higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

NOVEMBER EXAMINATION

MATHEMATICAL LITERACY
(FIRST PAPER)
NQF LEVEL 2

28 OCTOBER 2013

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD/RM	Reading from a table/graph/drawing/document/map
F	Choosing correct formula
SF	Substitution in formula
R/J	Reasoning/Justification
P	Penalty, e.g. for no units, incorrect rounding off etc.
R	Rounding off
E	Explanation
U	Unit

This marking guideline consists of 12 pages.

QUESTION 1

Question	Solution		Explanation
1.1	1.1.1	$8 \times 0,5 \times 2$ $= 8$ ✓	1 A solution (1)
	1.1.2	$\frac{12}{3} - 4$ ✓ $= 0$ ✓	2 A solution (2 Answer only) (2)
1.2	20:15✓		1 A solution (1)
1.3	$= 47,5 \times 1\ 000$ ✓ $= 47\ 500$ ✓ m		1 M method 1 A solution (2 Answer only) (2)
1.4	$=35 \div 10$ ✓ = R3,50✓ (No marks subtracted for R omitted)		1 M method 1 A solution (2 Answer only) (2)
1.5	$= \frac{205 - 113}{113} \times 100$ ✓ = 81,42 ✓ % increase (Accept 0,81 if given formula was used) (Do not subtract a mark for % omitted)		1 SF 1 A solution rounded off (2 Answer only) (2)
1.6	09:35✓✓ (accept 9.35 am)		2 A solution (2)
1.7	-11°C , -5°C , ✓ 0°C, 5°C, 7°C✓		2 A solution (2)
1.8	$= \frac{124}{24}$ ✓ = 5,2✓ (Accept 5,17; $5,1\dot{6}$) = 6 buses✓ OR $= \frac{124}{24}$ ✓ = 6 buses✓✓		1 M method 1 A solution 1 R rounding up (3)

1.9	$= \frac{35}{60} \times 100$ ✓ = 58,33%✓ (Accept 58%, 58,3%) (Do not subtract a mark for % omitted)		1 M method 1 A solution (2 Answer only) (2)
1.10	3 + 2 = 5 ✓ (total parts – mark allocated for 5) $\frac{3}{5} \times$ R15 000 $\quad$ $\frac{2}{5} \times$ R15 000 Tom = R9 000✓ Lucas = R6 000✓ (No marks subtracted for R omitted) OR $\frac{3}{5} \times$ R15 000 ✓ R15 000 – R9 000✓ = R6 000✓ OR R15 000 ÷ 5 = R3 000✓ R3 000 × 3 = R9 000✓ R3 000 × 2 = R6 000✓		1M method 2 A solution (No calculations shown give 2 marks only for correct answers) (3)
1.11	A = l^2 *(or* $l \times b$*)* = 3^2✓ (accept 9) = 9 cm^2✓		1 SF substitution in formula 1 A solution with correct unit (2)
1.12	= R250 × 1,14✓✓ = R285,00✓ (No marks subtracted for R omitted)	OR 250 × 0,14 = R35✓ = R250 + R35✓ = R285,00✓ OR 250 + ✓ $(\frac{14}{100} \times 250)$ ✓ = R285,00✓	2 M method 1 A solution (2 marks for answer only) (3)
1.13	Option 1: R6,50 × 12 = R78,00 Option 2: R33,00 × 2 = R66,00 ✓ Option 2✓ is better and you save: R78 - R66 = R12,00✓ (No marks subtracted for R omitted)		1 M method 2 A solution

	OR Option 1: R6,50 per can Option 2: R33 ÷ 6 = R 5,50 per can✓ Option 2 ✓is the better choice. Saving is R1 per can. Savings for 12 cans will be R12,00✓	(3)
1.14	= 30 × 11✓ = 330✓ km	1 M method 1 A solution (2 Answer only) (2)

