MLIT P2' GR11 & GR10.

[redacted]

education

Department:
Education
PROVINCE OF KWAZULU-NATAL

NATIONAL
SENIOR CERTIFICATE

GRADE 11

MATHEMATICAL LITERACY P2

COMMON TEST JUNE 2019

MARKING GUIDELINES

MARKS: 75

Symbol	Explanation
M	Method
M/A	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy (Answer)
AO	Answer only full marks
C	Conversion
S	Simplification
RT / RG / RM/RP	Reading from table / Reading from graph / Reading from map/Reading from plan
F	Choosing the correct formula
E	Explanation
D	Correct definition
SF	Substitution in formula
O	Opinion
J	Justification
P	Penalty e.g. for no units, incorrect rounding, etc
R	Rounding off / Reason

This marking guideline consists of 4 pages.

QUESTION 1 [27 MARKS]

Question	Solution	Explanation	T & L
1.1	Percentage discount $= \frac{R30\checkmark MA}{R80\ \checkmark M} \times 100\%$ $= 37{,}5\%\checkmark A$	1MA for discount amount 1 M for dividing by 80 1A correct answer (3)	L2
1.2	Total Cost $= 4(R80 + 20) + 5(R40 + 20)\checkmark\checkmark M$ $= R400 + R300\checkmark S$ $= R700\ \checkmark A$	1M for adding R20 per person 1M for multiplying by 4 and 5 1S simplification 1A correct answer (4)	L2
1.3	Normal Cost $= 4(R150) + 5(R80)\checkmark MA$ $= R1000\checkmark A$ Early Bird Cost $= 4(R100) + 5(R50)\checkmark MA$ $= R650\checkmark A$ $= R1000 - R650$ $\frac{R350\ \checkmark M}{R1000} \times 100\% = 35\%\checkmark CA$ Her statement is correct$\checkmark O$	1MA addition for Peak Day cost 1A normal cost 1MA addition Early Bird cost 1A Early Bird cost 1M subtracting R650 from R1000 1CA for 35% 1O correct conclusion (7)	L4
1.4	Early Bird Cost $= 4(R100) + 5(R50)\checkmark M$ $= R650\checkmark M$ Cost for 2 Early Bird Tickets $= R1\ 300\checkmark A$	1M for multiplying by 4 and 5 1M for R650 1A for the correct answer R1300 (3)	L2
1.5	Interest rate for half year is $\frac{7{,}8\%}{2\checkmark M} = 3{,}9\%\checkmark M$ First 6 months: Interest $= 3{,}9\% \times R1\ 500\ 000\checkmark M$ $= R58\ 500\checkmark CA$ Second 6 months: Interest $= 3{,}9\% \times R1\ 558\ 500$ $= R60\ 781{,}50\checkmark CA$ Last 6 months: Interest $= 3{,}9\% \times R1\ 619\ 281{,}50$ $= R63\ 151{,}98\checkmark CA$ $= R58\ 500 + R60\ 781.50 + R63\ 151{,}98$ Total Interest $= R182\ 433{,}48\checkmark CA$	1M division by 2 1M for 3,9% 1M multiplying 3,9% by R1 500 000 1CA for interest 1st 6 months 1CA for interest 2nd 6 months 1CA for interest 3rd 6 months 1CA for total interest (7)	L3
		[24]	

QUESTION 2 [30 MARKS]		Explanation	T/L
2.1.1	60 minutes = 1hour 100 minutes = $\frac{100}{60}$ ✓M = 1,66666✓C Speed = $\frac{991}{1,6666}$ ✓SF = 594,62 km/h✓A ≈ 595 km/h✓R	1M for dividing by 60 1C converting hours to minutes 1SF justification 1A correct answer 1R rounding off (5)	M L3
2.1.2	100 minutes = 100 × 60 seconds✓M = 6 000 seconds✓C Number of litres = 6 000 × 4l✓M = 24 000l✓CA	1M multiplying 100 by 60 1C conversion to seconds 1M multiplying 6000 by 4 1CA consistent accuracy (4)	M L3
2.1.3	Fuel for 991 km = 991 × 12l✓M = 11 892l✓S Fuel for return flight = 2 × 11 892l✓M = 23 784✓M Number of return flights = $\frac{183\,380}{23\,784✓M}$ = 7,71✓CA Roberto's statement is not true. ✓J	1M multiplying 991 by 12 1S simplification 1M multiplying by 2 1M return flight fuel 1M dividing by 23 784 1CA number of return flights 1J verification (7)	M L4
2.2.1	distance on the map is 6,7 cm✓A (accept 6,5 – 6,9) 2,8 cm = 80km ✓A $\frac{6,7 \times 80}{2,8}$ ✓M ✓M =191,43 *km* ✓CA **OR** distance on the map is 6,7 cm✓A (accept 6,5 – 6,9) 2 cm = 80 miles $\frac{6,7 \times 80}{2}$ ✓M ✓A ✓M = 268 miles ✓CA	1A distance on the map 1A distance on bar scale 1M multiplying by 80 1M dividing by 2,8 1CA for distance **OR** 1A distance on the map 1A distance on bar scale 1M multiplying by 80 1M dividing by 2 1CA for distance (5)	M L3
2.2.2	It is not accurate, values are estimated✓✓O	2O disadvantage (2)	4
2.3.1	176 cm = 1,76 m✓C BMI = $\frac{91✓M}{(1,76)^2✓M}$ = 29,38✓A The children were correct✓O	1C converting 176 cm to metres 1M for 91 kg 1M dividing the square of 1,76 1A correct answer 1O correct conclusion (5)	M L4
2.3.2	Physical exercise/Change of diet✓✓O	2O proper advice (2)	M L4
			[30]

QUESTION 3 [21 MARKS]		Explanation	T/L
3.1.1	8 : 160✓M = 1 : 20✓S	1M for the ratio 8 : 160 1S simplifying (1 : 20) **AO (1 : 20)** (2)	M L2
3.1.2	length = width = $\frac{44}{20}$ ✓M = 2,2 cm✓A height = $\frac{105}{20}$ ✓M = 5,25 cm✓A	1M for dividing 44 by 20 1A correct length and width 1M for dividing 105 by 20 1A correct height (4)	M L3
3.1.3	°C = (140°F – 32) ÷ 1,8✓SF = 60✓A	1SF correct substitution 1A correct answer (2)	M L2
3.2.1	105,27% = 1,0527✓M 2018 Price = $\frac{\text{R14 999}}{1,0527}$ ✓SF = R14 248,12✓CA	1M for 1,0527 1SF correct substitution 1CA correct answer/accuracy (3)	F L3
3.2.2	5,38% of R14 999 = R806,95✓M 2020 Price = R14 999 + R806,95✓M = R15 805,95✓CA	1M for the increase of R806,95 1M addition 1CA correct answer/accuracy (3)	F L2
3.2.3	5,50% of R15 805,95 = R869,33✓M 2021 Price = R15 805,95 + R869,33✓M = R16 675,28✓A Average increase from 2019 = R1 676,28✓M Average Percentage Increase = $\frac{\text{R1 676,28}}{\text{R14 999}}$ × 100%✓SF = 11,18✓CA The father is correct✓O	1M for the increase of R869,33 1M addition 1A for R16 675,28 1M for average increase 1SF correct substitution 1CA correct answer/accuracy 1O correct opinion (7)	F L4
			[21]

TOTAL :75