Province of the
EASTERN CAPE
EDUCATION

NATIONAL SENIOR CERTIFICATE

GRADE 11

NOVEMBER 2015

MATHEMATICAL LITERACY P2 MEMORANDUM

MARKS: 100

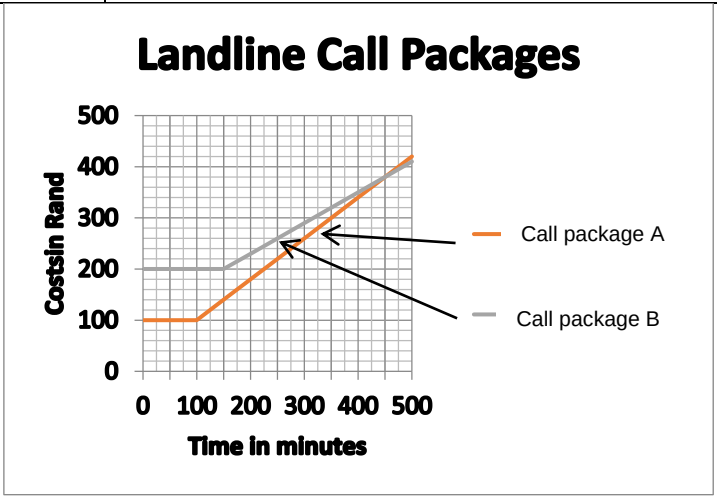
Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RM	Reading from a table/Reading from a graph/Read from map
F	Choosing the correct formula
SF	Substitution in a formula
J	Justification
P	Penalty, e.g. for no units, incorrect rounding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

This memorandum consists of 6 pages.

QUESTION 1

1.1	1.1.1	5 Entrances ✓✓	2A Identifying the number of entrances	(2)
	1.1.2	• Walk straight towards Shop No. 6 and turn left. ✓ • Edgars will be on your left continue until you get to Shop No. 60 and turn right. ✓ • Keep walking until Shop No. 52-53 and turn left where Entrance 2 is ✓ Accept any reasonable explanation	3A Explanation	(3)
1.2	1.2.1	1h ✓57 minutes ✓	1A Hours 1A Minutes	(2)
	1.2.2	11:20 + 45 min + 15 min ✓ = 12:20 ✓ It will be too late to watch the 12:15 screening ✓ 14:45 + 1:57 = 16:42 + 40 min ✓= 17:22 min ✓ The only time slot will be the 14:45 screening and still be at home on time. ✓	1M Adding 45 min and 15 min 1A 1O Opinion 1A Adding 1h57 and 40 min 1A Time to arrive at home 1O Conclusion	(6)
	1.2.3	• Cleaning of the cinema ✓ • To prepare for the next showing ✓ **OR** • Allow the cinema crew to take a break ✓ Accept any other relevant reasons	1A First reason 1A Second reason	(2)
1.3	1.3.1	Regular pricing = 75 + 55 ✓✓ = R130 ✓	1A Identifying the correct values 1M Adding 1A	(3)
	1.3.2	• It is too expensive on a Sunday or weekends ✓✓ **OR** • On other days its much cheaper ✓✓ Accept any other explanation	2O Explanation	(2)
				[20]

QUESTION 2

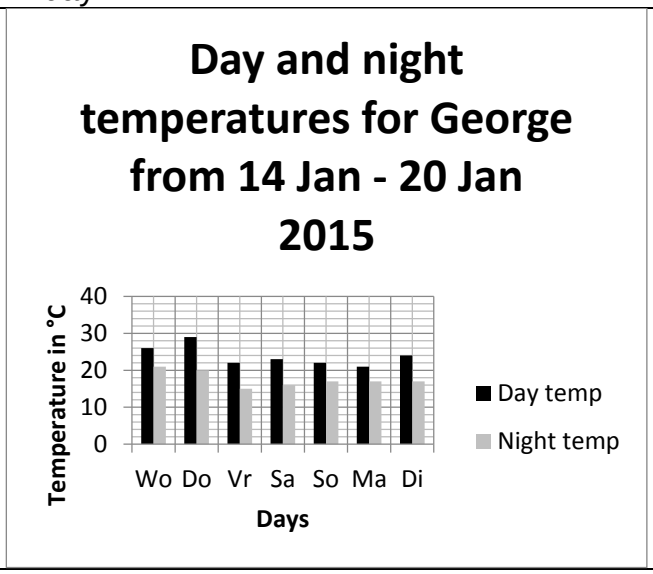
2.1	2.1.1	(a)	Total cost (in rand) = R200 ✓ + number of minutes more than 150 ✓ x R0,60 ✓ **OR** Total cost (in rand) = R 200 ✓ + (number of minutes more than 150) ✓ x R0,60 ✓ **OR** Total cost (in rand) = R200 ✓+ (number of minutes – 150) ✓x R0,60 ✓	1A Rental 1A Minutes more than 150 1A Multiply by 60 cents 1A Rental 1A Minutes more than 150 1A Multiply by 60 cents 1A Rental 1A Minutes more than 150 1A Multiply by 60 cents	(3)
		(b)	Total cost (in rand) = R200 + (number of minutes – 150) x R0,60 = 200 + (625 – 150) x 0,60 ✓ = 200 + (475 ✓x 0,60) = 200 + 285 ✓ = R485,00 ✓	CA from 2.1.1 (a) 1SF 1S 1S 1A	(4)
	2.1.2			1 Mark for line 0–100 minutes 1 Mark for the correct break-even point 2 Marks for any other 3 points plotted correctly 1M Labelling Call Package A	(5)
	2.1.3	For the same number of minutes used ✓the same amount will be paid for both Call packages ✓		1A refer to minutes 1A refer to cost	(2)
	2.1.4	Break-even point (450 ✓;380 ✓)		CA from 2.1.2 1CA 450 minutes 1CA 380 rand If order incorrect 0	(2)

