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Western Cape
Government

Western Cape Education Department

Directorate: Curriculum FET

TERM 1 TUTORING PROGRAMME

GRADE 12

**SUBJECT: MATHEMATICAL LITERACY
MEMORANDUM**

Tutoring Memo March 2024

Q	ANSWER	EXPLANATION	LEVEL
1.1			
1.1.1	Tariff: A list or schedule of pre-determined prices for services like trains, buses, water- and electricity usage. ✓✓A OR Cost per unit	2 A correct amount (2)	F1
1.1.2	30 AMP circuit breaker ✓✓RT	2 RT correct amount (2)	F1
1.1.3	✓MA $115\,353 - 114\,628 = 725$ ✓A OR ✓MA $R158,78 \div R0,219 = 725$ ✓A	1 MA subtraction 1 A correct answer 1 MA division 1 A correct answer Answer only full marks (2)	F1
1.1.4	✓MA $0,219 \times 725 = R158,78$ ✓A	1 MA multiplying 1 A correct answer Answer only full marks (2)	F1
1.1.5	✓MA $\frac{14}{100} \times R158,78$ $= R22,23$ ✓A	1 MA multiplying by 14% 1 A answer Answer only full marks (2)	F1
1.1.6	✓MA $R181,01 + R95,76 = R276,77$ ✓A	1 MA adding 1 A correct answer Answer only full marks (2)	F1

Vraag	Oplossing	Verduideliking	Onderw/V
2.1.1	Die koste wat verander (nie vas/nie konstant/verskil) afhangende van die aantal persone. ✓✓O	2O verduideliking (2)	L1
2.1.2	$\begin{aligned} \text{Totale koste (in Rand)} &= 6\,000 + 230 \times 45 \\ &= 6\,000 + 10\,350 \\ &= 16\,350 \quad \checkmark \text{CA} \end{aligned}$	1A vervanging met 6 000 1A vervanging met 45 1CA koste Slegs antwoord Volpunte (3)	L2
2.1.3 (a)	Avon ✓✓RG	2RG aflees van grafiek (2)	L1
2.1.3 (b)	200 ✓✓RG	2RG aflees van grafiek Aanvaar 160 (2)	L1

2.1.4 (b)	$\begin{aligned} \text{Koste vir 250 persone} &= R11\,000 + R25 \times 250 \quad \checkmark \text{SF} \\ &= R17\,250 \quad \checkmark \text{CA} \\ \\ \text{Inkomste van 194 kaartjies} &= R150 \times 194 \quad \checkmark \text{MA} \\ &= R29\,100 \quad \checkmark \text{A} \\ \\ \text{Wins} &= R29\,100 - R17\,250 \\ &= R11\,850 \quad \checkmark \text{CA} \\ \\ &\text{OF} \\ \\ \text{Wins} &= (R11\,000 + R25 \times 250) - (R150 \times 194) \\ &\quad \checkmark \text{CA} \quad \checkmark \text{M} \quad \checkmark \text{A} \\ &= R29\,100 - R17\,250 \\ &= R11\,850 \quad \checkmark \text{CA} \end{aligned}$	1SF vervanging 1CA koste 1MA vermenigvuldiging 1A inkomste 1CA wins OF 1SF vervanging 1M vermenigvuldiging 1CA koste 1A inkomste 1CA wins Let op: Indien aflesings vanaf die grafieke gemaak word dan: Koste (aanvaar omvang van 17 000 tot 17 500) - 2 punte Inkomste (aanvaar omvang van 28 900 tot 29 300) - 2 punte Volpunte kan slegs toegeken word indien die wins presies R11 850 is	L3
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(4)