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QUESTION 2

Question	Solution		Explanation
2.1	2.1.1	D = (62 × 2) cm✓ = 124✓ cm	1 M solution 1 A solution (2 Answer only) (2)
	2.1.2	P = 4 × 124✓✓ = 496✓ cm	2 SF substitution in formula 1 A solution (2 Answer only) (3)
	2.1.3	$A = \pi r^2$ = 3,14 × $(62)^2$✓ = 12 070,16✓ cm^2✓ (accept 12 076,28)	1 SF substitution in formula 1 A solution 1 U iCorrect Unit (3)
	2.1.4	C = 2 × 3,14 × 62✓ = 389,36✓cm✓ (accept: 389,56 cm)	1 SF substitution in formula 1 A solution 1 U Correct Unit (3)
2.2	2.2.1	h = 2 × 2✓ h = 4✓m	1 M solution 1 A solution (2 Answer only) (2)
	2.2.2	b = 0,5 × 2✓ b = 1✓m	1 M solution 1 A solution (2 Answer only) (2)
	2.2.3	L = $\sqrt{4^2 + 1^2}$ ✓ L = $\sqrt{17}$ ✓ L = 4,123✓m (accept 4; 4,1; 4,12)	CA with mistake in 2.2.1 & 2.2.2 2 M solution 1 A solution (3 Answer only) (3)

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QUESTION 3

NOTE: No marks subtracted for R omitted in any of the questions below.

3.1		Pocket money✓ Salary✓	2 A solution (2)
3.2		Food✓ Clothing ✓ *Alternative answers* Entertainment, Stationery and library, transport Other (Airtime, internet, SMS/MMS/Data bundles, etc.) (Do not accept rent)	2 A solution (2)
3.3	3.3.1	A = 700 + 1100 + 750✓ A = R2 550✓	1 M method 1 A solution (2 Answer only) (2)
	3.3.2	B = 700 + 1100 + 980✓ B = R2 780✓	1 M method 1 A solution (2 Answer only) (2)
	3.3.3	C = 100 + 600 + 170 + 650 + 400 + 150 + 110✓ C = R2 180✓	1 M method 1 A solution (2 Answer only) (2)
	3.3.4	D = 140 + 554 + 210 + 650 + 400 + 145 + 130✓ D = R2 229✓	1 M method 1 A solution (2 Answer only) (2)
3.4	3.4.1	E = 600 - 554✓ E = R46✓	1 SF 1 A solution (2 Answer only) (2)
	3.4.2	F = 170 - 210✓ F = - R40✓	1 SF 1 A solution (2 Answer only) (2)
3.5		G = A - C = 2 550 - 2 180 ✓ G = R370 ✓	CA 3.3.1 and 3.1.3 1 M method 1 A solution (2 Answer only) (2)

3.6	H = B – D = 2 780 – 2229 ✓ H = R551✓	CA with mistake made in 3.3.2 and 3.3.4 1 M method 1 A solution (2 Answer only) (2)
3.7	Over spending ✓✓ Any other reason which will translate to the same	2 Reason (2)

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QUESTION 4

Question	**Solution**	**Explanation**
4.1	3 ✓✓clients	2 A solution (2)
4.2	✓ ✓ 20 km	1 A solution 1 U correct unit (2)
4.3	✓ ✓ 1 hour	1 A solution 1 U correct unit (2)
4.4	=120 ÷ 1,5✓ = 80 ✓km/h	1 SF substitution in formula 1 A solution (2 Answer only) (2)
4.5	= 14:30–8:00✓ = 6 hours✓ 30 minutes✓ (Do not accept 6:30 , 6.30)	1RG reading from the graph 2 A solution (3 Answer only) (3)

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QUESTION 5

Question	Solution		Explanation
5.1	5.1.1	E (Example) (Only mark from 5.1.2 – 5.1.6)	
	5.1.2	D✓✓	2 A solution (2)
	5.1.3	F✓✓	2 A solution (2)
	5.1.4	B✓✓	2 A solution (2)
	5.1.5	C✓✓	2 A solution (2)
	5.1.6	A✓✓	2 A solution (2)
5.2	5.2.1	= (21 + 21) ÷ 2 ✓ = 21✓	1 M method 1 A solution (2 Answer only) (2)
	5.2.2	= 659 ÷ 30 ✓ = 21,9✓ = 21✓	1 M method 1 A solution 1R rounding down (3)
	5.2.3	20✓	1 A solution (1)
	5.2.4	27 – 19✓ = 8✓	1 M method 1 A solution (2 Answer only) (2)

