



Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2011

MATHEMATICAL LITERACY P2 MEMORANDUM

MARKS: 100

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

This memorandum consists of 7 pages.

QUESTION 1				
1.1				
LO3 ASS 11.3.4	1.1.1	D2 ✓1	(1)	1:A
	1.1.2	<p>Scale of the map = 1:10 000 Map distance = 15,8 cm Actual distance = 15,8 x 10 000 = $\frac{158\,000}{100\,000}$ ✓ = 1,58 km ✓</p> <p style="text-align: center;">OR</p> <p>$\frac{10\,000}{100\,000}$ = 0,1 km ✓ = 0,1 x 15,8 ✓ = 1,58 km ✓</p> <p style="text-align: center;">OR</p> <p>15,8 x 10 000 = $\frac{158\,000}{100}$ ✓ = 1 580 1 000 ✓ = 1,58 km ✓</p>	(3)	1:MA 1:C 1:A
LO3 ASS 11.3.4	1.1.3	No. ✓ It is a one-way street and he can only turn left into De Villiers Street at that point. ✓✓	(3)	1:A 2:O
LO3 ASS 11.3.2	1.1.4	<p>0,6 x 10 000 = 6 000/ 100 = 60 m ✓✓ 0,5 x 10 000 = 5 000/ 100 = 50 m ✓</p> <p>Area = L x B = 60 m x 50 m ✓ = 3 000 m² ✓</p> <p style="text-align: right;">CA</p>	(5)	2:M 1:C 1:SF 1:A
1.2				
LO1 ASS 11.1.2	1.2.1	<p><u>Mr Brend</u> $\frac{1}{2} \times 320$ = 160 ✓ R 320 – R160 = R160 ✓</p> <p><u>Mr Brice</u> $\frac{1}{3} \times 320$ = 106,67 ✓✓ R 320 – R106,67 = R213,33 ✓</p> <p style="text-align: center;">OR</p> <p>$\frac{2}{3} \times 320$ ✓ = R 213,33 ✓✓</p> <p>Disagree. ✓ She will pay R53,33 (R 213,33 – R 160) more at Mr Brice. ✓✓</p> <p style="text-align: center;">OR</p> <p>She will pay R53,33 less (cheaper) at Mr Brend. ✓✓ CA</p>	(8)	1:MA 1:MA 1:MA 1:R 1:MA 1:A 2:O

1.3				
LO4 ASS 11.4.5	1.3.1	6 outfits ✓✓	(2)	2:A
LO4 ASS 11.4.5	1.3.2	(summer outfit) = $\frac{1}{2}$ ✓ (jeans) $\times \frac{2}{3}$ ✓ (shirts) = $\frac{2}{6}$ ✓ = $\frac{1}{3}$ ✓ OR P(summer outfit) = $0,5$ ✓ $\times 0,666$ ✓ = $0,333$ ✓✓	(4)	2:A 1:MA 1:A
1.4				
LO1 ASS 11.1.1	1.4.1	Time spent = 15h13 – 9h45 ✓ = 14h73 ✓ – 9h45 = 5h28 ✓	(3)	1:M 1:C 1:A
LO4 ASS 11.4.2	1.4.2	R15,00 ✓✓	(2)	2:A
			[31]	

LO4 ASS 11.4.2	2.4	Oranges ✓ The bars for oranges are in highest for the 3 months. ✓	(2)	1:CA 1:R																									
LO4 ASS 11.4.3	2.5	<p>Average (Mean) = $\frac{500 + 300 + 160 + 400 + 350 + 320 + 600 + 105 + 280}{9}$ ✓</p> <p>= $\frac{3015}{9}$ ✓</p> <p>= R335 ✓</p> <p style="text-align: center;">OR</p> <table border="1" data-bbox="333 501 1323 696"> <thead> <tr> <th></th> <th>Oranges</th> <th>Bananas</th> <th>Avocados</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>June</td> <td>R500</td> <td>R300</td> <td>R160</td> <td>R960</td> </tr> <tr> <td>July</td> <td>R400</td> <td>R350</td> <td>R320</td> <td>R1 070</td> </tr> <tr> <td>August</td> <td>R600</td> <td>R105</td> <td>R280</td> <td>R985</td> </tr> <tr> <td>Total</td> <td>R1 500</td> <td>R755</td> <td>R760</td> <td>R3 015</td> </tr> </tbody> </table> <p>Average (Mean) for June – August = $\frac{3015}{3}$ ✓</p> <p>= 1 005</p> <p>Average per month = $\frac{1\ 005}{3}$ ✓</p> <p>= R335 ✓</p>		Oranges	Bananas	Avocados	Total	June	R500	R300	R160	R960	July	R400	R350	R320	R1 070	August	R600	R105	R280	R985	Total	R1 500	R755	R760	R3 015		2:M 1:A CA 1:A
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			(4)																										
			[25]																										