2.2	Number of kilolitres used	Cost per kilolitre	Total Cost	1 A for 15 kl 1 A for 5 kl 1 A for R169,35 1 A for R169,75 1 A for R70,00 1 CA for R505,75 1 CA for R70,81 1 CA for R576,56	F3
	6 kl	Free	R0, 00		
	9 kl	R7, 85	R70, 65		
	15 kl ✓A	R11,29	R169,35 ✓A		
	15 kl	R13,05	R195,75 ✓A		
	5 kl ✓A	R14,00	R70,00 ✓A		
		Total (VAT exclusive)	R505,75 ✓CA		
		VAT (14%)	R70,81 ✓CA		
		Total (VAT inclusive)	R576,56 ✓CA	(8)	

2.3			
2.3.1	Distance: $\frac{560\ 000}{1\ 000} = 560\ \text{km} \quad \checkmark C$ Full tanks: $\frac{886\ \text{km}}{560\ \text{km}}$ =1,582 tanks For return trip = 1,582 tanks x 2✓CA =3,164 tanks They will need more than 3 tanks. ✓✓O	1C Conversion 1CA from Q2.1.2 2O Opinion	MP4
		(4)	

Q	ANSWER	EXPLANATION	LEVEL
2.3.2	Toll gates: $R42 + R58 + R62 + R44 + R10 + R10 + R12 + R41,50$ $= R279,50$ (one way) ✓A $R279,50 \times 2 = R559,00$ (return trip) ✓A Petrol – return trip will need 4 full tanks $4 \text{ tanks} \times 62 \text{ litres} = 248 \text{ litres}$ ✓M $248 \text{ litres} \times R12,60$ ✓M $= R3\,124,80$ ✓CA Total Cost = Tollgates + Petrol $= R559 + R3\,124,80$ $= R3\,683,80$ ✓CA	1A Calculate toll fees 1A Tollgates return trip 1M Multiply by 62 1M Multiply by R12,62 1CA Answer 1CA Total (6)	F3
2.3.3	Fuel Cost : $R3\,683,80 \times 1,39\%$ ✓M $= R51,20$ ✓A $R3\,683,80 + R51,20$ $= R3\,735,00$ ✓CA OR $R3\,683,80 \times 101,39\%$ ✓✓M $= R3\,735,00$ ✓CA His prediction is invalid. ✓O	1M Multiply by 1,39% 1A Answer 1CA Answer 1O Opinion (4)	F4

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Ques	Solution	Explanation	Level
4.1.2			L3
(a)	Package to Graskop: Less than 30 kg @ R70,00 ✓A Package to Klerksdorp: 18 kg ✓A 15 kg + 1 excess of 5 kg ✓A ✓CA Delivery cost R106,00 + R15,00 = R121,00 Package to Port Alfred: 18 kg ✓A 10 kg + 2 excess of 5kg ✓A ✓CA Delivery cost R160,00 + 2 × R15 = R190 Total cost = R70 + R121 + R190 = R381 ✓M VAT = R381 × 14% ✓M = R53,34 Total cost including VAT = R434,34 ✓CA OR Prices with VAT Local: R70 × 114% = R79,80 Klerksdorp: R106 × 114% = R120,84 ✓M Shaded areas: R160 × 114% = R182,40 Excess label: R15 × 114% = R17,10 To Graskop cost = R79,80 ✓A ✓A ✓A ✓CA To Klerksdorp cost = R120,84 + R17,10 = R137,94 ✓A ✓A ✓CA To Port Alfred cost = R182,40 + 2 × R17,10 = R216,60 Total cost = R79,80 + R137,94 + R216,60 ✓M = R434,34 ✓CA	1A Graskop R70 1A splitting mass to Klerksdorp 1A R106 1CA cost 1A splitting mass to PA 1A R160 1CA cost 1M adding 1M VAT 1CA total cost incl. VAT (For Port Alfred max 3 marks if cost is calculated using R106 - Cost R121 or R117 - Cost 132) OR 1M adding VAT to costs 1A Graskop cost Klerksdorp: 1A basic cost 1A one excess label 1CA cost Port Alfred 1A basic cost 1A two excess labels 1CA cost 1M adding 1CA total cost incl. VAT (10)	F

