MEMORANDUM

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GRADE 11 EXAMINATIONS
GRAAD 11-EKSAMEN

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MATHEMATICAL LITERACY – FIRST PAPER

This memorandum consists of 11 pages.

QUESTION 1

1.1.1	1 cup = 215 g margarine	
	⅔ cup = ⅔ x 215 g ✓	Multiplication
	= 143,33 g✓	Answer
	= 143 g✓	Rounding

<div align="center">OR</div>

	1 cup = 215 g	
	⅔ cup = x g	Multiplication
	x = ⅔ x 215✓	
	= 143,33✓	Answer
	= 143 g✓	Rounding (3)

1.1.2	1 kg = 1 000 g	
	R21,95 ÷1 000 g✓	Division
	= R0,02 per gram ✓or 2 cents per gram	Answer (2)

1.1.3	The 5 ml spoon✓	Answer (1)

1.1.4	1 batch = 3,75 units	
	8 batches = 3,75 x 8✓	Multiplication
	= 30 units✓	Answer (2)

1.1.5	Total cost of electricity = 30 units x 59,85 c✓	Multiplication
	= 1 795,5 c	
	= R17,96✓	Answer (2)

1.1.6	8 batches x 24 cookies✓	Multiplication
	192 cookies✓	Answer (2)

1.1.7	192 cookies ÷15 ✓= 12,8 boxes✓	Division
		Answer
	They will pack 12 boxes per day✓	Rounding (3)

1.1.8

$$°C \ = \ \frac{5}{9} \ (°F - 32)$$

$$= \ \frac{5}{9} \ (356 - 32) \ ✓ \quad\quad\quad \text{Substitution}$$

$$= 180° \ C✓ \quad\quad\quad\quad\quad\quad \text{Answer} \quad (2)$$

1.1.9	Total wages per week	= 7 hours per day x 3 days ✓	Multiplication	
		= 21 hours	Multiplication	
		= 21 hours x R7,50✓		
		= R157,50 per week✓	Answer	(3)

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QUESTION 2

2.1	He walks at a speed of 4 km/h		
	Thus he walks 4 km✓	Answer	(1)

2.2.1 **Value of A:**

Distance = Speed x time	Substitution
= 4 km/h x 0,5 hours✓	Answer
= 2 km✓	

Value B:

Distance = Speed x time	Substitution
5 km = 8 km/h x time	
Time = $\dfrac{5 \text{ km}}{8 \text{ km/h}}$ ✓	
= 1,25 hours✓ OR 1¼ hours OR 1h15 min	Answer

OR

Value of A:

Learners can see the pattern ✓1, 2, 3 … and for giving the	Pattern
answer of 2 km ✓	Answer

Value of B:

Learners can see the pattern ✓15 minutes (¼ which is	Pattern	
0,25)… and for giving the answer of 1,25 hours ✓	Answer	(4)

2.2.2	At 06:15 he was 1 km away from home. ✓	Time	
	6 km – 1 km = 5 km	difference	
	He is thus 5 km ✓ away from school.	Answer	(2)

2.2.3	06:30 + 15 minutes = 06:45✓	Answer	(1)

2.3.1   **Value of C:**

Distance = Speed x time
       = 8 km/h x 0,25 hours✓   Substitution
       = 2 km✓   Answer

Value D:

Distance = Speed x time
   6 km = 8 km/h x time
   Time = 6 km✓
             8 km/h✓   Substitution
         = 0,75 hours✓ OR ¾ hours OR 45 min   Answer

                    OR

Value of C:

Learners can see the pattern ✓2, 4, 6 … and for giving the   Pattern
answer of 2 km ✓   Answer

Value of D:

Learners can see the pattern ✓15 minute (¼ which is 0,25)   Pattern
… and for giving the answer of 0,75 hours ✓   Answer   (4)

