Education

KwaZulu-Natal Department of Education

REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY

COMMON TEST

MARCH 2019

MARKS: 100

TIME: 2 hours

This question paper consists of 10 pages, two ANSWER SHEETS and an addendum with 1 Annexure (3 pages)

Copyright reserved

INSTRUCTIONS AND INFORMATION

1. This question paper consists of FOUR questions. Answer ALL the questions.

2.

2.1 Use ANNEXURE A in the ADDENDUM to answer QUESTION 2

2.2 Answer QUESTION 3.1.4 on the attached ANSWER SHEET 1.

2.3 Answer QUESTION 4.1.5 on the attached ANSWER SHEET 2.

2.4 Write your surname and name in the spaces provided on the ANSWER SHEETS. Hand in the ANSWER SHEETS with your ANSWER BOOK.

3. Number the answers correctly according to the numbering system used in this question paper.

4. Start EACH question on a NEW page.

5. You my use an approved calculator (non-programmable and non-graphical), unless stated otherwise.

6. Show ALL calculations clearly.

7. Round of ALL final answers approximately according to the given context, unless stated otherwise.

8. Indicate units of measurement, where applicable.

9. Maps and diagrams are not necessarily drawn to scale.

10. Write neatly and legibly.

Copyright Reserved

QUESTION 1

1.1 Tom likes chocolate mousse. His wife refers to the recipe below to make the chocolate mousse for him.

Study the recipe below and answer the questions that follow.

CHOCOLATE MOUSSE RECIPE

INGREDIENTS	*METHOD*
200 g dark chocolate 30 mℓ brandy (optional) 3 eggs, whites only 60 mℓ castor sugar 100 mℓ cream	• Grate 50 g dark chocolate, break the rest into small pieces and melt in a pot. • Stir in brandy (if using). • Whisk egg whites until stiff and add sugar and whisk until smooth. • Fold in whipped cream and add two thirds of grated dark chocolate. • Spoon the mixture into 6 bowls, sprinkle the remaining grated chocolate and chill in the fridge for 2 hours

Preparation time: 10 minutes *Cooking time: 5 minutes* *Servings: 6*

1.1.1 Determine the total time (in hours) to prepare and cook the chocolate mousse. (2)

1.1.2 Convert the weight of dark chocolate to kilograms. (2)

1.1.3 Write down the ratio of castor sugar to brandy in simplest form. (2)

1.1.4 Determine the number of grams of grated chocolate that will be added to folded whipped cream. (2)

1.1.5 If Tom's wife started making the mousse at 11:55, at what time will it be ready for eating? (3)

Copyright Reserved

1.2

Tom and his friend John are the homeowners who stay in Ladysmith. Tom uses a prepaid electricity meter and John uses a postpaid electricity meter. The charges per kilowatt hour (kWh) for postpaid and prepaid meters are shown below.

Use the information above, Table 1 and Table 2 to answer the questions that follow.

TABLE 1: Showing the charges per kWh for postpaid meter 2017/2018.

Category	Number of kWh	Charge per kWh excluding 15% VAT
Block 1	0 – 350 kWh	R1,3280
Block 2	351 – 650 kWh	R1,6365
Block 3	651 – 1 500 kWh	R1,9313
Block 4	> 1 500 kWh	R2,3597
Basic charge : R100		

Source: www.ladysmithgazette.co.za

TABLE 2: Showing the charges per kWh for prepaid meter 2017/2018.

Category	Number of kWh	Charge per kWh excluding 15% VAT
Block 1	0 – 100 kWh	R1,0965
Block 2	101 – 350 kWh	R1,1734
Block 3	350 – 650 kWh	R1,6367
Block 4	> 650 kWh	R1,9484

Source: www.ladysmithgazette.co.za

1.2.1 John and his family consumed 100 kWh in July 2017. Calculate the total amount including VAT that John will pay. (5)

1.2.2 Tom and his family consumed 100 kWh in July 2017. Calculate the total amount including VAT that Tom will pay. (4)

1.2.3 Hence calculate the difference in John's and Tom's total amounts. (2)

[22]

QUESTION 2

2.1 Mr and Mrs Dube accompany their daughter to the University of Pretoria to further her studies. The Dube family lives in Dundee. On their way they pass the e-tolls. After three weeks from the date of their journey, they received the account statement from SANRAL. The statement is shown in ANNEXURE A in the addendum.

