA = 14,16 litres/liters ✓A Tins/blikke = $\frac{14,16}{5}$ ✓MCA = 2,88 ≈ 3 tins/blikke ✓R(CA) Two coats, therefore 6 tins/Twee lae verf, dus 6 blikke ✓CA **OR/OF** Litres needed/liters benodig = $\frac{198,18}{14}$ ✓MA = 14,16 litres/Liters✓A Two coats/Twee lae = 2 x 14,16 = 28,36 litres/liters✓MCA Tins/blikke = $\frac{28,36}{5}$ ✓MCA = 5,664 tins/blikke Therefore 6 tins/Daarom 6 blikke ✓R(CA)	1MA $\frac{198,18}{14}$ 1A 14,16 litres/liters 1MCA $\frac{14,16}{5}$ division by/deel deur 5 1R (CA) 3 tins/blikke. 1CA 6 tins/blikke **P** Must round up/Moet oprond 1MA $\frac{198,18}{14}$ 1A 14,16 litres/liters 1MCA 28,36 litres/liters (two coats/twee lae) 1MCA $\frac{28,36}{5}$ 1R(CA) 6 tins/blikke **P** Must round up/moet oprond (5)	M L3
4.2.3	Cost/Koste = 6 x R705 ✓**MCA** = R4 230 ✓**CA**	1MCA 6 x R705 (CA with/met 4.2.2) 1CA R4 230 (2)	F L2

4.3	Radius 1 809,792 = 4 x 3,142 x r^2 ✓**SF** $\frac{1\,809{,}792}{4 \times 3{,}142} = \frac{4 \times 3{,}142 \times r^2}{4 \times 3{,}142}$ ✓**MCA** 144 = r^2 $\sqrt{144} = \sqrt{r^2}$ 12 = r ✓**MCA** Diameter/Deursnee = 12 x 2 = 24 cm ✓**MCA** The ball will fit/Die bal sal pas. Diameter smaller than/deursnee is kleiner as 38 cm ✓**O**	1SF 1 809,792 = 4 x 3,142 x r^2 1MCA Division by/deel deur $4 \times 3{,}142$ **OR/OF** Division/deel deur 12,568 1MCA r = 12 1MCA D = 24 cm 1O The ball will fit/Die bal sal pas. Diameter smaller than/ deursnee is kleiner as 38 cm (5)	M L4
			[24]

QUESTION/VRAAG 5 [20]

	Solution/Oplossing	Explanation/Verduideliking	
5.1.1	C ✓A✓A	2A C (2)	M L1
5.1.2	Volume = 2 x 1,9 x 1 ✓C ✓SF = 3,8 m^3 ✓A **OR/OF** Volume = 200 x 190 x 100 ✓SF = 38 00000 cm^3 ÷ 1 000 000 ✓C = 3,8 m^3 ✓A	1C Conversion to metres/Omskakeling na meter 1SF 2 x 1,9 x 1 1A 3,8 m^3 **OR/OF** 1SF 200 x 190 x 100 1C Division by/deel deur 1 000 000 1A 3,8 m^3 (3) ANSWER ONLY, FULL MARKS/SLEGS ANTWOORD, VOLPUNTE	M L2
5.1.3	Box/Boks Model 1 Jars in length/Bottels in lengte = $\frac{105}{15}$ = 7 ✓MA Jars in width/Bottels in breedte = $\frac{100}{15}$ = 6,666 ≈ 6 ✓MA(R) Jars in height/Bottels in hoogte = $\frac{120}{25}$ = 4,8 ≈ 4 ✓MA(R) Total jars/Totale bottels = 7 x 6 x 4 = 168 jars/bottels ✓MCA 168 less than/minder as 468 ✓O	1MA $\frac{105}{15}$ = 7 1MA (R) $\frac{100}{15}$ = 6,666… ≈ 6 1MA(R) $\frac{120}{25}$ = 4,8 ≈ 4 Must round down/moet afrond 1MCA 7 x 6 x 4 = 168 1O 168 less than/minder as 468 (5)	M L4

5.1.4	Box/Boks 1 Wasted space/Vermorste spasie = 1 260 000-(4 418,44 x 168) ✓**MCA** =517 702,08 cm^3✓**CA** Box/Boks 2 Wasted space/Vermorste spasie = 3 800 000–(4 418,44x 468) ✓**MCA** = 1 732 170,08 cm^3✓**CA** Box 1 more cost effective/Boks 1 is meer koste effektief.✓**O(CA)**	1MCA 1 260 000-(4 418,44 x 168) 1CA 517 702,08 cm^3 1MCA 3 800 000—(4 418,44x 468) 1CA 1 732 170,08 cm^3 1O(CA) Box/Boks 1 more cost effective/meer koste effektief. (5)	M L3
5.2.1	P(Broken/Gebreek) = $\frac{3}{48}$ ✓**MA** P(not Broken/nie gebreek) = (1 - $\frac{3}{48}$) x 100 ✓**M** = $\frac{45}{48}$ x 100 = 93,75% ✓**A** **OR/OF** P(not broken/nie gebreek) ✓**MA** = $\frac{45}{48}$ x 100 ✓**M** = 93,75% ✓**A**	1MA $\frac{3}{48}$ 1M (1 - $\frac{3}{48}$) x 100 1A 93,75% **OR/OF** 1MA $\frac{45}{48}$ 1M x 100 1A 93,75% (3)	P L2
5.2.2	Better packaging, bubble wrap/Beter verpakking, bubble wrap. Any suitable answer./Enige gepaste antwoord ✓✓**O**	2O Any suitable answer/Enige gepaste antwoord (2)	Ma L4
			[20]
			GRAND TOTAL/GROOTTOTAAL: [150]