Education and Sport Development

Department of Education and Sport Development
Departement van Onderwys en Sport Ontwikkeling
Lefapha la Thuto le Tlhabololo ya Metshameko
NORTH WEST PROVINCE

NATIONAL
SENIOR CERTIFICATE

GRADE 11

MATHEMATICAL LITERACY P2

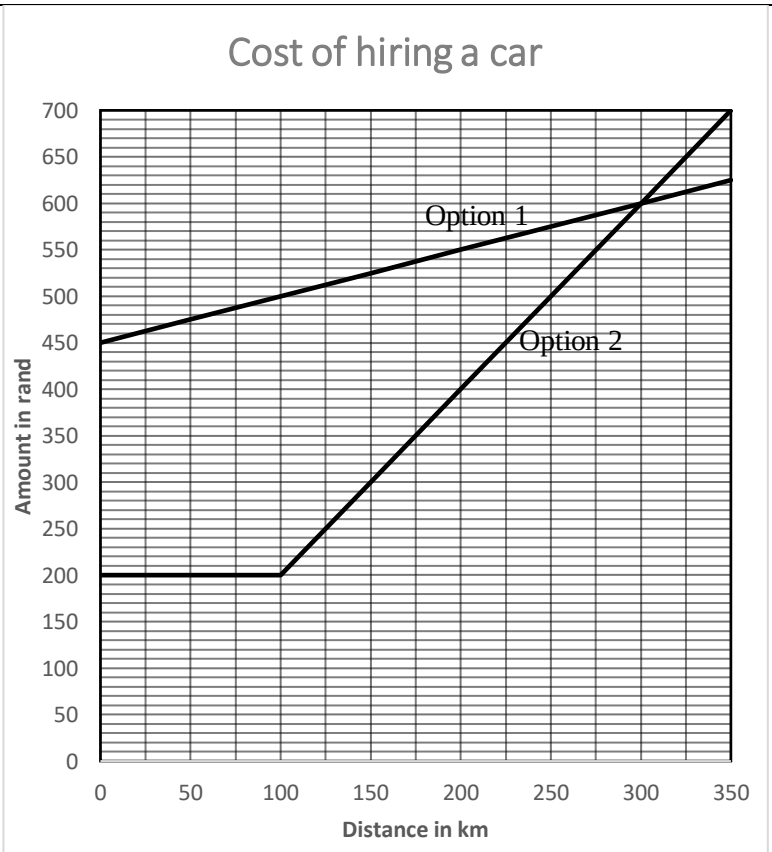
MARKING GUIDELINES

JUNE 2018

MARKS: 75

CODES	EXPLANATION
M	Method
M/A	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD	Read from table/graph/diagram
AO	Answer only
SF	Substitution in a formula
O	Opinion
P	Penalty e.g. no units, incorrect rounding
R	Rounding off
J	Justification/Reason/Explain
NP	No penalty for rounding OR omitting units

This marking guidelines consists of 6 pages.

Ques	Solution	Explanation	TL
	QUESTION 1 [18 MARKS]		
1.1.1	P = R450 + R0,50 × 250✓ = R450 + R125 = R575✓	1M multiplying and adding 1A answer **AO** (2)	F L2
1.1.2	Q = R200 + R2 × (200 − 100) ✓ = R200 + R200 = R400✓	1M multiplying and adding 1A answer **AO** (2)	F L2
1.2		1A (0;200) 1A any point between 100 km and 300 km 1A (300;600) 1A (350;700) 1A joining the points 1A naming the graphs 1A heading (7)	F L3
1.3	Breakeven point is the point where the cost of hiring a car for option 1 and option 2 is the same for the same distance travelled. ✓✓	2O explanation (2)	F L4
1.4	Distance = time × average speed 250 km = time × 100 km/h✓ time = $\frac{250\ km}{100\ km/h}$ ✓ time = 2,5 hours✓ 2,5 hours = 2 hours 30 minutes✓ Jabulani's claim is incorrect. ✓	1SF substitution 1S change subject of formula 1CA time 1C in hours & minutes 1O opinion	M L4

	OR 2 hours 45 minutes = 2,75 hours✓ Distance = time × average speed 250 km = 2,75h × average speed✓ average speed = $\frac{250\ km}{2,75\ h}$ ✓ average speed = 90,9 km/h✓ Jabulani's claim is incorrect. ✓ **OR** 2 hours 45 minutes = 2,75 hours✓ Distance = time × average speed Distance = 2,75 h × 100 km/h✓ = 275 km✓✓ Jabulani's claim is incorrect. ✓	**OR** 1C time in hours 1SF substitution 1S change subject of formula 1CA average speed 1O opinion **OR** 1C time in hours 1SF substitution 2CA distance 1O opinion (5)	
	QUESTION 2 [24 MARKS]		
2.1	Area of the four additional family members= 4 × 0,7 m^2 = 2,8 m^2 ✓ Total area = (2 + 2,8) m^2 = 4,8 m^2 ✓ Area of rectangle = length × breadth 4,8 m^2 = length ×1,5 m✓ $\frac{4,8}{1,5}$ = length✓ 3,2 m = length✓	1M additional area 1A total answer 1SF substitution 1S changing the subject of the formula 1CA length (5)	M L3
2.2	150 ℓ = 150 000 cm^3✓ Volume of cylinder = π × r^2 × h 150 000 cm^3 = 3,142 × r^2 × 120 cm✓ $\frac{150000}{377,04}$ = r^2 ✓ 397,8357734 = r^2 ✓ 19,94582095 = r 20 cm = r✓	1C conversion 1SF substitution 1S changing the subject of the formula 1S simplification 1CA radius (5)	M L3
2.3.1	Discount = $\frac{15}{100}$× R11 590 =R1 738,50✓ Total cost required = R11 590 – R1 738,50 ✓ = R9 851,50✓ Her claim is correct. ✓	1A discount 1M subtraction 1CA total cost 1O opinion	F L4

