

# NATIONAL SENIOR CERTIFICATE

**GRADE 11** 

## **NOVEMBER 2015**

# MATHEMATICAL LITERACY P2 MEMORANDUM

**MARKS: 100** 

Symbol	Explanation
M	Method
MA	Method with accuracy
CA	Consistent accuracy
Α	Accuracy
С	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
Р	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding Off/Reason

This memorandum consists of 6 pages.

	SHONT		1	
1.1	1.1.1	5 Entrances ✓ ✓	2A Identifying the number of entrances	(2)
	1.1.2	<ul> <li>Walk straight towards Shop No. 6 and turn left. ✓</li> <li>Edgars will be on your left continue until you get</li> </ul>	3A Explanation	
		<ul> <li>to Shop No. 60 and turn right. ✓</li> <li>Keep walking until Shop No. 52-53 and turn left where Entrance 2 is ✓</li> </ul>		(-)
		Accept any reasonable 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 ✓	1M Adding 45 min and 15 min	
		14:45 + 1:57 = 16:42 + 40 min ✓= 17:22 min ✓	1A 1O Opinion	
		The only time slot will be the 14:45 screening and still be at home on time. ✓	1A Adding 1h57 and 40 min 1A Time to arrive at home 10	
			Conclusion	(6)
	1.2.3	<ul> <li>Cleaning of the cinema ✓</li> <li>To prepare for the next showing ✓</li> <li>OR</li> <li>Allow the cinema crew to take a break ✓</li> </ul>	1A First reason 1A Second reason	
4.0	4.0.4	Accept any other relevant reasons	4 4 1 1	(2)
1.3	1.3.1	Regular pricing = 75 + 55 ✓ ✓ = R130 ✓	1A Identifying the correct values 1M Adding	
			1A	(3)
	1.3.2	<ul> <li>It is too expensive on a Sunday or weekends ✓ ✓</li> <li>OR</li> </ul>	20 Explanation	(-)
		<ul> <li>On other days its much cheaper ✓ ✓</li> <li>Accept any other explanation</li> </ul>		(2)
				[20]

QUE:	5110N 2			
2.1	2.1.1	(a) Total cost (in rand) = R200 ✓ + number of minutes more than 150 ✓ x R0,60 ✓  OR	1A Rental 1A Minutes more than 150 1A Multiply by 60 cents	
		Total cost (in rand) = R 200 ✓ + (number of minutes more than 150) ✓ x R0,60 ✓  OR	1A Rental 1A Minutes more than 150 1A Multiply by 60 cents	
		Total cost (in rand) = R200 ✓+ (number of minutes – 150) ✓x R0,60 ✓	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	(4)
	2.1.2	Landline Call Packages  500 400 300 100 100 100 100 100 100 100 100 1	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	, ,
	2.1.4	Break-even point (450 ✓;380 ✓)	cost CA from 2.1.2 1CA 450 minutes 1CA 380 rand If order incorrect 0	(2)

$= 100 + (351 \times 0,80)$ $= 100 + 280,8$ $= R 380,80 \checkmark$ $= 100 + (451 - 150) \times 0,60$ $= 200 + (301 \times 0,60)$ $= 200 + 180,60$ $= R 380,60 \checkmark$ $= R 380,80 - R 380,60$ $= R 0,20 \checkmark$ $= 100 + (451 - 100) \times 0,80 \checkmark - 200 + (451 - 150) \times 0,60$ $= 100 + (351 \times 0,80) - 200 + (301 \times 0,60)$ $= 100 + 280,80 - 200 + 180,60$ $= R 380,80 \checkmark - R 380,60 \checkmark$ $= 100 + 280,80 - 200 + 180,60$ $= R 380,80 \checkmark - R 380,60 \checkmark$ $= 100 + 280,80 - 200 + 180,60$ $= R 380,80 \checkmark - R 380,60 \checkmark$ $= 100 + 280,80 - 200 + 180,60$ $= 100 + 280,80 - 200 + 180,60$ $= 100 + 280,80 - 200 + 180,60$ $= 100 + 280,80 - 200 + 180,60$ $= 100 + 280,80 - 200 + 180,60$ $= 100 + 280,80 - 200 + 180,60$ $= 100 + 280,80 - 200 + 180,60$ $= 100 + 280,80 - 200 + 180,60$		2.1.5	Call package A		
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With R 300 on Call Package A he will get 350 correct package		2.1.6		1CA Chaosina	ļ
minutes ✓✓ package			<u> </u>	_	
9-1				_	(5)
2.2 Number of households = 10 ✓ x 10 x 10 ✓ 1A Identifying	22	Numbor			(3)
= 10 000 \(10 \times 10 \times	2.2	MULLIDE			
10 Multiplying			_ 10 000 ·		
10 four times					
					(3)
	L L			1	[28]

