MATHEMATICAL LITERACY

(PAPER 2)

JUNE 2008

MEMORANDUM

TIME: 2 HOURS
MARKS: 100

education

Western Cape Education Department

NATIONAL STRATEGY FOR LEARNER ATTAINMENT

NATIONAL SENIOR CERTIFICATE

MEMORANDUM

This memorandum consists of **6** pages

QUESTION 1 [37]

1.1			
1.1.1	4; 5,5; 8; 14; 16; 17; 17,2; 24; 26; 28; 29; 31✓✓	Order (2)	**(2)**
1.1.2	June✓ and July✓	Answer (2)	**(2)**
1.1.3	February is the hottest month of the year. (In the Western Cape)✓ Any reason like: "need lots of water for garden because of heat" or "need lot of water to fill up swimming pool", etc.	Reason (1)	**(1)**
1.1.4	It is winter and they do not have to wet the garden because of the rain. ✓ OR They went away during the school holiday.	Reason (1)	**(1)**
1.1.5	Mean = 219,7✓ ÷ 12✓ ≈18,31kℓ✓	Method (2) Answer (1)	**(3)**

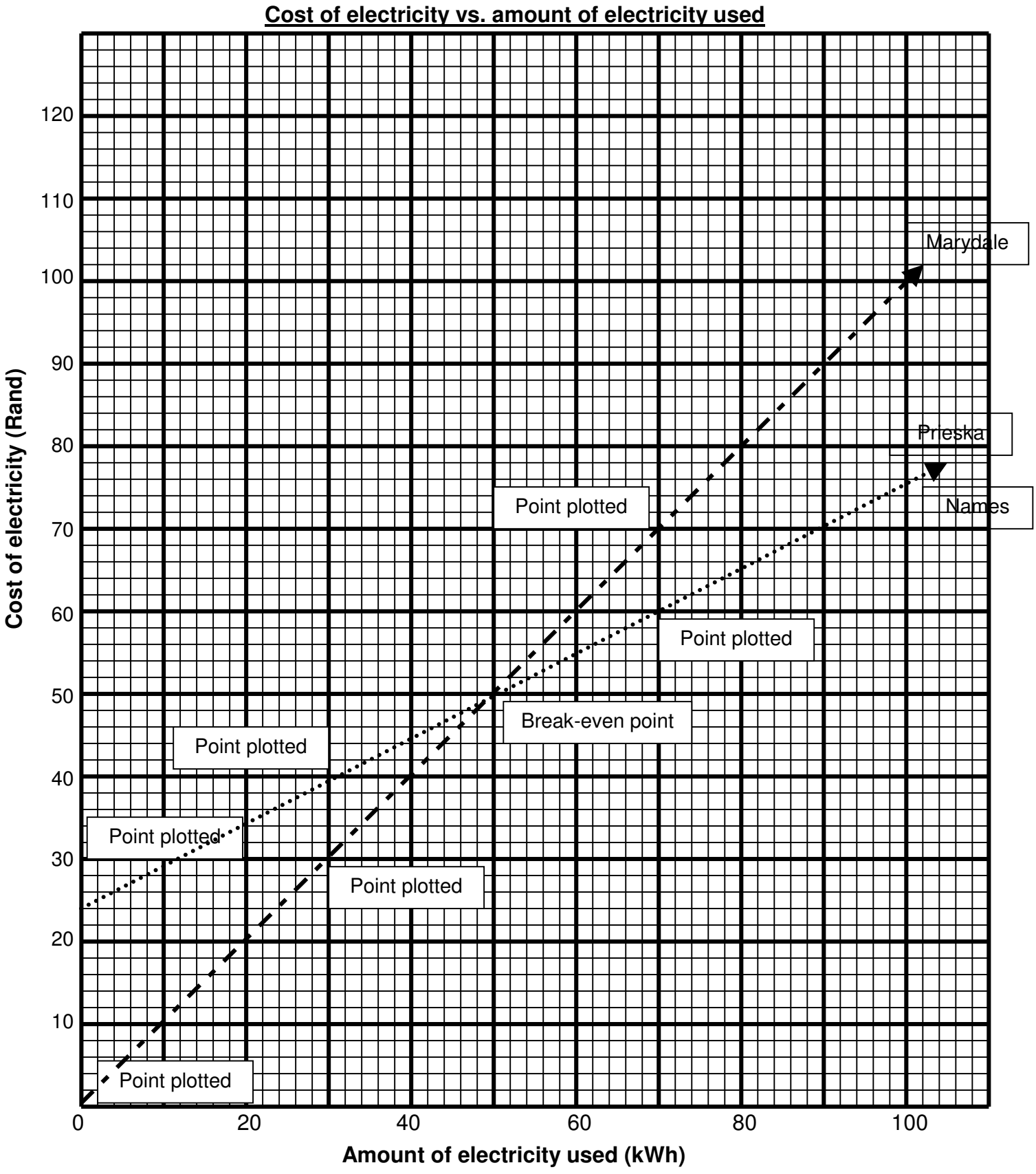
1.2			
1.2.1	A: 25 + 20 × 0,5✓ = R35✓ B: 40 × 1 = R40✓ C: 25 + 60 × 0,5✓ = R55✓ D: 80 × 1 = R80✓ E: 25 + 100 × 0,5✓ = R75✓	M & A (2) Answer (1) M & A (2) Answer (1) M & A (2)	**(8)**
1.2.2	See graph on page 3.		**(8)**
1.2.3	50kWh✓✓	Answer (2)	**(2)**