Use the above information and ANNEXURE A to answer the following questions.

2.1.1 Give the operating times for SANRAL call centre. (2)

2.1.2 Write the operating times for SANRAL call centre in a 24 hour format. (2)

2.1.3 According to the statement, how many days did their journey take? (2)

2.1.4 Show how the VAT amount of R8,43 was calculated. (3)

2.1.5 (a) How much is the discounted amount payable by 04/03/2019? (2)

(b) What percentage of the total amount due is the discounted amount? (2)

2.1.6 How long (in minutes and seconds) did the Dube family take to drive from Mpshe e-toll gantry to Kiewiet e-toll gantry? (2)

2.1.7 Starling and Rooivink charge the same tariff, give one pair of toll points which charge the same tariff. (2)

Copyright Reserved

2.2 Mr Dube earns a monthly basic salary of R28 550,75. He is 64 years old. The pension fund contribution is 7,5% of the basic salary. An adapted tax table for 2018/2019 is shown below.

Use the information above and Table 3 to answer the questions that follow.

TABLE 3: Tax rates table for 2018/2019

Taxable income in Rands	**Rate of tax in Rands**
0- 195 850	18% of taxable income
195 851 – 305 850	35 253 + 26% of taxable income above 195 850
305 851 – 423 300	63 853 + 31% of taxable income above 305 850
423 301 – 555 600	100 263 + 36% of taxable income above 423 300
TAX REBATES	
Primary	R14 067
Secondary (Persons 65 and older	R7 713
Tertiary (Persons 75 and older)	R2 574

2.2.1 Calculate Mr Dube's annual basic salary. (2)

2.2.2 Calculate Mr Dube's annual taxable income. (3)

2.2.3 Give the minimum and maximum amounts between which Mr Dube's annual taxable income fall? (2)

2.2.4 Define the term *tax rebate* . (2)

2.2.5 If an employee earns an annual taxable income of R305 850, calculate how much is above the taxable income (2)

[28]

Copyright Reserved

QUESTION 3

3.1 Dineo, a Grade 12 learner, wants to study Nursing at the University of Kwa Zulu Natal next year. Dineo decides to be proactive and plans to save R5 000 to cover her registration fee to study Nursing. She decides to make her own doughnuts and sell the doughnuts at the local market once a month. The doughnuts cost R1,60 each to make. She will sell the doughnuts for R5 each. The local market also charges R340 to hire a stall for the day. Table 4 below represents Dineo's Income and Expenses.

The equations for Income and Total expenses are given below:

Income = R5 × number of doughnuts sold

Total Expenses = R340 + (R1,60 × number of doughnuts made)

Table 4: Shows Dineo's Income and Expenses.

Number of doughnuts sold	**0**	**50**	**200**	**500**	**750**	**1000**
Income (Rands)	0	R250	R1000	R2 500	R3 750	**A**
Total Expense (Rands)	R340	R420	**B**	R1 140	R1 540	R1 940

3.1.1 Calculate **A**, the income received for selling 1 000 doughnuts. (2)

3.1.2 Calculate **B**, the total expense for making and selling 200 doughnuts. (2)

3.1.3 Calculate the profit made on 750 doughnuts. Show all calculations.
You may use the following formula

Profit = Income – Total Expenses (2)