3.1	3.1.1	A = 17,20 x 1,14 $\checkmark$ OR A=17,20 + (17,20 x 0,14) $\checkmark$ = R 19,61 $\checkmark$ = 17,20 + 2,41 = R 19,61 $\checkmark$	1M 1A	
		$B = \frac{31,95}{1,14} \checkmark$	1M	
		= R28,03 ✓	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 = $(6 \times 0) + (4,5 \times 7,60) + (9 \times 11,61) \checkmark$ = R 0 + R 34,20 + R 104,49 $\checkmark$ = R 138,69 $\checkmark$ x 1,14 = R 158,11 $\checkmark$	1M 1S 1A 1A Including VAT	(4)
3.2	3.2.1	Diameter = 750 mm, therefore radius = 375 mm $\checkmark$ = 0,375 m Height = 2230 mm = 2,230 m $\checkmark$ Volume = 3,142 x 0,375 m <sup>2</sup> x 2,230 m $\checkmark$ = 3,142 x 0,140625 m <sup>2</sup> x 2,230 m = 0,985311562 m <sup>3</sup> $\checkmark$ x 1000 = 985,311562 / Accept 985,312 $\checkmark$ Therefore; 1000 / $\neq$ 985,311562 / $\checkmark$ OR 985,312 $\checkmark$	1A Finding radius  1A Convert mm to m (both) 1SF 1S radius <sup>2</sup> 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 <i>I</i> , while it only has a	10	
	3.2.3	tank capacity of 985 <i>l.</i> ✓✓  Tank can overflow if it is filled above the	20	(3)
		recommended filled height ✓✓	2R	(2)
	3.2.4	Any of the vertical round water tanks ✓✓	2A	(2)
3.3		ph √and	1A Bar graph	
	Pie cha	rt ✓	1A Pie chart	(2)
				[25]

	5110N 4	N 00 00 00 00 00 00 00 00 00 00 00 00 00	484 111 11	
4.1	4.1.1	Mean = $26 + 29 + 22 + 23 + 22 + 21 + 24$ $\checkmark$	1M adding all	
		-	day temp	
		= <u>167</u>	1M/7	
		7		
		= 23,85714286 <b>√</b>	1CA	
		= 24 °C ✓	1CA	(4)
	4.1.2	Range = 29 °C − 15 °C ✓	1M concept of	
		= 14°C ✓	range	
			1A	(2)
	4.1.3	Median = 15; 16; 17; 17; 17; 20; 21√	1M Arrange	, ,
		= 17 °C ✓	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 🗸	20	(2)
	4.1.5	Monday ✓ with	1RT Day	(2)
	4.1.5	4 °C ✓	1A Difference	(2)
	116	Friday 🗸	2RT	(2)
	4.1.6	rilday 🕶	ZRI	(2)
	4.1.7	Day and night		
		Day and night		
		temperatures for George		
		from 14 Jan - 20 Jan		
		2015		
		30 To a so Ma Di Days	Any 4 pairs correctly plotted 1Mark for legend 1 Mark correct graph	(6)
4.2		nly unlikely that it will rain on Friday because it is		
	•	% which is small chance for rain to fall ✓✓	20	(2)
4.3	4.3.1	Time = <u>Distance</u> Speed		
		= <u>64,7 km</u> ✓ 90 km/h	1M	
		= 0,7188hours x 60 ✓ = 43,133	1S	
		= 43 minutes ✓	1A	(3)
	4.3.2	Your speed will decrease ✓ therefore it will take you	1A refer to	
		longer √to complete the trip	speed	
		· '	1A refer to	
			time	(2)
1	1			[27]

TOTAL: