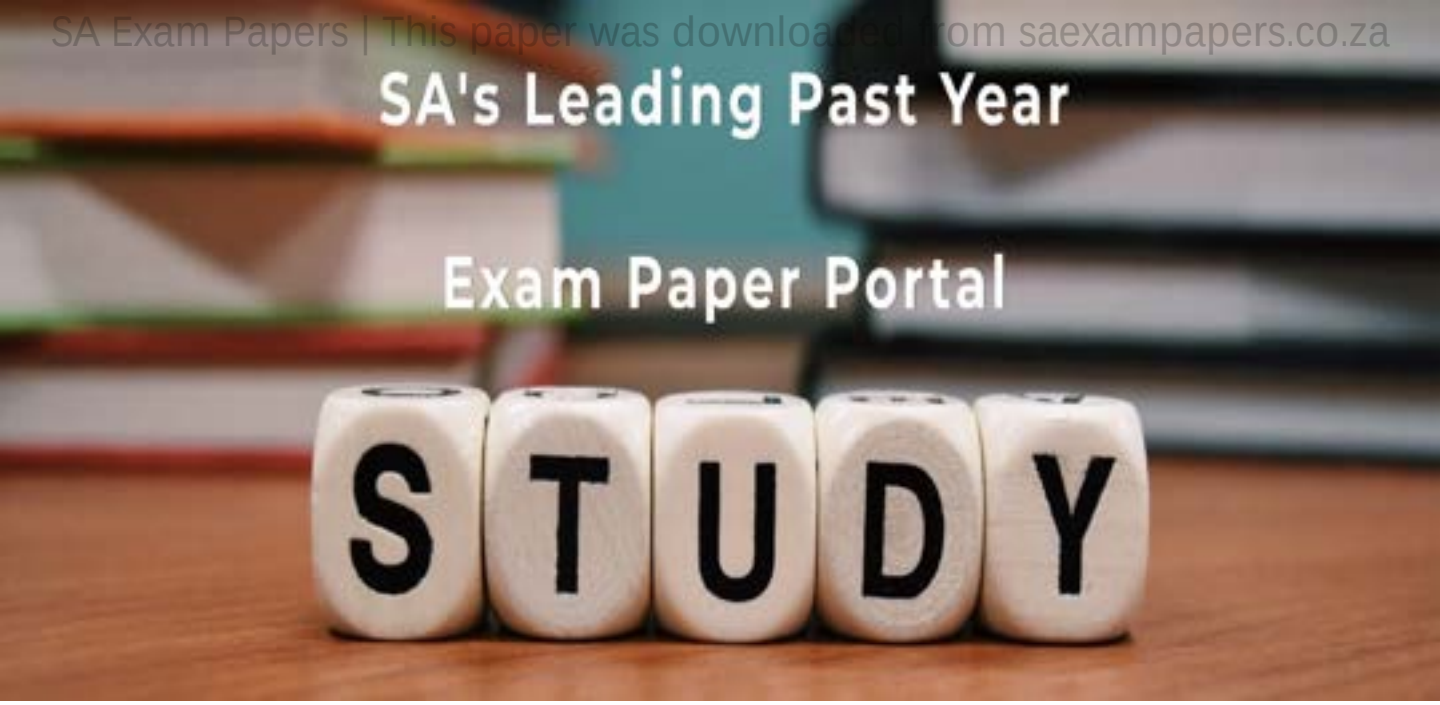

DEPARTMENT OF EDUCATION
DEPARTEMENT VAN ONDERWYS
LEFAPHA LA THUTO
ISEBE LEZEMFUNDO

PROVINCIAL PREPARATORY EXAMINATION/
PROVINSIALE VOORBEREIDINGSEKSAMEN

GRADE/*GRAAD* 12

MATHEMATICAL LITERACY P2/ *WISKUNDIGE GELETTERDHEID V2*

SEPTEMBER 2023

MARKING GUIDELINES/*NASIENRIGLYNE*

MARKS/*PUNTE*: 150

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/document/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*

This marking guideline consists of 9 pages.
Hierdie nasienriglyne bestaan uit 9 bladsye.

Please turn over/*Blaai om asseblief*

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 incorrect item presented.