3.1.4 Complete the Graph on ANSWER SHEET 1 to represent Dineo's Expenses. (3)

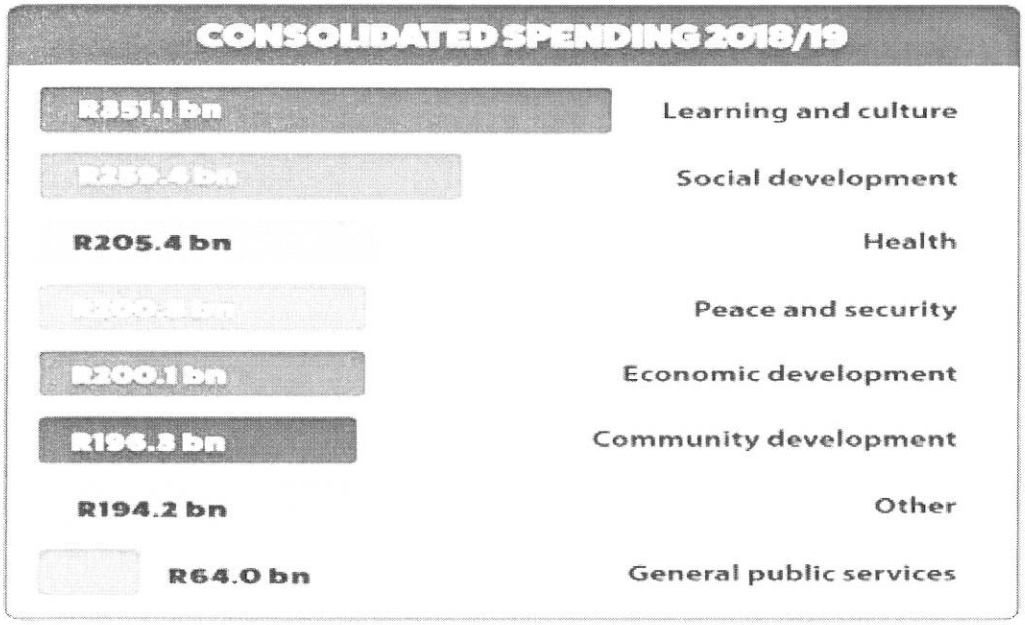
3.1.5 Verify by calculation if at break-even point Dineo will cover the registration fee. How many doughnuts Dineo must sell to cover the registration fee of R5 000 and make a profit. (5)

Copyright Reserved

3.2 The South African National Budget highlights the Revenue (Income) and Consolidated Spending (Expenses) for the year 2018/2019.

Table 5: South African National Budget for the year 2018/2019

TAX REVENUE (R billion)	2018/19	%
Personal income tax	505.8	37.6
VAT	348.1	25.9
Corporate income tax	231.2	17.2
Other	84.8	6.3
Fuel levies	77.5	5.8
Customs and excise duties	97.4	7.2
TOTAL	1 344,8	100.0



Source: www.general.household.survey.org

Use the information above to answer the questions that follow.

3.2.1 Consolidated Spending for 2018/2019 has not been totalled. Calculate the total amount spent by the South African Government. (2)

3.2.2 Verify using calculation that the National Budget has a Deficit balance. (2)

3.2.3 Analyse the budget and make a recommendation as to how to reduce the consolidated spending to improve the country's finances. (2)

3.2.4 Is the amount of R205.4 billion spent on Health sufficient? Justify your answer. (3)

[23]

QUESTION 4

4.1

The Survey conducted by Statistics South Africa indicate the number of individuals who belong to a Medical Aid Scheme.

Table 6: Numbers (in thousands) covered by a medical aid scheme from 2002-2017

Indicator (Numbers in thousands)	Year											
	2002	2004	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Number covered by a medical aid scheme	7 284	7 268	8 057	8 502	8 967	8 312	9 157	9 608	9 470	9 307	9 447	9 475
Number not covered by a medical aid scheme	38 445	39 666	41 266	41 284	41 606	43 013	42 819	43 300	43 946	45 065	45 646	46 654
Subtotal	45 728	46 934	49 322	49 786	50 573	51 325	51 976	52 908	53 416	54 372	55 093	56 129
Percentage covered by a medical aid scheme	15,9	15,5	16,3	17,1	17,7	16,2	17,6	18,2	17,7	17,1	17,1	16,9
Do not know	140	58	101	19	23	0	58	36	46	71	53	24
Unspecified	53	57	56	347	254	249	291	161	451	308	474	369
Total population	45 921	47 049	49 479	50 152	50 850	51 574	52 325	53 104	53 912	54 750	55 620	56 522

Source: *www.statssa.gov.za.*

Use the information above to answer the questions that follow:

4.1.1 Write the 2017 Total population in words. (2)

4.1.2 Show by calculation how the Total population of 50 850 was calculated. (2)

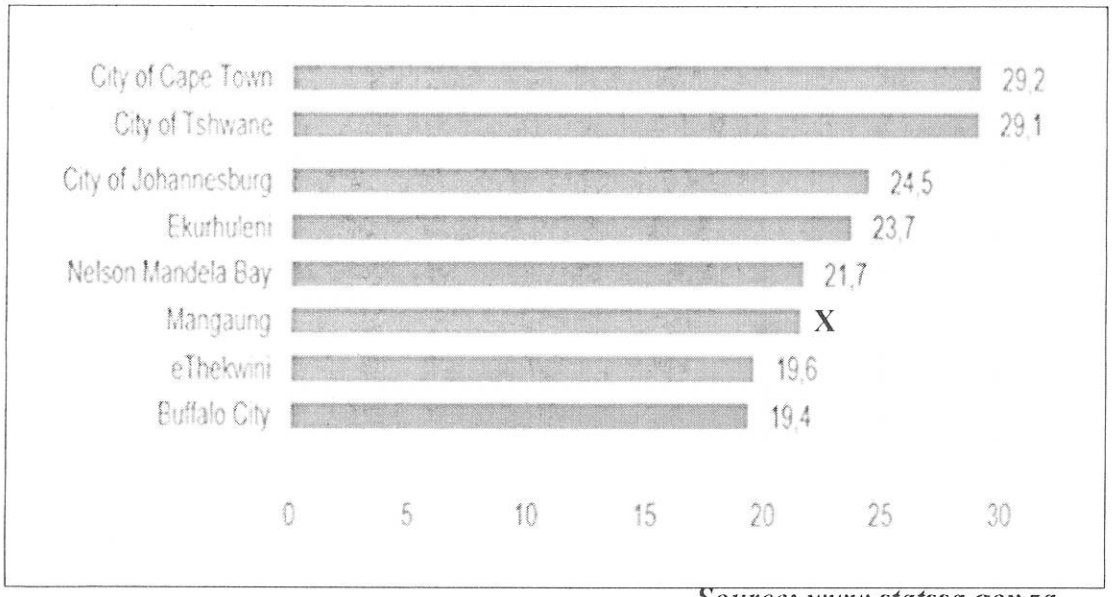
4.1.3 Describe the trend in the number not covered by a medical aid scheme. Give a reason for this trend. (3)

4.1.4 Calculate the mean and median number of people from 2010 to 2017 covered by a medical scheme. Determine which measure of central tendency provides the best representation of the data. (7)

4.1.5 Complete the graph on ANSWER SHEET 2 to represent the Percentage covered by a medical aid scheme. (5)

Copyright Reserved

4.2 The graph below shows the percentage of individuals who are members of medical aid schemes by metropolitan area for 2017.



