MARKING GUIDELINES /
NASIENRIGLYNE

EXAMINATION / ***EKSAMEN***	**NATIONAL SENIOR CERTIFICATE /** ***NASIONALE SENIOR SERTIFIKAAT***
GRADE / ***GRAAD***	12
DATE / ***DATUM***	JUNE / *JUNIE* 2024
SUBJECT / ***VAK***	MATHEMATICAL LITERACY / *WISKUNDIGE GELETTERHEID*
PAPER / ***VRAESTEL***	2
MARK TOTAL / ***PUNTE TOTAAL***	150
DURATION (HOURS) / ***TYDSDUUR (URE)***	3
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SOUTH AFRICAN COMPREHENSIVE ASSESSMENT INSTITUTE

SUID-AFRIKAANSE KOMPREHENSIEWE ASSESSERINGSINSTITUUT

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 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 consistent accuracy/*Metode met volgehoue akkuraatheid*
RCA	Rounding consistent with accuracy/*Afronding met volgehoue akkuraatheid*

NOTE:
- If a candidate answers a question TWICE, only mark the FIRST attempt.
- If a candidate has crossed out (cancelled) an attempt to a question and NOT redone the solution, mark the crossed out (cancelled) version.
- Consistent accuracy (CA) applies in ALL aspects of the marking guidelines; however it stops at the second calculation error.
- If the candidate presents any extra solution when reading from a graph, table, layout plan and map, then penalise for every extra item presented.
- Rounding is an independent mark.
- General principle of marking, if the candidate makes one mistake he loses one mark.
- A conclusion mark can only be given if relevant calculations precedes it.

LET WEL:
- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, sien slegs die EERSTE poging na.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, sien die doodgetrekte (gekanselleerde) poging na.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas; dit hou egter op by die tweede berekeningsfout.*
- *Wanneer 'n kandidaat aflesings vanaf 'n grafiek, tabel, uitlegplan en kaart geneem en ekstra antwoorde gee, penaliseer vir elke ekstra item.*
- *Afronding tel as 'n afsonderlike punt.*
- *Die algemene beginsel van merk as 'n leerder een fout maak verloor hy een punt.*
- *'n Gevolgtrekkingspunt kan slegs gegee word indien relevante berekeninge dit voorgaan.*

QUESTION 1 / *VRAAG 1* [30]			
No.	**Answer / *Antwoord***	**Explanation / *Verduideliking***	**Level & Topic**
1.1.1	Bedford Street / *Straat* ✓✓**RT**	**2 RT** Bedford Street (2)	L1 MP
1.1.2	B ✓✓**RT** Floor plans / *Vloerplanne*	**2 RT** B (2)	L1 MP
1.1.3	1:75 ✓✓**RT**	**2 RT** 1:75 (2)	L1 MP
1.1.4	Number scale / *Getal skaal*✓✓**RT**	**2 RT** Number scale (2)	L1 MP
1.1.5	ONE / *EEN*✓✓ **RT**	**2 RT** ONE (2)	L1 MP
1.1.6	$\frac{4}{10} = \frac{2}{5}$ ✓**A** ✓**A**	**1 A** Numerator **1 A** Denominator (2)	L1 P
1.1.7	Joey ✓✓ **RT**	**2 RT** Joey (2)	L1 M
1.1.8	False / *Onwaar* ✓✓ **RT**	**2 RT** False (2)	L1 MP
1.1.9	Rectangular / *Reghoekig*✓✓ **RT**	**2 RT** Rectangle (2)	L1 M
1.1.10	A ✓✓ **RT**	**2 RT** correct letter A (2)	L1 M
1.1.11	C ✓✓ **RT**	**2 RT** correct letter C (2)	L1 M
1.2	\$15,99 × 18,21 = R291,18 TRUE / *WAAR*✓✓ **RT**	**2 RT** TRUE (2)	L1 F
1.3.1	10 Seasons / Seisoene ✓✓ **RT**	**2 RT** correct value (2)	L1 M
1.3.2	A = 8 hours / *ure* × 60 + 25 min✓ **MA** A = 480 min + 25 min A = 505 minutes✓ **A** **OR** A = 5213 min – (528×3+549 +527+530+506 +577+435) A = 5213 min – 4708 min✓ **MA** A = 505 min✓ **A**	**1 MA** correct method **1 A** 505 min **OR** **1 MA** correct method **1 A** 505 min (2)	L1 M
1.3.3	B ✓✓ **RT**	**2 RT** correct letter B (2)	L1 M
			[30]