2.3.2   At 06:30✓ Jason was 2 km away from home; at 06:45 ✓
        Chanté was 2 km away from home   Answers   (2)

2.3.3   Jason ✓   Answer   (1)

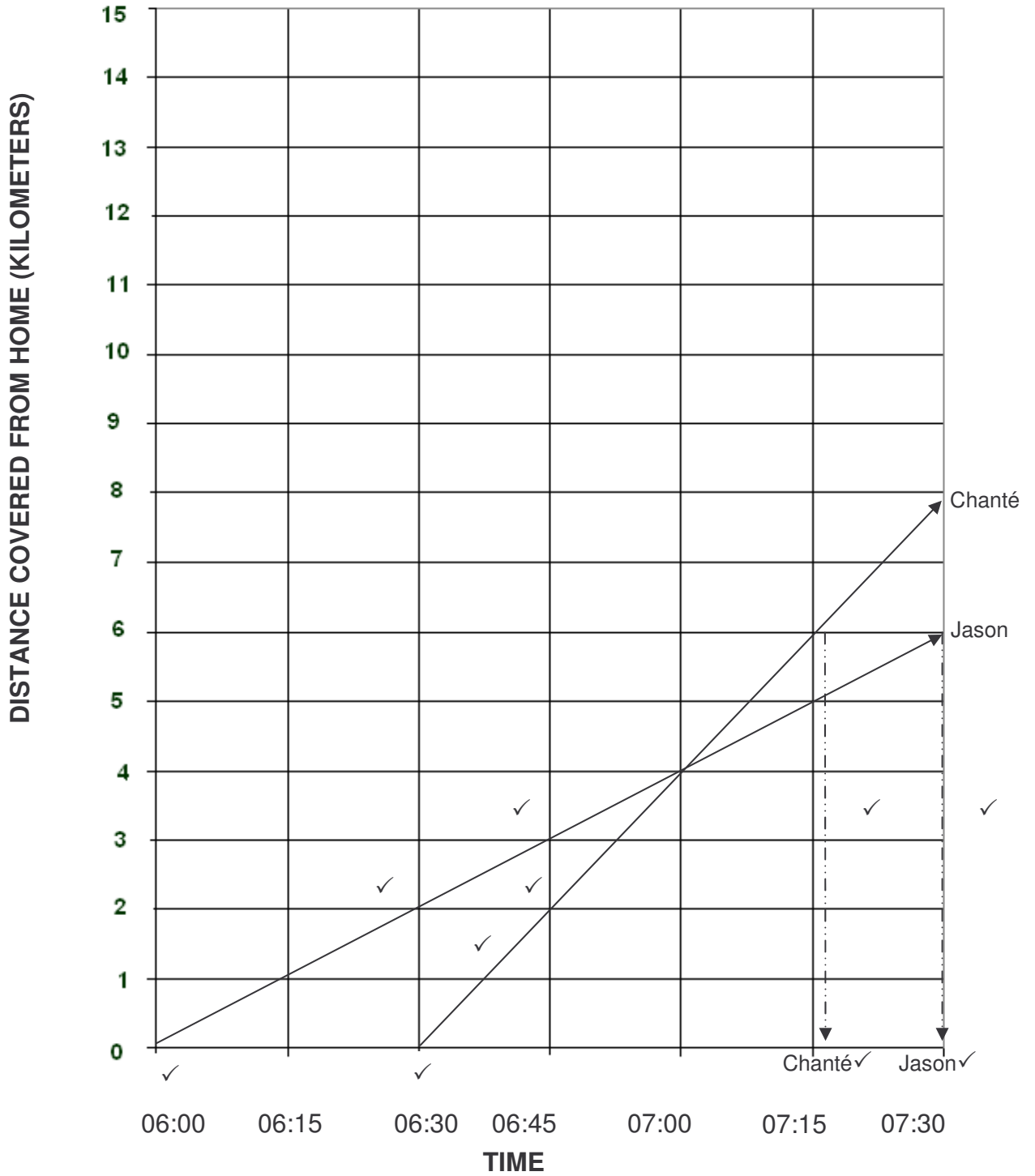2.3.4   07:00   Answer   (1)

2.3.5   2 points on Chanté's line to be marked
        2 points on Jason's line to be marked
        Jason's line to start from 06:00
        Chanté's line to start from 06:30   (6)