LET WEL:

- *As 'n kandidaat 'n vraag TWEE KEER beantwoord, merk slegs die EERSTE poging.*
- *As 'n kandidaat 'n antwoord van 'n vraag doodtrek (kanselleer) en nie oordoen nie, merk die doodgetrekte (gekanselleerde) poging.*
- *Volgehoue akkuraatheid (CA) word in ALLE aspekte van die nasienriglyne toegepas, dit hou 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 verkeerde item.*

QUESTION/*VRAAG* 1 [30 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.1.1	Amount/*Hoeveelheid* = 18 rolls/ *rolle* ✓✓A	2A amount of rolls (2)	M L1
1.1.2	Lenght/*Lengte* = $\frac{23500}{1000}$ ✓C = 23,5 m ✓A	1C conversion 1A korrekte lengte (2)	M L1
1.1.3	✓MA Height/ *hoogte* = 100 mm + 100 mm + 100 mm = 300 mm ✓A OR = 100 × 3 =300 mm	1MA adding 1A height in millimetres (2)	M L1
1.1.4	✓MA Mega : Regular/*Gewoon* 18 : 72 1 : 4 ✓A	1MA correct order 1A simplified form (2)	M L1
1.1.5	✓MA Diameter/*diameter* = 140 – (29 +29) = 82 mm ✓A	1MA method with accuracy 1A correct diameter (2)	M L1
1.1.6	✓MA Cost/*Koste* = R392÷ 18 = R21,78 ✓A	1MA price divided by 18 1A cost **NPR** (2)	F L1
1.1.7	Shape/*Vorm*: Rectangular/*Reghoekig* ✓✓A	2A correct shape (2)	M L1
1.1.8	Sheet/*Velle* = 320 ÷ 2 ✓MA = 160 ✓A	1MA dividing by 2 1A amount of sheets left (2)	M L1

1.2.1	Stile/*Styl* ✓✓RT	2RT correct selection (2)	M&P L1
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
1.2.2	✓MA A = 65,89 -- (28,5 + 28,5) = 8,89 ✓A B = $\frac{91,89 - 65,89}{2}$ ✓MA = 13 ✓A	1MA method with accuracy 1A length of A 1MA method with accuracy 1A length of B (4)	M&P L1
1.2.3	✓✓A Panels/*Panele* : P3 and/*en* P4	2A correct selection (2)	M&P L1
1.2.4	Dowels/*penne* = 22 ✓✓A	2A correct amount (2)	M&P L1
1.2.5	✓✓A Bottom rail/*Onderste reeling* = 23cm	2A correct width (2)	M&P L1
1.2.6	✓MA Lenght /*Lengte* = (20,3 + 61,5 + 60,3) = 142,1 cm ✓A	1MA adding the correct values 1A correct length (2)	M&P L1
		[30]	

QUESTION/*VRAAG* 2 [23 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
2.1.1	Wroclaw ✓✓RT	2RT reading name from map (2)	M&P L1
2.1.2	North West/*Noordwes* OR NW ✓✓RT	2RT reading direction from map (2)	M&P L2
2.1.3	✓RT ✓A Cost/*Koste* = 2 ×(10+15+10) + (5+7,5+5) = 70 + 17,5 ✓M = $ 87,5 ✓CA	1RT using the correct values 1A converting discount price 1M adding 1CA cost (4)	M&P L2
2.1.4	12 ✓✓RT	2RT correct number (2)	M&P L1
2.1.5	Warsaw ✓✓RT	2RT correct city (2)	M&P L1
2.1.6	Destination/*Bestemming :* Zakopane ✓✓✓A	3A correct destination (3)	M&P L2
2.1.7	All the distances between the places are under 100 km. ✓✓O Accept any other credible reasons	2O reason (2)	M&P L4
2.1.8	A: 254 mile = 408 km 1 mile = $\frac{408}{254}$ km ✓M = 1,60630 ✓A Difference = 1,60934 – 1,60630 = 0.00304 ✓CA B: 253 miles = 408 km 1 mile = $\frac{408}{253}$ km = 1,61264 ✓MA Difference = 1,61264 – 1,60934 = 0.0033 ✓CA A is the closest ✓O	1M dividing 1A simplification 1CA difference 1MA method 1CA difference 1O correct opinion (6)	M&P L4
		[23]	