	OR 100% -15% = 85 %✓ Total cost required = $\frac{85}{100}$× R11 590✓ = R9 851,50✓ Her claim is correct. ✓	**OR** 1A percentage 1M multiplying with 85% 1CA total cost 1O opinion (4)	
2.3.2 (a)	Percentage = $\frac{350}{10\,000}$×100%✓ = 3,5 %✓	1M multiplying and dividing 1A percentage (2)	F L2
2.3.2 (b)	Total monthly repayments = R764,84 × 36✓ = 27 534,24✓ Interest = R27 534,24 – R10 000 = R17 534,24✓	1MA multiplying the correct values 1A total repayment 1CA interest (3)	F L2
2.3.3	In case of death✓✓ **OR** Permanent disability✓✓ **OR** Retrenchment✓✓ **OR** Diagnosed with critical illness✓✓ **Accept any relevant reason**	2O opinion (2)	F L4
2.4	$^{\circ}F = 1,8 \times {}^{\circ}C + 32^{\circ}$ $140^{\circ} = 1,8 \times {}^{\circ}C + 32^{\circ}$✓ $^{\circ}C = \frac{108^{\circ}}{1,8}$✓ $^{\circ}C = 60^{\circ}$✓	1SF substitution 1S changing the subject of the formula 1A temperature (3)	M L3
	QUESTION 3 [17 MARKS]		
3.1	Measurement = 5,2 cm✓ **(Accept 5,1 cm to 5,3 cm)** Scale 2,1 cm : 300 km✓ **(Accept 2 cm to 2,2 cm)** Actual distance = $\frac{5,2\text{ cm} \times 300\text{ km}}{2,1\ cm}$✓ = 742, 86 km✓ **OR** Measurement = 52 mm✓ **(Accept 51 mm to 53 mm** Scale 21 mm : 300 km✓ **(Accept 20 mm to 22 mm)** Actual distance = $\frac{52\text{ mm} \times 300\text{ km}}{21\ mm}$✓ = 742,86 km✓	1A measured distance 1A measured scale 1M using scale 1CA actual distance **OR** 1A measured distance 1A measured scale 1M using scale 1CA actual distance **NPR** (4)	MP L3
3.2	Cost of half full tank = R14,01 ×30✓	1M multiplying 1A cost	F L4

	= R420,30✓ The gauge was properly working✓ **OR** No. of litres = $\frac{R420,30}{R14,01}$ ✓ = 30 ℓ✓ The gauge was properly working✓	1O opinion **OR** 1M dividing 1A number of litres 1O opinion (3)	
3.3	Distance covered = $\frac{30\ \ell \times 100\ km}{9\ \ell}$✓ = 333 km✓ Distance left to East London = 742,86 km – 333 km = 409,86 km✓ Mr Thibedi's claim is not valid. ✓	**CA from 3.1 & 3.2** 1M working with consumption rate 1CA distance covered 1CA remaining distance 1O opinion (4)	MP L4
3.4	From East London take N2 ✓pass Port Elizabeth.✓ At Knysna✓ take N12✓ to Beaufort West. **OR** From East London take N2 ✓then before you reach Port Elizabeth✓ join N10.✓ Continue straight until you cross N9 then join N1✓to Beaufort West.	1A N2 1A Port Elizabeth 1A Knysna 1A N12 **OR** 1A N2 1A Port Elizabeth 1A N10 and N9 1A N1 (4)	MP L3
3.5	Fixing a tyre burst✓✓ **OR** Buying food✓✓ **OR** Going to bathroom✓✓ **OR** Stretch legs✓✓ **Accept any relevant reason**	2O opinion (2)	MP L4
	QUESTION 4 [16 MARKS]		
4.1	Height of the mountain = 3 559 ×12 inches✓ = 42 708 inches✓ = $\frac{42\ 708}{39,37}$ metres✓ = 1 084,78537 metres ≈ 1 085 metres✓	 1C conversion 1A height in inches 1C conversion 1CA height in metres (4)	M L3
4.2	From 08:30 to 18:00 = 9 hours 30 minutes✓ = 570 minutes✓ number of trips = $\frac{570\ minutes}{30\ minutes}$ ✓ = 19 ✓ The opetator's statement is correct. ✓	1A duration 1C conversion 1M dividing with 30 1A number of trips 1O opinion	M L4

	OR 30 minutes = 0,5 hour✓ From 08:30 to 18:00 = 9,5 hours ✓ number of trips = $\frac{9{,}5\ hours}{0{,}5\ hour}$ ✓ = 19 ✓ The controller's statement is correct. ✓	**OR** 1C conversion 1A duration 1M dividing with 30 1A number of trips 1O opinion (5)	
4.3	8+5 = 13✓ Number of adults = $\frac{8}{13} \times 65$✓ = 40 ✓	1A adding ratio values 1M using ratio values 1A number of adults (3)	M L2
4.4	Total cost = 40 × 7,6 \$ + 25 × 4,8 \$✓ = 424 \$✓ = R $\frac{424}{0{,}08}$ ✓ = R5 300 The cashier's claim is valid. ✓ **OR** Adult rate = R $\frac{7{,}6}{0{,}08}$ = R95 ✓ Children's rate = R $\frac{4{,}8}{0{,}08}$ = R60 ✓ Total cost = R95 × 40 + R60 × 25 ✓ = R5 300 The cashier's claim is valid. ✓	**CA from 4.3** 1M multiplying and adding 1CA cost in \$ 1C conversion 1O opinion **OR** 1A adult rate 1A children's rate 1M multiplying and adding 1O opinion (4)	F L4