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QUESTION 6

Question	Solution	Explanation
6.1	R521✓✓	2 A correct answer (2)
6.2	= 260 ✓+ 107 + 92✓ = 459 km✓	2 M method 1 A correct answer with unit (3 Answer only) (3)
6.3	3 ✓✓camps (accept 4 – reason: symbols for camp and lodge are the same)	2 A correct answer (2)
6.4	South west✓✓ (SW)	2 A correct answer (2)
6.5	= (260 + 107)✓÷ 80 ✓= 4,5875 or 367 ÷ 80 = 4,59h ✓ ✓ ✓ = 4,59 ✓hours (2 Answer only)	1 SF 1 M method 1 A correct answer (3)

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QUESTION 7

NOTE: No marks subtracted for R omitted in any of the questions below.

7.1		2013-10-09 to 2013-11-08✓ (Accept 1 month)	1 A correct answer (1)
7.2		John Jones✓	1 A correct answer (1)
7.3		R0.55✓ or 55 cents	1 A correct answer (1)
7.4		Overdraft of R72.47✓✓ or owing the bank R72.47✓✓	2 A correct answer (2)
7.5	(a)	Balance = 169.62 – 100 ✓ Balance = R69.62✓	1 M method 1 A correct answer (2 Answer only) (2)
	(b)	Credit =781.57 -731.57✓ Credit = R50✓	1 M method 1 A correct answer (2 Answer only) (2)

7.6	A deposit paid into the account✓✓	2 A correct answer (2)

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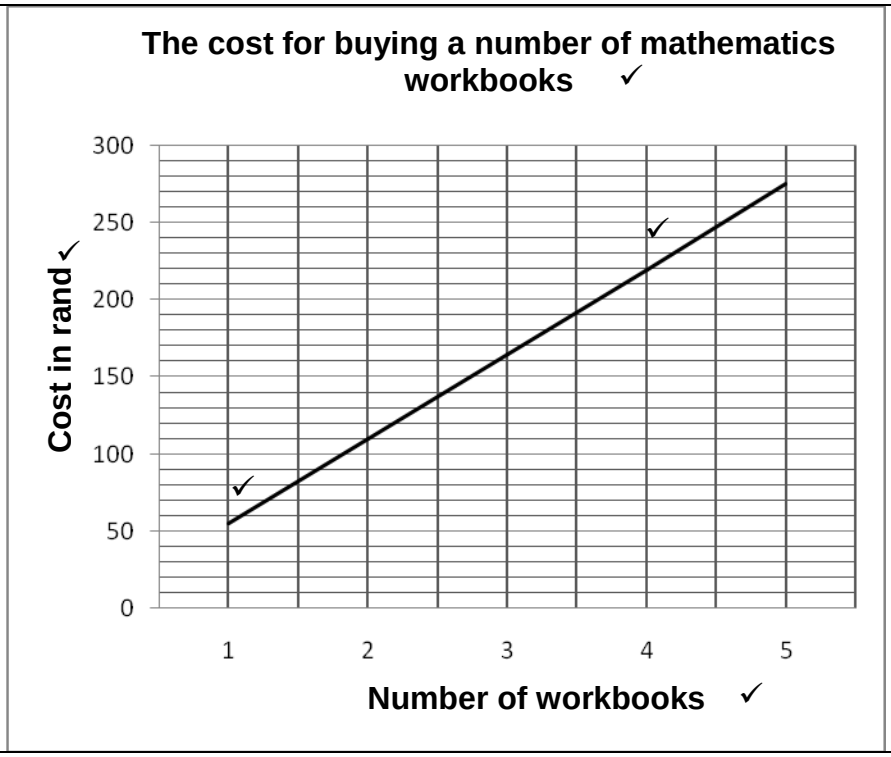
QUESTION 8

NOTE: No marks subtracted for R omitted in any of the questions below.