DISTANCE TRAVELLED FROM HOME BY JASON AND CHANTÉ

2.3.6	On graph. One mark is given for drawing in the broken line✓ at 6 km. One mark is given for writing Jason's name under the time of 07:30. ✓	Broken line at 6 km reading on graph. Answer	(2)
2.3.7	On graph. One mark is given for drawing in the broken line✓ at 6 km. One mark is given for writing Chanté's name under the time of 07:15. ✓	Broken line at 6 km reading on graph. Answer	(2)
2.3.8	15 min after 07:15 is 07:30 ✓She would be 2 km past the school. 8 km – 6 km = 2 km ✓	Adding 15 minutes Answer	(2)

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QUESTION 3

3.1	0 ; 9 ; 10 ; 10 ; / 10 ; 18 /✓ ; 21 ; 30 ; 43 ; 51 ✓	Arranging from small to large numbers

$$\text{Median} = \frac{10+18}{2} \checkmark$$
$$= 14 \checkmark$$

2 middle numbers
Dividing by 2
Answer   (4)

3.2	4 ; 6 ; 6 ; 8 ; / 12 ; 23 /✓ ; 29 ; 31 ; 50 ; 51	Arranging from small to large numbers

$$\text{Median} = \frac{12+23}{2} \checkmark$$
$$= 17{,}5 \checkmark$$

2 middle numbers
Dividing by 2
Answer   (4)

3.3   Team A's mode = 10   Answer

        Team B's mode = 6   Answer   (2)

3.4   Team A's mean

$$= \frac{0+9+10+10+10+18+21+30+43+51}{10} \checkmark$$

Adding

$$= \frac{202}{10} \checkmark$$

Dividing by 10

$$= 20{,}2 \checkmark$$

Answer   (3)

3.5   Team B's mean

$$= \frac{4+6+6+8+12+23+29+31+50+51}{10} \checkmark$$

Adding

$$= \frac{220}{10} \checkmark$$

Dividing by 10

$$= 22 \checkmark$$

Answer

Team B has a better batting average than Team A✓   Justification   (4)

3.6   Range of Team A = 51 – 0✓   Subtract small from big
                     = 51✓   Answer   (2)

3.7   Range of Team B = 51 – 4✓   Subtract small from big
                     = 47✓   Answer   (2)

3.8   3 batsmen✓   Answer   (1)

[22]

QUESTION 4

4.1   40 m x 56 m ✓   Multiplication
          = 2 240 m^2 ✓   Answer
          Area of Farm = 2 240 m^2 x 2 = 4 480 m^2 ✓   Doubling   (3)

4.2   Area of Pond = $\dfrac{\pi r^2}{2}$

$$= \frac{22 \times 28^2}{7 \times 2} \quad ✓✓$$ Sub. of π
                                              Sub. or r

            = 1 232 m^2 ✓   Answer

                             OR

          For $\pi = 3,14$

          Area of Pond = $\dfrac{\pi r^2}{2}$

$$= \frac{3,14 \times 28^2}{2} ✓✓$$ Sub. of π
                                              Sub. or r

            = 1 230,88 m^2✓   Answer

          OR if learners used π on calculator = 1 231,50 m^2 (3)

4.3   No. of goats per m^2 is $\dfrac{8960}{4480}$ ✓
                                                 Division
                                   = 2 ✓   Answer   (2)

4.4   Rectangular side is (80 + 80 + 56) = 216 m ✓   Addition
                                                      Answer
          Pond side (arc) is $\pi r = \dfrac{22}{7}$ x 28 = 88 m ✓

          Total length is 216 m + 88 m = 304 m ✓   Answer

                             OR

          Rectangular side is (80 + 80 + 56) = 216 m ✓   Addition
          Pond side = πr = 3,14 x 28 = 87,92 m✓   Answer
          Total length = 216 m + 87,92 m = 303,92 m✓   Answer

                             OR

          Rectangular side is (80 + 80 + 56) = 216 m ✓   Addition
          Pond side = πr = π x 28 = 87,96 m✓   Answer
          Total length = 216 m + 87,92 m = 303,96 m✓   Answer   (3)

