Province of the
EASTERN CAPE
EDUCATION

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REPUBLIC OF SOUTH AFRICA

CHIEF DIRECTORATE – CURRICULUM MANAGEMENT

GRADE 12 LEARNER SUPPORT PROGRAMME

REVISION AND REMEDIAL TEACHING INSTRUMENT: ANSWERS

SUBJECT: MATHEMATICAL LITERACY – SECOND PAPER

June 2009

This document consists of 7 pages.

Strictly not for test/examination purposes

SYMBOL	EXPLANATION
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG	Reading from a table/graph
F	Choosing the correct formula
SF	Substitution in a formula
O	Opinion
P	Penalty: e.g. for: no units, incorrect rounding off, etc.
R	Rounding off
J	Justification

QUESTION 1[41]

Ques	AS	Solution	Explanation
1.1.1	12.1.1 12.3.4.1	$V_{cylinder} = \pi r^2 h$ ✓ $= 3{,}14 \times (4)^2 \times 12$ ✓ $= 602{,}88\ cm^3$ ✓ **OR** $V_{cylinder} = \pi r^2 h$ ✓ $= \pi \times (4)^2 \times 12$ ✓ $= 603{,}19\ cm^2$ ✓	Choosing Formula (F) Method (SF) Accuracy (CA) (3)
		$V_{rectangle} = lbh$ ✓ $= 7 \times 5 \times 12$ ✓ $= 420\ cm^3$ ✓ Cylinder has a bigger volume.	Choosing Formula (F) Method (SF) Accuracy (CA)(3)
1.1.2	12.1.1 12.3.1.4	$SA = 2\pi rh + 2\pi r^2$ $= 2\ (3{,}14)(4)(12)$ ✓ $+ 2\ (3{,}14)(4)^2$ ✓ $= 311{,}44 + 100{,}48$ ✓ $= 401{,}92\ cm^2$ ✓ **OR** $SA = 2\pi rh + 2\pi r^2$ $= 2(\pi)(4)(12)$ ✓ $+ 2(\pi)(4)^2$ ✓ $= 402{,}123\ldots cm^2$ ✓✓ **OR** $SA = 2\pi rh + 2\pi r^2$ $= 2(3{,}14)(0{,}04)(0{,}12)$ ✓ $+ 2(3{,}14)(0{,}04)^2$ ✓ $= O{,}040192\ m^2$ ✓ $= 0{,}04 m^2$ ✓ **OR** $SA = 2\pi rh + 2\pi r^2$ $= 2(\pi)(0{,}04)(12)$ ✓ $+ 2(\pi)(0{,}04)^2$ ✓ $= 0{,}040212\ldots m^2$ ✓✓	Substitution (SF) Accuracy (CA) Answer (A) (4)
1.1.3	12.1.1 12.3.2	$1000\ cm^3 = 1\ \ell$ $602{,}88 cm^3 \div 1000$ ✓ $= 0{,}6\ \ell$ x 1000 ✓✓ $= 602{,}88\ \ell$ ✓	Conversion (C) Method (multiplication) Method (MA) Answer (A) (4)

1.1.4	12.1.1	1 candle uses 0,04 m^2 1000 x 0,04 m^2 ✓✓ = 40 m^2 ✓✓	Method (Multiplication and substitution) MA Consistent Accuracy (CA) (4)
1.1.5	12.1.1 12.1.2	Wax = R2,50 x 602,88 ℓ ✓ = R1 507,20 ✓	Method (MA) Answer (A)
		Plastic Wrappings = R3,50 x 40 ✓ = R140 ✓	Method (MA) Answer (A)
		Total cost = R1 507, 20 + R140 ✓ = R1 647,20 ✓	Method (MA) Answer (A)
		Less discount : (15% of R 1 647,20) = 0,15 x 1 647,20 ✓ ✓ = R247,08 ✓	For calculating discount: Method (MA) Answer (A)
		Amount = R1647,20 – R247, 80 ✓ = R1 400,12 ✓	Subtraction (M) Answer (A) (13)
		Vat (14%) = 1,14 x R1 400,12 ✓ = R1 596,14 ✓	
1.2.1	12.1.1 12.1.2	Length = 0,24 ÷ 0,12 = 2 candles ✓ Breadth = 0,4 ÷ 0,08 = 5 candles ✓ Height = 0,4 ÷ 0,08 = 5 candles ✓	Method (M)
		Volume of box /Amount of candles in the box = lbh = 2 x 5 x 5 ✓ = 50 candles	Method with accuracy (MA) (4)
1.2.2	12.1.1	50 candles per box ✓ 1000 ÷ 50 = 20 boxes ✓	Method (M) Accuracy (A) (2)
1.2.3	12.1.1	1000 x R25 ✓✓ = R25 000 ✓✓	Method (M) Substitution (S) Accuracy (A) (4) **[41]**