Source: www.statssa.gov.za

Use the above information to answer the following questions

4.2.1 If approximately 3,7 million people live in eThekwini, determine the number of people who belong to a medical aid scheme in eThekwini. (2)

4.2.2 The mean for the given set of data above is 23,6%. Determine the value of **X**, the percentage of individuals who are members of medical aid schemes in Mangaung. (4)

4.2.3 Give a valid reason why do the City of Cape Town and Tshwane have a higher percentage of people who belong to a medical aid scheme? (2)

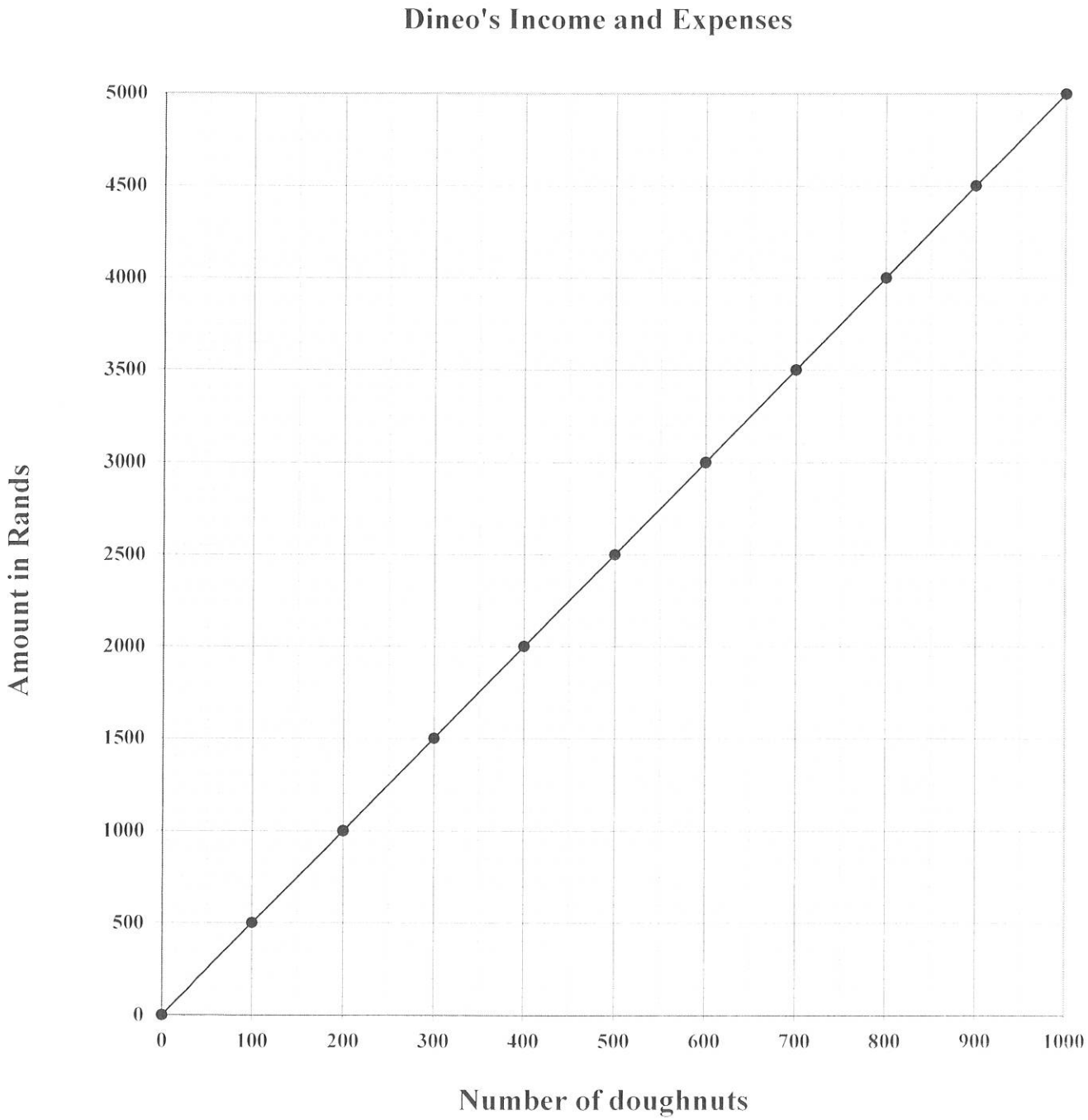
[27]