QUESTION/*VRAAG* 3 [35 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
3.1	✓MA Radius = 0,5 + 0,1 + 1 = 1,6 m ✓CA	1MA adding the correct values 1CA radius (2)	M L1
3.2	✓SF $^0C = (^0 65 - 32) \div 1,8$ $= 18,33^0$Celsius ✓CA	1SFA correct substitution 1CA (2)	M L2
3.3	✓C Lenght / *lengte* : 600 ÷ 100 = 6m Area = 6 × 3 ✓SF = 18 m² ✓CA ✓A Also accept answers in cm²	1C convertion 1SF substition 1CA area 1A unit in square metres (4)	M L2
3.4	Radius = 2,2 ÷ 2 = 1,1 ✓A Volume = 3,142 × 1,1² × 1 ✓SF = 3,142 × 1,21 × 1 = 3,80182 m³ ✓CA Volume = 3,142 × 1 × 1 = **3,142**m³ *(given)* **Volume** = **3,80182**m³ – 3,142m³ ✓M = **0,65982**m³ ✓CA **Bricks**/*Stene* = $\frac{0,65982}{0,0024}$ ✓M = 274,925 ✓CA = 275 ✓R	1A correct radius 1SF correct substitution 1CA volume of B 1M subtracting A from B 1CA volume of the wall 1M dividing 1CA amount of bricks 1R Rounding (8)	M L3
3.5	Area = 3,142 × 1,6² ✓SF = 8,04352 m² ✓CA Area of pond with wall = 3,142 × 1,1² = 3,80182 m² ✓CA Area to be covered by compost = 8,04352 – 3,80182 ✓M = 4,2417 m² ✓CA	**CA from 3.1 & 3.4** 1SF substitution 1CA area 1CA area 1M subtracting 1CA simplification (5)	M L3

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
3.6	Volume of water = 3,142 ×80% *Volume van water* = 2,5136m^3 ✓A Volume = 2,5136 × 1 000 = 2513,6 ℓ ✓C Flow rate/*Vloei tempo* = $1 \times \frac{2513,6}{39,6}$ ✓M = 63,4745 minutes ✓CA = 63,474 ÷60 ✓C = 01h03 min ✓CA No she is wrong/*Nee sy is verkeerd* ✓O	1A volume of water 1C converting to litres 1M calculating flow rate per min 1CA amount of time 1C converting min to hours 1CA duration 1O opinion (7)	M L4
3.7	3 SIDES of walkway/*3 KANTE van voetpad* F = 0,005 × 6 = 0,03 ✓MA ✓M 3 sides of walkway/ *3sye van voetpad:* Length = (0,03×2) + (6 × 2) + 3 ✓CA = 15,06 m Bricks/*Stene* = 230 ÷ 1000 = 0,23 = 0,23 ✓C Number/Getal = 15,06 ÷ 0,23 ✓M = 65,48 ✓CA Yes he is correct / *Ja hy is korrek* ✓O	1MA % calculation 1M adding 3 correct sides 1CA length of walkway 1C converting to meter 1M dividing by 0,23 1CA number of bricks 1O correct opinion (7)	M L4
		[35]	