QUESTION 2 [14]

2.1.1	12.2.3	For stating the answer as C✓	RG (Reading off graph) (1)
2.1.2	12.2.3	For stating the answer as B✓	RG (Reading off graph) (1)
2.1.3	12.2.3	For stating the answer as D✓	RG (Reading off graph) (1)
2.1.4	12.2.3	For stating the answer as A✓	RG (Reading off graph) (1)

2.2	12.2.3	For identifying the correct number of one of the fruits apples = 34✓✓ or oranges = 16 (2 marks for the first correct answer) For identifying the number of the second fruit oranges = 16 apples = 34✓ (For calculating the number of the 2nd = 50 – number of first fruit)	RG (Reading off graph) (2) RG (Reading off graph) (1)
2.3	12.2.1	For writing P = 15x + 20y✓✓	Method (MA) (2)
2.4	12.2.1	For calculating the profit = 15 x 34 ✓ + 20 x 16✓ = 830c or R8,30✓	Method & Substitution (SF) (2) Accuracy (1)
2.5	12.3.1	For giving any two good possible suggestions: Put in more money to buy more fruits✓ Look for another venue where she could sell more fruit✓ Sell more oranges as it gives more profit	Opinion (O) (2)

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QUESTION 3 [12]

3.1

3.1.1	12.2.3 12.4.4 12.1.3	For stating between 27 July and 04 August 2008✓ Method (MA)	RG (Reading off graph) (1)
3.1.2	12.4.2 12.1.3	The exchange rate was very stable/ did not fluctuate too much/ did not change too much, etc. ✓✓	Opinion (O) (2)
3.1.3	12.2.3	For calculating the amount of US dollars ($) = 18 125 ÷ 8,25 ✓✓ = $2 197 ✓	Method (MA) (2) Consistent Accuracy(CA) (1)
3.2.1	12.1.1	For calculating the rand = 500 x 11,55✓ = R5 775✓	Method (MA) (1) Accuracy (1)
3.2.2	12.4.4 12.1.3	He thought that the dollar would get stronger/ The rand would get weaker ✓✓	Opinion/ Justification (2)
3.2.3	12.2.3 12.1.3	As the rand is getting stronger, he would get more dollars when he converts his rand into dollars. So he could change the dollars before the rand appreciates too much. ✓✓	Opinion (O) (2)

OR

			Opinion (O)	
		As a frequent traveller he needs dollars. It will be better to keep his dollars unchanged in order not to spend money on bank charges ✓✓	(2)	
		OR		
		any justifiable response with valid reasons✓✓		

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QUESTION 4 [12]

4.1	12.4.4	For the answer = 30 people✓	(RG)	(1)
4.2	12.4.4	For estimating the answer = 12 people ✓✓	(RG)	(2)
4.3	12.4.4 12.4.3	For identifying the correct group ✓ Getting the mode as R700✓	(RG)	(2)
4.4	12.4.4	For having evidence of reading the frequencies correctly ✓	Method with accuracy (MA)	(1)
		For evidence of adding the frequencies ✓	Method (MA)	(1)
		For the total number = 150 people✓ (Depending on values in QUESTION 4.2 and the frequency for R900)	Consistent Accuracy (CA)	(1)
4.5	12.1.1	For calculating the total: (300 x 10) + (400 x 15) + (500 x 25) + (600 x 30) + (700 x 40) + (800 x 12) + (900 x 13) + (1000x10)✓	Method with Accuracy (MA)	
		= R92 800 ✓ (According to his values for R800 and R900)	(2) Consistent Accuracy (CA)	
		For calculating the average = 92 800 ÷ 150 (his value) ✓ = R618,66 The closest to this amount is R600	(2)	