	2.1.5	Call package A Total cost = 100 + (451 – 100) x 0,80 ✓ = 100 + (351 x 0,80) = 100 + 280,8 = R 380,80 ✓ Call package B Total cost = 200 + (451 – 150) x 0,60 = 200 + (301 x 0,60) = 200 + 180,60 = R 380,60 ✓ Difference = R 380,80 – R 380,60 = R 0,20 ✓ **OR** Call package A - Call package B = 100 + (451 – 100) x 0,80 ✓ – 200 + (451 – 150) x 0,60 = 100 + (351 x 0,80) – 200 + (301 x 0,60) = 100 + 280,80 - 200 + 180,60 = R 380,80 ✓ – R 380,60 ✓ = R 0,20 ✓	1SF 1CA 1CA 1CA Difference 1SF 1CA 1CA 1CA Difference	(4)
	2.1.6	Would recommend that Mr. Gardner use Call Package A ✓ With R 300 on Call Package A he will get 350 minutes ✓✓ With R 300 on Call Package B he will get 316 minutes to 317 minutes ✓✓	1CA Choosing correct package 2 CA 2 A	(5)
2.2	Number of households = 10✓ x 10 x 10 x 10 ✓ = 10 000 ✓		1A Identifying 10 1M Multiplying 10 four times 1CA	(3)
				[28]

QUESTION 3

3.1	3.1.1	A = 17,20 x 1,14 ✓ **OR** A=17,20 + (17,20 x 0,14) ✓ = R 19,61 ✓ = 17,20 + 2,41 = R 19,61✓ B = $\frac{31,95}{1,14}$ ✓ = R28,03 ✓	1M 1A 1M 1A	(4)
	3.1.2	No✓, she will not pay for the first 6 kl✓	1A 1O	(2)
	3.1.3	Payment for 19,5 kl = (6 x 0) + (4,5 x 7,60) + (9 x11,61) ✓ = R 0 + R 34,20 + R 104,49 ✓ = R 138,69 ✓x 1,14 = R 158,11 ✓	1M 1S 1A 1A Including VAT	(4)
3.2	3.2.1	Diameter = 750 mm, therefore radius = 375 mm ✓= 0,375 m Height = 2230 mm = 2,230 m ✓ Volume = 3,142 x 0,375 m^2 x 2,230 m ✓ = 3,142 x 0,140625 m^2 x 2,230 m = 0,985311562 m^3 ✓ x 1000 = 985,311562 / **Accept 985,312** ✓ Therefore; 1000 / ≠ 985,311562 / ✓**OR** 985,312 ✓	1A Finding radius 1A Convert mm to m (both) 1SF 1S radius^2 1CA in litres 1A	(6)
	3.2.2	The given volume was rounded to the nearest 1000 ✓ Consumers are under the impression that you buy a tank with a capacity of 1 000 *l*, while it only has a tank capacity of 985 *l*. ✓✓	1O 2O	(3)
	3.2.3	Tank can overflow if it is filled above the recommended filled height ✓✓	2R	(2)
	3.2.4	Any of the vertical round water tanks ✓✓	2A	(2)
3.3	Bar graph ✓and Pie chart ✓		1A Bar graph 1A Pie chart	(2)
				[25]

QUESTION 4

4.1	4.1.1	Mean = $\frac{26 + 29 + 22 + 23 + 22 + 21 + 24}{7}$ ✓ $= \frac{167}{7}$ = 23,85714286 ✓ = 24 ºC ✓	1M adding all day temp 1M/7 1CA 1CA	(4)
	4.1.2	Range = 29 ºC – 15 ºC ✓ = 14ºC ✓	1M concept of range 1A	(2)
	4.1.3	Median = 15; 16; 17; 17; 17; 20; 21✓ = 17 ºC ✓	1M Arrange values 1A	(2)
	4.1.4	Night temperatures decreases from Wednesday to Friday and then increases on Saturday and then from Sunday remains constant until Tuesday ✓✓	2O	(2)
	4.1.5	Monday ✓with 4 ºC ✓	1RT Day 1A Difference	(2)
	4.1.6	Friday ✓✓	2RT	(2)
	4.1.7		Any 4 pairs correctly plotted 1Mark for legend 1 Mark correct graph	(6)
4.2	It is highly unlikely that it will rain on Friday because it is only 30% which is small chance for rain to fall ✓✓		2O	(2)
4.3	4.3.1	Time = $\frac{\text{Distance}}{\text{Speed}}$ $= \frac{64,7 \text{ km}}{90 \text{ km/h}}$ ✓ = 0,7188….hours x 60 ✓ = 43,133… = 43 minutes ✓	 1M 1S 1A	(3)
	4.3.2	Your speed will decrease ✓therefore it will take you longer ✓to complete the trip	1A refer to speed 1A refer to time	(2)
				[27]

TOTAL: 100