QUESTION 2 / *VRAAG 2* [52]			
No.	**Answer / Antwoord**	**Explanation / *Verduideliking***	**Level & Topic**
2.1.1	Time / *Tyd* = Preparation / *Voorbereiding* + Cooking / *Kook* Time = 5 min + 25 min✓ **MA** Time = 30 minutes✓ **A**	**1 MA** adding correct values **1 A** 30 minutes (2)	L1 M
2.1.2	Sugar / *Suiker* = 84,64 ounces × 28,3495 ✓ **MA** Sugar = 2399,50168 grams ÷ 1000✓ **C** Sugar = 2,39950168✓ **A** Sugar ≈ 2,4 kg✓ **RO**	**1 MA** multiply 28,3495 **1 C** convert to kg **1 A** 2,39950168 **1 RO** must be up (4)	L3 M
2.1.3	Water = 33,79 floz. × 29,5735✓ **MA** Water = 999,288565 ml ÷ 250 ml✓ **C** Water = 3,99715426✓ **A** Water ≈ 4 cups✓**RO**	**1 MA** multiply 29,5735 **1 C** convert to cups **1 A** 3,99715426 **1 RO** must be up (4)	L3 M
2.1.4	<u>Temperature / *Temperatuur*:</u> $℃ = \frac{5}{9} \times (266 - 32)$✓ **SF** $℃ = 130°$✓ **A**	**1 SF** 226 **1 A** 130 degrees Celsius (2)	L2 M
2.1.5	Small / *Klein* : Large / *Groot* ✓**RT** ✓**RT** 12: 4 3:1✓ **MA**	**1 RT** small is 12 **1 RT** large is 4 **1 A** ratio of 3:1 (3)	L2 M
2.1.6	Cost / *Koste*= R106,02 ÷ 12 = R8,835 ≈ R8,84✓ **MA** ✓**RT** Profit / *Wins* = 21✓ **MA** × (R15 – R8,84) Profit = 21 × R6,16 Profit = R73,92✓ **A**	**1 MA** cost price **1 RT** selling price **1 MA** × 21 **1 A** Profit (4)	L3 F
2.2.1	Radius (medium) = (100 mm✓**RT** ÷ 10) ÷ 2 Radius (medium) = 10 cm ÷ 2✓**MA** Radius (medium) = 5 cm✓**A**	**1 RT** 100 mm **1 MA** divide 2 1 **A** 5 cm (3)	L2 M
2.2.2	Diameter / *Deursnee* (large/*groot*) = 5,9 × 2,54✓**MA** Diameter (large) = 14,986✓**A** Diameter (large) = 15 cm✓**RO**	**1 MA** multiply 2,54 **1 A** 14,896 **1 RO** 15 cm (3)	L2 M