QUESTION/*VRAAG* 4 [38 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	✓✓A Tuesday/*Dinsdag*	2A correct day (2)	M L1
4.1.2	✓A ✓A 25th August at 07:00/*25ste Augustus om 07:00*	1A date 1A time (2)	M L1
4.1.3	✓RT Time/*Tyd*: 23:03 – 22:43 = 20min ✓M : 02:40 + 30 = 03:00 ✓A	1RT correct values 1M difference in time 1A arrival time (3)	M L2
4.1.4	JHB > CPTWN ✓M *JHB . KPSD* = 25h15min CPTWN > JHB *KPSD > JHB* = 25h58min ✓M Difference = 25H58 min – 25H15min ✓M = 43 min ✓CA	1M Time calculation 1M Time calculation 1M difference 1CA simplification (4)	M L2
4.1.5	P/*W* = $\frac{1}{8}$ ✓A ✓A	1A denominator 1A numerator (2)	M L2
4.1.6	✓MA December/*Desember* = R830 × 4 = R 3 320,00 February/ *Februarie* = R690 × 4 = R2 760,00 ✓MA ✓M Cost/*Koste* = R3 320,00 – R 2 760,00 = R560,00 ✓CA	1MA cost for Dec 1MA cost for Feb 1M subtracting 1CA difference in cost (4)	F L3
4.1.7	Time/Tyd = $\frac{304}{110}$ ✓SF = 2h45m ✓CA ✓M ✓M Departure/*Vertrek* = 09:05 – (1h00m+2h45m) = 05:20 ✓CA	1SF substitution 1CA travel time 1M subtracting one hour 1M subtracting travel time 1CA departure time (5)	M L3
4.1.8	Time/*Tyd* = 22:43 – 15:00 = 7h43m ✓MA Speed = $\frac{556}{7h43m}$ ✓M ✓SF = 72km/h ✓CA No she is ~~not~~ correct ✓O	1MA time difference 1M changing subject of formula 1SF correct substitution 1CA speed 1O Opinion (5)	M L4
4.2.1	✓✓A Seats/Sitplekke = 197	2A number of seats (2)	M&P L1

Q/*V*	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.2	Floor plans are a drawing that show the realationship between rooms spaces and physical features viewed from above. ✓✓A *Vloerplanne is 'n tekening wat die verband tussen kamersruimtes en fisiese kenmerke soos van bo gesien wys.*	2A correct definition (2)	M&P L1
4.2.3	Pass 3 seats turning right in the passage and walking in a westerly direction. *Gaan verby 4 sitplekke en draai regs in die gang en stap in 'n westelike rigting.* ✓A Turn left in the second passage and walk in a southerly direction to seat 13. *Draai links in die volgende gang en stap in 'n suidelike rigting na sitplek 13.* ✓A Passing seat 13 turn right and walk in a westerly direction. *Verby sitplek 13 draai regs en stap in 'n westelike rigting.* ✓A His friend will be seated on his left hand side in seat 14. *Sy vriend sal aan sy linkerkant in sitplek 14 sit.* ✓A	1A first correct direction 1A second correct direction 1A third correct direction 1A forth correct direction (4)	M&P L2
4.2.4	$P/W = \frac{1}{6}$ ✓A $\times 100\%$ ✓M $= 3{,}125\%$ ✓CA	1A Correct denominator and numerator 1M multiplying by 100 1CA percentage (3)	P L2
		[38]	

QUESTION/*VRAAG* 5 [24 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
5.1	✓✓RT Bedroom G/*Slaapkamer G*	2RT correct selection (2)	M&P L1
5.2	East elevation/*Oostelike aansig* ✓✓A	2A correct comparison (2)	M&P L2
5.3	✓✓RT 2 Foldable glass doors/*Opvoubare glasdeure*	2A correct answer (2)	M&P L1
5.4	✓RT ✓M L= (5 × 129) + (3313 + 1100 + 2000 + 3127) = 10185 mm ✓CA	1RT 5 walls 1M adding all the correct values 1CA length (3)	M L2
5.5	✓A ✓RT Scale / *Skaal* = 16 mm : 2500 mm ✓MA = 1 : 156.25 ✓CA = 1 : 200 ✓R	1A measurement 1RT correct value 1MA correct order 1CA simplification 1R rounding Accept Range :15-17mm (5)	M&P L3
5.6	$P/W = \frac{1}{4}$ ✓A ✓A = 0,25 ✓CA	1A denominator 1A numerator 1CA answer (3)	P L2
5.7	✓C A = 5,927 × 2,500 = 14,8175m² ✓CA Total area = 14,8175 × 2 ✓M = 29,635m² ✓CA Spread rate/ *verspreidings koers*= 1:5,6m² $= 1 \times \frac{29,635}{5,6}$ ✓MA = 5,29 *l* = (1 +5) = 6 ✓CA Most economical way ✓CA *Mees ekonomiese manier* = 1×5*l* *and* 1× 1*l*	1C conversion 1CA area 1M multiplying by 2 coats 1CA area 1MA method with accuracy 1CA amount of litres 1CA most economical way to buy (7)	M L3
		[24]	
		TOTAL: 150	