4.1.2	Solution	Explanation	Level
(b)	30 April from 14:50 to 24:00 is 9 hours 10 min ✓A 1 May is 24 hours 2 May from 00:00 to 8:15 is 8 hours 15 min } ✓A Total elapsed time = 41 hours 25 min ✓CA This is within the 48 hour service. ✓O OR 30 April from 14:50 To 1 May 14:50 (24 hours / 1st day) ✓A To 2 May 14:50 (48 hours / 2nd day) ✓A But 2 May 8:15 is before 48 hours. ✓A It is within 48 hours ✓O	1A time 30 April 1A time 1 and 2 May 1CA adding time 1O opinion based on CA from 4.2.2 (a) OR 1A 1st day 1A 2nd day 1A conclusion 1O conclusion (4)	L4 M
4.1.3	Box size A: (a) Number of boxes = $\frac{650}{7} = 92,857$ ✓M ≈ 93 ✓R Mass of box = $7 \times 2 \text{ kg} = 14 \text{ kg}$ ✓A Cost = $R117,00 \times 93$ = R10 881 ✓CA	1M dividing 1R rounding up 1A rate to George 1CA cost (4)	L3 F

Ques.	Solution	Explanation/Marks AO	Lev.
5.1.1	$742 + 753 \quad \checkmark M$ $= 1\,495 \quad \checkmark CA$	1M addition 1CA answer (2)	L1
5.1.2	Kwazulu-Natal $\checkmark \checkmark RT$	2RT correct province (2)	L1
5.1.3	$247\,739 - (22\,784 + 23\,415) \quad \checkmark RT \checkmark M$ $= 201\,540 \quad \checkmark CA$	1RT correct values 1M subtraction 1CA answer (3)	L2
5.1.4	$P(\text{selecting a passenger vehicle from Western Cape}) = \frac{37\,848}{247\,739} \quad \checkmark A$ $= 0,15277 \times 100 \quad \checkmark M$ $= 15,277\% \quad \checkmark CA$	1A numerator 1A denominator 1M multiply by 100 1CA answer (4)	L2
5.1.5	$\text{No. of cars sold} = 23\,415 - 22\,189 \quad \checkmark A \checkmark M$ $= 1\,226 \quad \checkmark CA$	1A correct values 1M subtraction 1CA answer (3)	L1
5.1.6	Range is the difference between the maximum value and minimum value. $\checkmark \checkmark A$	2 A Explanation (2)	L1
5.1.7	$\text{Range} = \text{Maximum value} - \text{Minimum value}$ $\quad \checkmark RT$ $= 10\,412 - 281 \quad \checkmark M$ $= 10\,131 \quad \checkmark CA$	1RT correct values 1M subtracting 1CA answer (3)	L2
5.1.8	$\text{Mean} = \frac{247\,739}{9} \quad \checkmark RT$ $= 27\,526,555 \quad \checkmark CA$ $= 27\,527 \quad \checkmark CA$ OR $\text{Mean} = \frac{12\,017 + 7\,002 + 114\,822 + 41\,912 + 9\,447 + 13\,071 + 8\,681 + 2\,939 + 37\,848}{9} \quad \checkmark M$ $\text{Mean} = \frac{247\,739}{9} \quad \checkmark$ $= 27\,526,555$ $= 27\,527 \quad \checkmark CA$	1RT total, 1M divide by 9 1CA NPR 1M addition 1M divide by 9	L2

Ques.	Solution	Explanation/Marks	Lev.
5.1.9	$\begin{aligned} \text{IQR} &= 39\,880 - 7\,842 \\ &= 32\,038 \end{aligned}$	1RD correct values 1M subtraction 1CA IQR	L2
5.2.1	2013	2RT (2)	L2
5.2.2	$1,30 \times 1000\,000\,000$ $1\,300\,000\,000$	1RT 1CA answer (2)	L2
5.2.3	Mode (net migrants) = -4,9 millions	2RT correct value Accept 4,9 millions (2)	L2
5.2.4	2015	2RT greatest change (2)	L1
5.2.5	$P(\text{a year with urban population less than 4,2}) = \frac{3}{7}$	1A numerator 1A denominator (2)	L2
5.2.6	$\begin{aligned} &1\,140\,000\,000 - 2\,880\,000 \\ &= 1\,13\,7120\,000 \end{aligned}$	1RT correct values 1M subtracting 1CA answer (3)	L2
		[38]	