2.2.3	C (small / *klein*) = 2 × 3,142 × 2,5✓**MA** C (small) = 15,71 cm✓**A** ✓**U**	**1 MA** multiply radius 2,5 **1 A** 15,71 **1 U** correct unit cm (3)	L2 M
2.2.4	Area (Large/groot) = 3,142 × (7,5 cm)^2✓**MA** Area (Large/groot) = 176,7375 cm^2✓**A** Area (Small/*klein*) = 3,142 × (2,5 cm)^2✓**MA** Area (Small/*klein*) = 19,6375 cm^2✓**A** Small/*Klein*: Large/*Groot* 19,6375 cm^2 :176,7375 cm^2 1:9✓**M** Her statement is incorrect✓**J** it is 9 times./ *Haar stelling is verkeerd, dit is 9 keer*	**1 MA** multiply radius 7,5 **1 A** 176,7375 cm^2 **1 MA** multiply radius 2,5 **1 A** 19,6375 cm^2 **1 M** any correct method resulting = 9 **1 J** incorrect (6)	L4 M
2.2.5	Perimeter / *Omtrek* ✓✓**RT**	**2 RT** Perimeter (2)	L1 M
2.3.1	Width / *Wydte* = 1 cm + 15 cm ✓**RT** + 1 cm✓**MA** Width / *Wydte* = 17 cm✓**A**	**1 RT** 15 cm (diameter) **1 MA** adding 2 x 1 cm **1 A** 17 cm (3)	L2 M
2.3.2	Length /*Lengte* = 1 + 15 ✓**RT** + 1 + 2 ✓**MA** Length /*Lengte* = 19 cm✓**A**	**1 RT** 15 cm (diameter) **1 MA** adding 2 x 1 cm + 2 cm **1 A** 19 cm (3)	L2 M
2.3.3	No, she is not correct✓**J** as the 17 by 17 does not have the **<u>2 cm</u>** extra plastic that sticks to the lollipop stick. ✓✓**RT** *Nee, sy is verkeerd want die 17 by 17 het nie die ekstra 2cm plastiek wat moet op die stokkie plak nie* She should rather take the 17 by 23✓**A** option. *Sy moet eerder die 17 by 23 opsie kies.*	**1 J** not correct **2 RT** 2 cm extra **1 A** correct one 17 by 23 size (4)	L4 M
2.3.4	**Cost / *Koste*:** ✓**RT** ✓**MA** R159,87 + (R159,87 × 15 ÷ 100) = R183,87✓**A**	**1 RT** R159,87 **1 MA** 15% **1 A** R183,87 (3)	L2 F

2.3.5	Probability / *Waarskynlikheid* (width / ✓**RT** wydte 8 cm) = $\frac{4}{35} \times 100$✓**MA** Probability / *Waarskynlikheid* (width / wydte 8 cm) = 11,23%✓**A**	**1 RT** 4 out 35 **1 MA** ×100 **1 A** 11,23% (3)	L2 P
			[52]

QUESTION 3 / *VRAAG 3* [36]			
No.	**Answer / Antwoord**	**Explanation / *Verduideliking***	**Level & Topic**
3.1.1	Year / *Jaar* = 2022 – 150 years / *Jare*✓**MA** Year / *Jaar* = 1872✓**A**	**1 MA** subtract correct values **1 A** 1872 (2)	L2 M
3.1.2	North / *Noord*✓✓**RT**	**2 RT** North (2)	L2 MP
3.1.3	Three states / *Drie State*✓✓**RT**	**2 RT** Three states (2)	L1 MP
3.1.4	2,2 million / *miljoen* × 1 000 000✓**C** Acres Montana = 2 200 000 × 3 ÷ 100✓**RT** Acres Montana = 66 000 acres✓**MA**	**1 C** convert millions **1 RT** 3% **1 MA** 66 000 acres (3)	L3 M
3.1.5	✓**RT** ✓**MA** Area = 3468,4 sq. miles ÷ 3,86102 Area = 898,3118451 × 10✓**MA** Area = 8983,118451✓**A** Area = 8983 km^2✓**RO**	**1 RT** 3468,4 sq. miles **1 MA** ÷ 3,86102 **1 MA** × 10 **1 A** 8983,118451 **1 RO** 8983 km 2 (5)	L3 M

3.1.6	✓**RT** 2,2 million × 1 000 000 Square miles = 2 200 000 ÷ 640✓**C** Square miles = 3437,5✓**A** Not the same as given/ *Nie dieselfde as gegewe* 3468,4 sq. miles ✓**RT** Acres = 3468,4 × 640✓**C** Acres = 2 219 776✓**A** Not the same as given / *Nie dieselfde as gegewe* 2,2 million It is not the same as the values given in article. / *Dit is nie dieselfde as die waardes gegee in die artikel nie.* ✓**J** The 2,2 million is rounded to make it easier for the reader (easier to read). / *Die 2,2 miljoen is afgerond om dit makliker te maak vir die leser (makliker om te lees)* ✓**J**	**1 RT** 2,2 million **1 C** convert to sq. miles **1 A** 3437,5 **1 RT** 3468,4 sq. miles **1 C** convert to acres **1 A** 2 219 776 **1 J** not the same **1 J** round off (8)	L4 M
3.2.1	Route / *Roete* 89 (N to S) ✓**RT** Route / *Roete* 20 (E to W) ✓**RT**	**1 RT** Route 89 **1 RT** Route 20 (2)	L2 MP
3.2.2	Route / *Roete* 191✓✓**RT**	**2 RT** Route 191 (2)	L2 MP
3.2.3	5 entrances / *ingange*✓✓**RT**	**2 RT** Five (2)	L1 MP
3.2.4	West entrance / *Westelike ingang*✓✓**RT**	**2 RT** West entrance (2)	L1 MP
3.2.5	B ✓**RT** 4 ✓**RT**	**1 RT** B **1 RT** 4 (2)	L1 MP
3.2.6	South / *Suid* ✓**RT** West / *Wes* ✓**RT**	**1 RT** South **1 RT** West (2)	L2 MP
3.2.7	Wyoming ✓✓**RT**	**2 RT** Wyoming (2)	L2 MP
			[36]