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QUESTION 5 [21]

5.11	12.1.1	81,7 + 13,5% of 81,7✓	Method (M)
	12.2.1	= 81,7 + 0,135 x 81,7✓	Method (MA)
		= 92,73 bn✓	Answer (A)
		92,73 billion rand	(3)
5.1.2	12.1.1	97,8 – 83,6 ✓	Method (M)
		14,2 ✓	Answer (A)
		$\frac{14,2}{83,6} = 0,169856....$	Method (MA)
		$= 0,169856 \times 100$ ✓✓	Consistent Accuracy (CA)
		$= 16,9856$	Answer (A)
		$= 17\%$	(4)
5.1.3	12.2.3	This may be so in the light of the upcoming FIFA World Cup Soccer Tournament.	(1)
		OR	
		Any other suitable answer	
5.2.1	12.2.3	22:00 – 07:00 = 9 hrs ✓	Method (M)
		Total cost = 9 x 2,50✓	Method (CA)
		= R22,50✓	Accuracy (CA) (3)
5.2.2	12.1.1	Day time charge: 20:00 – 14:30	Method (M)
	12.2.3	= 5½ hrs ✓	
		1st hr = R5,00 ✓	Method (CA)
		4½ hrs = 9 x R1,50 ✓	Multiplication (CA)
		= R13,50 ✓	Answer (A)
		Total for day time charge = R5,00 + R13,50	
		= R 18,50 ✓	Method (M)
		Night time charge: 22:15 – 20:00	Method (MA)
		= 2 hrs 15 min ✓	Multiplication (CA)
		= 3 x R2,50 ✓	Answer (A)
		= R7,50 ✓	
			Consistent
		Total cost for parking : R18,50 + R7,50	Accuracy (CA)
		= R26,00 ✓	(9)
5.2.3	12.2.3	The parking space is in demand during the day. These are business hours. Fewer people make use of the parking space at night.	Opinion (O) (1)

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MATHEMATICAL LITERACY GRADE 12
JUNE 2009 - PAPER 2

	Context Detail		Learning outcomes				Taxonomy levels				
							L 2	L 3	L 4		
			LO 1	LO 2	LO 3	LO 4	20%	40%	40%		
1	Candle making	1.1.1			3.1.3			6			41
		1.1.2			3.1.1.4			4			
		1.1.3			3.2		1	2	1		
		1.1.4			3.1.1.4			3	1		
		1.1.5			3.1.3		8	5			
		1.2.1			3.1.1.1			4			
		1.2.2			3.1.1.3		2				
		1.2.3			3.1.1.3		3				
2	Nomsa's fruit sales	2.1.1		2.3					1		14
		2.1.2		2.3					1		
		2.1.3		2.3					1		
		2.1.4		2.3					1		
		2.2		2.3				2	1		
		2.3		2.3			2				
		2.4		2.3				3			
		2.5		2.3					2		
3	Exchange rates	3.1.1		2.3					1		12
		3.1.2		2.3/4.2				2			
		3.1.3		2.3				3			
		3.2.1		2.3			2				
		3.2.2		2.3/4.4					2		
		3.2.3		2.3					2		
4	Travel Information	4.1				4.4	1				12
		4.2				4.4	2				
		4.3				4.4/4.3	2				
		4.4				4.4	1	2			
		4.5				4.1		3	1		
5	Government Expenditure	5.1.1	1.1	2.1				3			21
		5.1.2	1.1					4			
		5.1.3		2.3					1		
		5.2.1		2.3				3			
		5.2.2	1.1	2.3				9			
		5.2.3		2.3					1		
							24%	58%	17%		