Question	Solution	Explanation
8.1 (a)	Cost = R55 × 3✓ Cost = R165,00✓	1 M method 1 A solution (2 Answer only) (2)
(b)	No. of books = R385 ÷ 55✓ No. of books = 7✓	1 M method 1 A solution (2 Answer only) (2)
8.2	✓ ✓ Cost = R55× No. of books OR ✓ ✓ $y = 55x$ where y = cost and x = no. of books	2 A solution (2)
8.3	y = R55 × 150✓ Cost = R8 250✓	1 SF substitution in formula 1 A solution (2 Answer only) (2)
8.4	Number of work books✓ or x	1 A correct answer (1)
8.5	Cost in rand or Price ✓ or y	1 A correct answer (1)

8.6		1 Title 2 Axis labels 2 Correct graph (5)

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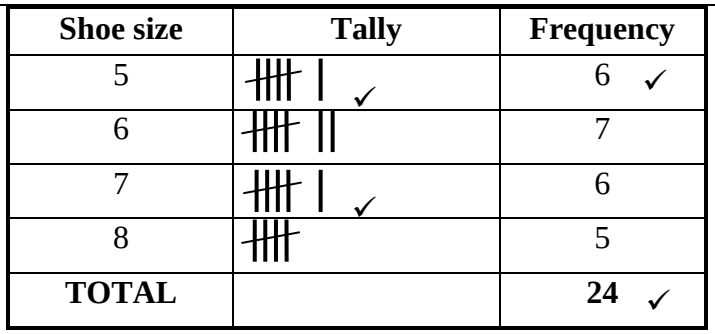
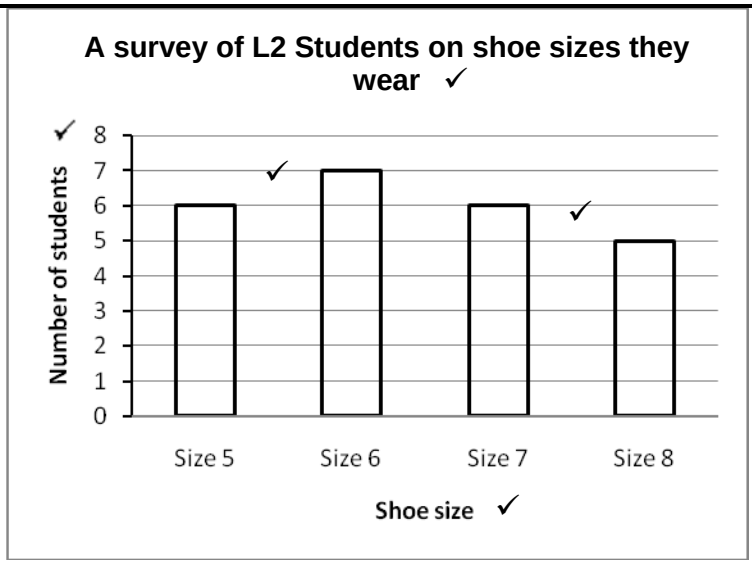
QUESTION 9

Question	Solution	Explanation
9.1		2 marks for correct tallies (1 incorrect tally – subtract one mark; 2 incorrect – no marks for tally) 1 mark for correct frequency (CA tally) 1 mark for total (CA freq) (4)
9.2	24 : 20% x : 100%✓ $x = 24 \times 5 = 120$✓ or 24×5✓ $= 120$✓	CA with mistake in 9.1 1 M method 1 A correct answer (2 Answer only) (2)

9.3		CA with mistake in 9.1 1 Title 2 Axis labels 2 Correct graph (1 bar incorrect: subtract one mark. 2 bars incorrect: no marks) (Accept frequency instead of number of students) (5)

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TOTAL: 150