TOTAL: [100]

ANSWER SHEET 1

QUESTION 3.1.4

NAME: _____ **CLASS:** _____



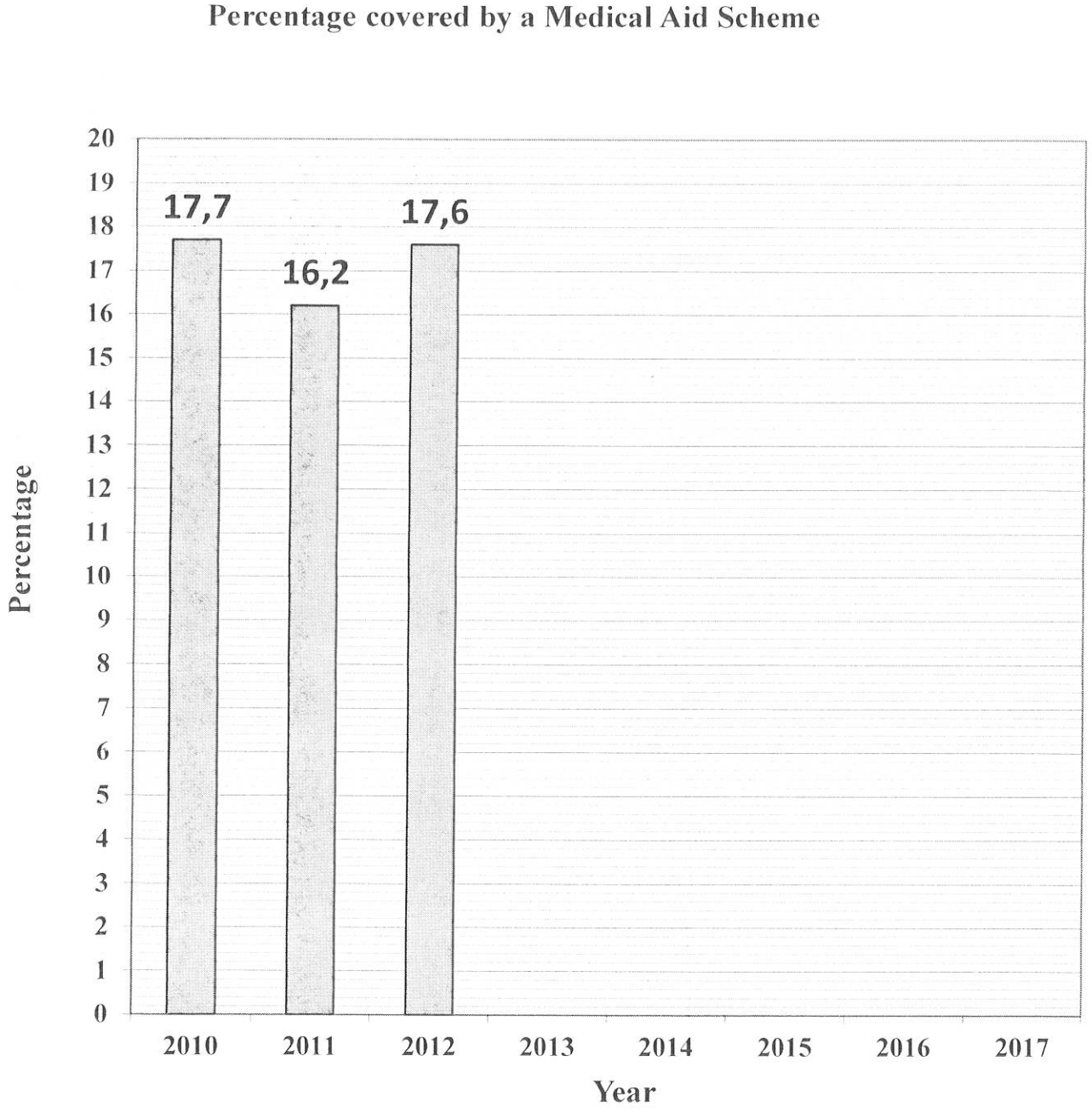
Copyright Reserved

ANSWER SHEET 2

NAME:_____ CLASS:

_____

QUESTION 4.1.5



Copyright Reserved

Education

KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

NATIONAL SENIOR CERTIFICATE

GRADE 12

MATHEMATICAL LITERACY

COMMON TEST

ADDENDUM

MARCH 2019

N.B. This addendum consists of 3 pages with 1 Annexure.

Copyright Reserved

ANNEXURE A

QUESTION 2





T M Dube
Box 7836
Melmoth
3935

TAX INVOICE
Computer Generated
SANRAL- violation Processing Centre (VPC)
Private Bag x 164
CENTURION
0046
VAT NO. 4220186250
Call Centre: 0800 SANRAL (726 725) 6am – 10 pm
E-mail: info@sa-etoll.co.za
Website: www.sanral co.za

VPC account ID/ Payment Reference	14357 482711	**VPC tax invoice Ref.No.**	134574468
Vehicle Licence Plate No.	NO 76500	**Customer VAT No.**	N/A
Invoice date	2019/02/04	**Identification No.**	RSA ID doc 580729 5743 08 1
Email	N/A	**Period**	14/01/2019 to 14/01/2019

Dear Mr Dube
Your e-toll Tax Invoice is a consolidation of your e-toll transactions for the vehicle licence plate No., including VAT, for the period. Please refer to the payment terms below for any possible discounts.

INVOICE DETAILS

Description	VAT Rate	VAT amount	Invoice Amount (incl.VAT)
11 e-toll transactions during the period (details below)	15%	R8.43	R64.62
Discounted amount payable for this invoice by 04/03/2019			R32.31

PAYMENT OPTIONS
Payment Reference Number: 14357482799
EFT: SANRAL-VPC
First National Bank Corporate Banking Account No. 62280209136 Branch code: 250655
FNB: Over the counter using your reference number above, or at any advanced FNB ATM which has a note accepting facility.
Customer service centre: Refer to www.sanral.co.za for locations
Call centre: Pay using your Credit Card securely or discuss payment options

Copyright Reserved

STATEMENT OF ACCOUNT

Description	Account balance (incl. VAT)
Total discounted amount payable for this VPC Account by 04/03/2019	**R32,31**
Total amount due for this VPC Account if not paid by 04/03/ 2019	R64.62

e-toll

SANRAL

Transaction Details for VPC Tax Invoice Ref No.134574468

Transaction Number	Transaction Date & Time	Toll Agency	Toll point Detail	Vehicle Class	Standard/ VLN Tariff (incl. VAT)	Alternate Tariff (incl.VAT)
4011871101	14/01/2019 07:14:29 am	GORT	N3:T24 Mpshe	A2	R2.34	R4.68
4011792118	14/01/2019 07:18:41 am	GORT	N3: T22: Starling	A2	R2.91	R5.82
4011857590	14/01/2019 07:23:10 am	GORT	N3: T20: Kiewiet	A2	R2.73	R5.46
4011798511	14/01/2019 07/26/41 am	GORT	N3: T18: Leeba	A2	R2.56	R5.12
4011755747	14/01/2019 07:33:26 am	GORT	N1: T7 :Ihobe	A2	R3.98	R7.96
4012432258	14/01/2019 12:17:49 pm	GORT	N1: T6:Flamingo	A2	R3.27	R6.54
4012454199	14/01/2019 12:24:07 pm	GORT	N1 :T8: Sunbird	A2	R3.98	R7.96
4012518718	14/01/2019 12:28:52 pm	GORT	N3: T19 Ibis	A2	R2.56	R5.12
4012454556	14/01/2019 12:33:13 pm	GORT	N3:T21 :Kwikkie	A2	R2.73	R5.46
4012339610	14/01/2019 12:38:01 pm	GORT	N3:T23:Rooivink	A2	R2.91	R5.82
4012475755	14/01/2019 12:41:56 pm	GORT	N3:T25:Oxpecker	A2	R2.34	R4.68
Discounted Invoice amount payable by 04/03/2019					**R32,31**	
Total invoice amount without discounts						**R64,62**