QUESTION 4 [39 marks]			
Ques	Solution	Explanation	Topic/L
6.1.1	E ✓✓A	2A correct description (2)	D L1
6.1.2	B ✓✓A	2A correct description (2)	D L1
6.2.1	$\frac{3}{10} \times 100\%$ ✓A = 30% ✓CA	1A numerator 1A denominator 1CA percentage AO (3)	P L2
6.2.2	72; 109; 118; 137; 137; 144; 144; 146; 162; 168 ✓MA Median = $\frac{137+144}{2}$ ✓M = 140,5 ✓CA	1MA arranging (ascending or descending) 1M median concept 1CA median AO (Wrong column used Max 2 marks) (3)	L2 D
6.2.3	✓A 39 % and 41% ✓A	1A mode 1 1A mode 2 (Wrong column used Max 1 mark for both modes) (2)	L1 D
6.2.4	G ✓✓RT	2RT correct learner (Accept 7 th learner) (2)	D L1
6.2.5	✓MA $382\% \div 10$ ✓M = 38,2% OR 38% ✓CA OR ✓MA $\frac{1337}{10 \times 350} \times 100\%$ ✓M = 38,2% OR 38% OR accept 0,382 OR 0,38 ✓CA	1M mean concept 1MA adding correct values 1CA mean % mark OR 1M mean concept 1MA adding correct values 1CA mean % mark AO (3)	D L2

Ques	Solution	Explanation	Topic/L
6.2.6	$\text{New SBA \%} = \frac{137}{300} \times 100\%$ $\approx 46\%$ OR $\frac{137}{6} = 23$ $= \frac{23}{50} \times \frac{100}{1}$ $\approx 46\%$	1A numerator 1A denominator 1CA percentage OR 1A numerator 1A denominator 1CA percentage AO NPR	D L2
6.3.1	B ✓✓A	2A correct statement	D L1
6.3.2	Indian/Asian 15 – 19 ✓RT	1RT race group 1RT age group	D L1
6.3.3	$Y = 2\,334\,819 + 2498\,098 = 4\,832\,917$ OR $Y = 426\,156 + 430\,667 + 431\,779 + 437\,412 + 1\,558\,886 + 1\,150\,775 + 365\,544 + 31\,698$ $Y = 4\,832\,917$	1MA adding 1CA total OR 1MA adding 1CA total AO	P L1
6.3.4	$\frac{2\,334\,819}{54\,957\,764} \times 100\%$ $= 4,25\%$	1RT correct values 1M Probability as a % 1CA percentage AO NPR	D L2

Ques	Solution	Explanation	Topic/L
6.3.5	$\checkmark$ RT $674\ 730 : 688\ 118 \checkmark$ A $= 337\ 365 : 344\ 059 \checkmark$ CA	1RT correct values 1A ratio concept 1CA simplified ratio in correct order (Correct unit ratio max 2)	D L1
6.3.6	$\checkmark$ RT $\frac{2\ 498\ 098}{54\ 957\ 764} \times 100\% \checkmark$ M $= 4,545486967\% \checkmark$ CA	1RT correct values 1M multiply by 100% 1CA Percentage AO NPR	D L2
6.3.7	20–39 $\checkmark\checkmark$ RT	2RT correct age group	D L1
6.3.8	Bar graph OR B $\checkmark\checkmark$ RT	2RT correct graph type	D L1
		(39)	