QUESTION 4 [32]			
No.	**Answer / Antwoord**	**Explanation / *Verduideliking***	**Level & Topic**
4.1.1	North / *Noord*✓✓**RT**	**2 RT** North (2)	L1 P
4.1.2	Distance from East entrance to Madison: / *Afstand van die Oostelike ingang tot Madison:* = 27 + 21 + 17 + 16✓**MA** = 81 miles✓**A**	**1 MA** adding correct. values **1 A** 81 miles (2)	L2 MP
4.1.3	Norris – Madison✓✓**RT** A = 30 – 16 A = 14 miles✓**MCA**	**2 RT** any valid two values **1 MCA** 14 miles (3)	L3 MP
4.1.4	Distance / *Afstand* = 16 + 14 + 21 + 18 + 29 Distance / *Afstand* = 98 miles **Time / *Tyd*:** = 98 miles ÷ 45 mph✓**MA** = 2,1777777778 = 2 hours ✓**A** (0,1777777778 × 60) ✓**C** = 2 hours 10,666666668 = 2 hours 10 minutes✓**A** (0,666666668×60) = 2 hours 10 minutes 40 seconds✓**A** He is wrong / *Hy is verkeerd*✓**J**	 **1 MA** 98 ÷ 45 **1 A** 2 hours **1 C** time x 60 **1 A** 10 minutes **1 A** 40 seconds **1 J** Wrong (6)	L4 M
4.1.5	Map / *Kaart*: Real life / *Regte Lewe* 4,5 cm: 21 miles × 1609,34✓**C** 4,5 cm: 33796,14 × 100✓**C** 4,5 cm: 3379614 1: 3379614 ÷ 4,5✓**MA** 1: 751025,33✓**A** 1: 750 000✓**RO**	 **1 C** ×1609,34 **1 C** to cm **1 MA** ÷ 4,5 **1 A** 751025,33 **1 RO** 750000 (5)	L3 MP

4.1.6	Canyon to Roosevelt (long way / *lang roete*): = 12 + 21 + 18 = 51 miles✓**MA** Canyon to Roosevelt (short way / *kort roete*) = 19 miles✓**RT** Difference / *Verskil* = 51 – 19✓**MA** Difference / *Verskil* = 32 miles further/*verder*✓**A**	**1 MA** 51 miles **1 RT** 19 miles **1 MA** difference **1 A** 32 miles (4)	L3 M
4.2.1	Line or bar scale / *Lyn skaal*✓✓**RT**	**2 RT** line/bar (2)	L1 MP
4.2.2	**Moose:** = 25 yards × 0,9144✓**MA** = 22,86✓**A** ≈ 23 m✓**RO** **Bear / *Beer*:** = 300 feet ÷ 3,28084✓**MA** = 91,43999✓**A** ≈ 91 m✓**RO** He is correct about the distance between them and the Moose. / *Hy is reg oor die afstand tussen hulle en die Moose.* ✓**J** He is wrong about the distance between them and the Bear, which is 91 m not 50 m. / *Hy is verkeerd oor die afstand tussen hulle en die beer.* ✓**J**	**1 MA** × 0,9144 **1 A** 22,86 m **1 RO** 23 m **1 MA** ÷ 3,28084 **1 A** 91,43999 **1 RO** 91 m **1 J** Moose correct **1 J** Bear wrong (8)	L4 MP
			[32]