4.5   Cost of fence is R45,00 x 304 ✓   Multiplication
          = R13 680,00 ✓   Answer   (2)

4.6	R120,00 x 5 ✓	Multiplying by 5	
	= R600,00 ✓	Multiplying by 2	
	Total labour charge is R600,00 x 2 = R1 200,00 ✓	Answer	(3)
4.7	R13 680 + R1 200 ✓	Method	
	R14 880,00 ✓	Answer	(2)
			[18]

QUESTION 5

5.1	Volume = 3,5 m x 1,5 m x 0,5 m ✓	Multiplication	
	= 2,625 m³ ✓	Answer	(2)
5.2	Volume in cm³ = 2,625 m³ x 1 000 000 ✓	Multiplication	
	= 2 645 000 cm³ ✓	Answer	
	Volume in litres = 2 625 000 cm³ ÷ 1 000 cm³ ✓	Division	
	= 2 625 litres ✓	Answer	

<p style="text-align:center">OR</p>

	350 cm x 150 cm x 50 cm ✓	Multiplication	
	= 2 625 000 cm³ ✓	Answer	
	Volume in Litres = 2 625 000 cm³ ÷ 1 000 cm³ ✓	Division	
	= 2 625 litres. ✓	Answer	(4)

5.3   Volume of the bucket = $\pi r^2 h$ Sub. of
Sub. Of r

Volume of the bucket = $\dfrac{22}{7}$ ✓ x 14² x 40 cm ✓

= 24 640 cm³ ✓   Answer

= 24,64 litres ✓   Answer in litres

<p style="text-align:center">OR</p>

Volume = $\pi r^2 h$ Sub. of

= 3,14 ✓ x 14² ✓ x 40   Sub. Of r

= 24 617,6 cm³ ✓   Answer

= 24,62 litres ✓   Answer in litres

<p style="text-align:center">OR</p>

Volume = $\pi r^2 h$

= π ✓ x 14² ✓ x 40   Using Sub. Of r

= 24 630,09 ✓   Answer

= 24,63 litres ✓   Answer in litres   (4)

5.4   No. Of buckets = 2 625 ÷ 24,64 ✓   Division
                    = 106,53 ✓   Answer

OR

No. Of buckets = 2 625 ÷ 24,62 ✓
                  = 106,62 ✓

OR

No. Of buckets = 2 625 ÷ 24,63 ✓
                  = 106,58 ✓   (2)
                                                            [12]

                                                      TOTAL: 100

MATHEMATICAL LITERACY GRADE 11
NOVEMBER 2008 – FIRST PAPER

Q	Context Detail	Item	Learning Outcomes				Taxonomy Level		Sub-tot	Total
			LO1	LO2	LO3	LO4	L 1 60%	L 2 40%		
1	Mrs. Pelser and the Sugar Biscuits	1.1.1	3				3		3	20
		1.1.2	2				2		2	
		1.1.3	1				1		1	
		1.1.4	2				2		2	
		1.1.5	2				2		2	
		1.1.6	2				2		2	
		1.1.7	3					3	3	
		1.1.8	2					2	2	
		1.1.9	3					3	3	
2	Chanté and Jason going to School	2.1		1			1		1	28
		2.2.1		2		2	4		4	
		2.2.2		2			2		2	
		2.2.3		1			1		1	
		2.3.1		2		2	4		4	
		2.3.2		2			2		2	
		2.3.3		1			1		1	
		2.3.4		1			1		1	
		2.3.5		6				6	6	
		2.3.6		2				2	2	
		2.3.7		2				2	2	
		2.3.8		2				2	2	
3	Batting Averages	3.1				4	2	2	4	22
		3.2				4	2	2	4	
		3.3				2	2		2	
		3.4				3	3		3	
		3.5				4		4	4	
		3.6				2	2		2	
		3.7				2	2		2	
		3.8				1	1		1	
4	Farming Enclosure	4.1			3			3	3	18
		4.2			3			3	3	
		4.3			2		2		2	
		4.4			3			3	3	
		4.5	2				2		2	
		4.6	3				3		3	
		4.7	2				2		2	
5	Dairy Farming	5.1			2		2		2	12
		5.2			4		4		4	
		5.3			4			4	4	
		5.4			2		2		2	
	Percentage		27	24	23	26	58	42	100	100