QUESTION/VRAAG 4 [22 MARKS/PUNTE]			
Q/V	Solution/Oplossing	Explanation/Verduideliking	T&L
7.1.1	Isindebele $\checkmark\checkmark$ RT	2RT reading from the table	D L1
7.1.2	isiZulu $\checkmark\checkmark$ A	2A Afrikaans	D L1
7.1.3	0; 0,6; 1,5; 2,2; 2,5; 4,4; 7,7; 8,2; 8,6; 9,2; 14,4; 17,9; 22,9 $\checkmark\checkmark$ A	2A ascending order	D L1
7.1.4	Median/Mediaan = 7,7 $\checkmark\checkmark$ A	2A correct median	D L2
7.2.1	Twelve million two hundred and seventy two thousand two hundred and sixty three./Twaalf miljoen twee honderd twee en sewentig duisend twee honderd drie en sestig. $\checkmark\checkmark$ A	2A correct words	D L1
		(2)	

7.2.2	$\checkmark$ RT Range/Omvang = 8 417 021 – 840 321 $\checkmark$ M = 7 576 700 $\checkmark$ CA	1RT correct values 1M subtracting values 1CA simplification (3)	D L2
7.2.3	$\checkmark$ RT A = 8 837 178 + 9 426 017 + 6 436 763 + 4 524 335 + 5 273 642 + 3 122 990 + 3 669 349 + 2 706 775 + 822 727 $\checkmark$ M = 44 819 776 $\checkmark$ CA	1RT correct values 1M adding all the values 1CA simplification (3)	D L1
7.2.4	Mode/Modus = 6,8% $\checkmark\checkmark$ A	2A mode (2)	D L2
7.3.1	No education/Geen onderwys $\checkmark\checkmark$ RT	2RT correct qualification (2)	D L1
7.3.2	Code/Kode 04 $\checkmark\checkmark$ RT	2RT correct qualification (2)	D L1
		[22]	

Q/V	Solution/Oplissing	Explanation/Verduideliking
8.1.1	Annual salary/ Jaarlikse salaris R78 264 $\times$ 12 $\checkmark$ MA = R939 168 $\checkmark$ A	1MA Multiplying correct salary by 12 1A answer (2)
8.1.2	R708 311 and above $\checkmark\checkmark$ A	2A answer (Accept 708 311 – 1 500 000) (2)
8.1.3	South African Revenue Service/ Suid Afrikaanse Inkomste dienste $\checkmark\checkmark$ A	2A answer (2)

8.1.4	Medical tax crediet/ <i>Mediese belasting krediet</i> ✓MA $(2 \times R310) + (3 \times R209)$ ✓MAR620 + R627 = R1 247 ✓A $R1\ 247 \times 12 = R14\ 964$ ✓A	1MA multiplying 310 by 2 1MA multiplying 209 by 3 1A answer for adding 2 values 1A answer (4)
8.1.5	Monthly tax payable/ <i>Maandelikse belasting betaalbaar</i> $R78\ 264 \times 108\% = R84\ 525,12$ ✓MA $R84\ 525,12 - R6\ 339,38$ (7,5% pension) ✓MCA = R78 185,74 $R78\ 185,74 \times 12$ = R938 228,88 (annual taxable income) ✓MCA Bracket 6/ <i>Kategorie 6</i> = $207\ 448 + 41\% (938\ 228,88 - 708\ 310)$ ✓MCA = $207\ 448 + 41\% (229\ 918,88)$ = $207\ 448 + 94\ 266,74$ ✓CA = $301\ 714,74 - 14\ 220 - (1\ 247 \times 12)$ Medical aid ✓MA = $301\ 714,74 - 14\ 220 - 14\ 964$ ✓MCA = $R272\ 530,74 \div 12$ = R22 710,90 ✓CA	1MA multiplying correct value with 108% 1MCA correct pension value subtracted 1MCA multiplying taxable income with 12 1MCA substitution of taxable income into bracket 6 1CA simplifying 1MA subtracting correct tax rebate 1MCA from 3.3.4 medicalaid subtracted 1CA monthly tax deductible (8)