1.3			
	100% – 74,5% = 25,5%✓ 25,5 ÷ 100 × 25 843✓ = 6 589,97 ≈ 6 590 households ✓ OR 74,5% of 25 843 = 19 253 25 843 – 19 253 = 6 590 households	Method (2) Answer (1)	**(3)**

1.4			
	13,8 × 275 000✓ ÷ 100 000 ✓ = 37,95km ✓	Method (2) Answer (1)	**(3)**

1.5			
1.5.1	The months are in reversed order.✓ It looks like the usage of electricity increased but it actually decreased.✓	Reason (2)	**(2)**
1.5.2.1 1.5.2.2	July ✓ 2000 mega Watts✓	Answer (1) Answer (1)	**(2)**

QUESTION 1.2.2



QUESTION 2 [24]

2.1			
2.1.1	4,8 million people ✓	Answer (1)	**(1)**
2.1.2	4,8 – 3,8 ✓ = 1 million people ✓	M & Ans (2)	**(2)**
2.1.3	The number of passengers increases. ✓	Answer (1)	**(1)**
2.1.4	7,5 million✓ (Any educated guess above 6,2 million.) 2002 = 4,9 million 2003 = 6,2 million Difference = 1,3 million 6,2 + 1,3 = 7,5 million	One possible method ✓ Answer (1) Method (1)	**(2)**

2.2			
2.2.1	€1 200 = 12,40 × 1 200 ✓ = R14 880 ✓	M & Ans (2)	**(2)**
2.2.2	R14 880 ÷ 4 ✓÷ 30 ✓ = R124/h✓	Method (2) Answer (1)	**(3)**
2.2.3	R2 000 ÷ 40 ✓ = R50/h ✓	Method (1) Answer (1)	**(2)**
2.2.4	Abroad. ✓ She can earn more money per hour. ✓	Ans & Reas	**(2)**

2.3			
2.3.1	39✓ : 1 960✓	Answer (2)	**(2)**
2.3.2	Area = length × breadth = 3,1 × 4,8✓ = 14,88m^2✓	 Sub (1) Answer (1)	**(2)**

2.4			
2.4.1	2m✓	Answer (1)	**(1)**
2.4.2	10s✓	Answer (1)	**(1)**
2.4.3	Speed = distance ÷ time = 6,5✓÷ 10✓ = 0,65m/s✓	 Sub (2) Answer (1)	**(3)**

QUESTION 3 [22]

3.1			
3.1.1	380cm = 3,8m✓ Area = length × breadth = 3,8 × 4✓ = 15,20m^2✓	Conv (1) Sub (1) Answer (1)	**(3)**
3.1.2	15,2 ÷ 0,04 ✓ = 380 patterns✓	Method (1) Answer (1)	**(2)**
3.1.3	✓$\frac{112}{100}$ × 380 ✓ = 426 patterns✓ OR $\frac{12}{100}$ × 380✓ = 46 patterns; ✓ 380 + 46 = 426 patterns ✓	Method (2) Answer (1)	**(3)**
3.1.4	(a) {R2,50 + R2,45}✓ + (4 × R1,35) ✓ = R10,35 ✓	Method (2) Answer (1)	**(3)**
	(b) R10,35 × 426 ✓ = R4 409,10 ✓	Method (1) Answer (1)	**(2)**
	(c) No. ✓ He must still pay for tile cement, grout, petrol cost for the transport of the tiles to his house, etc. ✓ (Any acceptable answer.)	Ans & Reas	**(2)**

3.2			
3.2.1.1 3.2.1.2	June. ✓ R175 000✓	Answer (1) Answer (1)	**(2)**
3.2.2	February✓ and April✓	Answer (2)	**(2)**
3.2.3	No ✓ If they had a loss, the Rand would be negative, but there are no negative Rands on the graph.	Answer (1) Reason (1)	**(2)**
3.2.4	Everybody goes on holiday and do not do their renovations then.✓ OR The builders and renovators stop building in middle December and only start working again in January. ✓	Reason (1)	**(1)**

QUESTION 4 [17]

4.1			
	Mode = R190 ✓	Answer (1)	**(1)**

4.2			
	Mean $= \frac{2\,310}{12}$ ✓ = R192,50 ✓ ≈ R193 ✓	Total (1) Answer (1) Rounding(1)	**(3)**

4.3			
Please see bottom of page 6 for details on how median and quartiles were calculated.			
4.3.1	(R180 + R185) ÷ 2 ✓ = R182,50 ✓≈ R183✓	Method(2) Answer (1)	**(3)**
4.3.2	(R150 + R165) ÷ 2 = R157,50✓	Answer (1)	**(1)**
4.3.3	(R190 + R225) ÷ 2 = R207,50 ✓	Answer (1)	**(1)**
4.3.4	Interquartile Range $= Q_3 - Q_1$ = R207,50 – R157,50 ✓ = R50 ✓	Subst (1) Answer (1)	**(2)**

4.4			
4.4.1	There are 12 items 75% of 12 $= \frac{75}{100} \times 12$ ✓ ≈ 9th item ✓ = R190 ✓	Item (1) Method (1) Answer (1)	**(3)**
4.4.2	R225✓, R245✓ and R325✓	Answers (3)	**(3)**

Median

~~R135~~ ~~R145~~ ~~R150~~ ~~R165~~ ~~R175~~ R180
R185 ~~R190~~ ~~R195~~ ~~R225~~ ~~R245~~ ~~R325~~

Lower Quartile

~~R !85 R135~~ R145 R150 ~~R165~~ ~~R175~~

Upper Quartile

~~R185 R190~~ R195 R225 ~~R245~~ ~~R325~~