QUESTION 3					
3.1					
LO3 ASS 11.3.1	3.1.1	Area of Jacuzzi = $\frac{1}{4} \pi r^2 \checkmark$ $= \frac{1}{4} (3,14 \times 1,4^2) \checkmark$ $= \frac{1}{4} (6,1544 \text{ m}^2) \checkmark$ $= 1,54 \text{ m}^2 \checkmark$	OR $A = \pi r^2 \checkmark$ $= 3,14 \times 1,4^2 \checkmark$ $= \frac{6,1544 \text{ m}^2}{4 \checkmark}$ $= 1,54 \text{ m}^2 \checkmark$	(4)	1:F 1:SF 1:/4 1:A
LO3 ASS 11.3.1	3.1.2	Area of shower = $\frac{1}{2}$ base x height \checkmark $= 0,5 \times 1,1 \text{ m} \times 1,1 \text{ m} \checkmark$ $= 0,61 \text{ m}^2 \checkmark$		(3)	1:F 1:SF 1:A
LO3 ASS 11.3.1	3.1.3	Area of wash basin cabinet = length x breadth \checkmark $= 0,7 \text{ m} \times 0,5 \text{ m} \checkmark$ $= 0,35 \text{ m}^2 \checkmark$		(3)	1:F 1:SF 1:A
LO3 ASS 11.3.1	3.1.4	Area to be tiled = Area of Bathroom – Area of Jacuzzi – Area of shower – Area of wash basin cabinet $= (3,9 \text{ m} \times 2,5 \text{ m}) - 1,54 \text{ m}^2 - 0,61 \text{ m}^2 - 0,35 \text{ m}^2$ $= 9,75 \text{ m}^2 \checkmark - 1,54 \text{ m}^2 - 0,61 \text{ m}^2 - 0,35 \text{ m}^2$ $= 7,25 \text{ m}^2 \checkmark$	OR Area to be tiled = Area of Bathroom – (Area of Jacuzzi + Area of shower + Area of wash basin cabinet) $= (3,9 \text{ m} \times 2,5 \text{ m}) - (1,54 \text{ m}^2 + 0,61 \text{ m}^2 + 0,35 \text{ m}^2)$ $= 9,75 \text{ m}^2 \checkmark - 2,5 \text{ m}^2$ $= 7,25 \text{ m}^2 \checkmark$	CA (2)	1:MA 1:A
LO3 ASS 11.3.1 LO3 ASS 11.3.2	3.1.5	$25 \text{ cm} = 0,25 \text{ m} \checkmark$ Area of tile = $0,25 \text{ m} \times 0,25 \text{ m}$ OR $(0,25^2)$ $= 0,06 \text{ m}^2 \checkmark$			1:C 1:A
		Number of tiles needed = $\frac{7,25 \text{ m}^2}{0,06 \text{ m}^2}$ $= 120,83 \text{ tiles}$ $= 121 \text{ tiles} \checkmark$	CA	(3)	1:MA
LO3 ASS 11.3.1	3.1.6	No. \checkmark You always have to buy more for wastage and breakage. $\checkmark \checkmark$		(3)	1:A 2:R/O
3.2					
LO2 ASS 11.2.1	3.2.1	$12 \checkmark = w \checkmark \times t \checkmark$ OR $w \checkmark = \frac{12 \checkmark}{t \checkmark}$ OR $t \checkmark = \frac{12 \checkmark}{w \checkmark}$		(3)	3:F
LO2 ASS 11.2.1	3.2.2	(a)	Number of workers = $\frac{12}{2}$ $= 6 \checkmark$	(1)	1:A
		(b)	Time taken in hours = $\frac{12}{3}$ $= 4 \checkmark$	(1)	1:A
LO2 ASS 11.2.3	3.2.3	As the time in hours decreases, \checkmark the number of workers increases. \checkmark		(2)	2:O

LO2 ASS 11.2.3	3.2.4	Inverse or Indirect proportion. ✓		(1)	1:A
LO2 ASS 11.2.3	3.2.5	No. ✓ There will be too many workers for the allocated area. ✓✓ OR There will not be enough space for 12 workers to move around. ✓✓		(3)	1:A 2:O
				[29]	
QUESTION 4					
LO2 ASS 11.2.1	4.1.1	(a)	R 300 ✓	(1)	1:A
		(b)	R 700 ✓	(1)	1:A
LO2 ASS 11.2.1	4.1.2	(a)	± 28 months ✓✓ (Accept 26 – 27 months)	(2)	2:A
		(b)	R 800 ✓ (Accept R780 – R800)	(1)	1:A
LO2 ASS 11.2.3	4.1.3	(a)	Talana: Shares increased at a constant rate. ✓ Illustrated by a straight line graph. ✓	(2)	2:A
		(b)	Tiara: Shares increased at a compound rate. ✓ Illustrated by a curved line. ✓	(2)	2:A
4.2 LO1 ASS 11.1.1	$A = P(1 + i)^n$ $= 700 (1 + 0,055)^4$ ✓ $= 700 (1,055)^4$ $= 700 (1,238824651)$ ✓ $= R867,18$ ✓ Yes ✓ It is R7,18 more ✓✓			CA (6)	1:SF 1:S 1:A 1:A 2:O
				[15]	
TOTAL:					100