Source: www.sanral.co.za

Note:

- The oldest debt will be settled first.
- If you fail to pay your toll fees within the prescribed period, you will be liable for the full value indicated herein.
- The total amount payable is indicated under the Statement of account.
- No cash payments by post or cheque will be accepted.

Copyright Reserved

Education

KwaZulu-Natal Department of Education

MATHEMATICAL LITERACY

COMMON TEST

MARKING GUIDELINE

MARCH 2019

NATIONAL SENIOR CERTIFICATE

GRADE 12

MARKS: 100

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD/RM	Reading from a table/ graph/ diagram/Map
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example/Explanation
J	Justification
R	Rounding off
F	deriving a formula
AO	Answer only full marks
P	Penalty e.g. for units, incorrect rounding off etc.
NPR	No penalty for rounding / units

This marking guideline consists of 9 pages.

Copyright Reserved

Question 1 [22 MARKS]

Ques	Solution	Explanation	T&L
1.1.1	Total time = 15 minutes ÷ 60 ✓MA = 0,25 hours ✓CA	1MA dividing by 60 1CA time **AO** (2)	M L2
1.1.2	Weight = 200 g ÷ 1 000 ✓MA = 0,2 kg ✓A	1MA dividing by 1 000 1A weight in kg **NP** **AO** (2)	M L1
1.1.3	Castor sugar : brandy 60 mℓ : 30 mℓ ✓A 2 : 1 ✓S	1A both correct values and ratio order correct 1S simplification **AO** (2)	M L1
1.1.4	No. of grams = $\frac{2}{3} \times 50$ g ✓M = 33,33 ✓CA	1M multiplying 50 g by $\frac{2}{3}$ 1CA no.of grams **NPR** (2)	M L1
1.1.5	✓M ✓M Finishing time =11:55 + 15 minutes + 2 hours = 14:10 ✓CA	1M adding 15 minutes 1M adding 2 hours 1CA time (3)	M L2
1.2.1	✓A ✓M Total amount = R100 + (100 kWh × R1,3280) = R232,80 ✓A Amount incl. VAT = R232,80 + (15% × R232,80) ✓M = R267,72 ✓CA **OR** ✓A ✓A Total amount = R100 + (100 kWh × R1,3280) = R232,80 ✓CA Amount incl. VAT =R232,80 × 1,15 ✓M = R267,72 ✓CA	1A adding basic charge 1M multiplying by correct rate 1A amount 1M adding 15% VAT 1CA amount incl VAT **OR** 1A adding basic charge 1M multiplying by correct rate 1CA amount 1M multiplying by 1,15 **OR** $\frac{115}{100}$ 1CA amount incl VAT **Accept calculation with 14%** (5)	F L3

Copyright Reserved

1.2.2	Total amount = 100 kWh × R1,0965 ✓MA = R109,65 ✓CA Amount incl. VAT =R109,65 + (15% × R109,65) ✓M = R126,10 ✓CA **OR** Total amount = 100 kWh × R1,0965 ✓MA = R109,65 ✓CA Amount incl. VAT = R109,65 x 1,15 ✓M = R126,10 ✓CA	1MA multiplying by correct rate 1CA amount 1M adding 15% VAT **OR** 1,15 **OR** $\frac{115}{100}$ 1CA amount **Accept calculation 14%** (4)	F L2
1.2.3	Difference = R267,72 – R126,50 ✓M = R141,62 ✓CA	**CA from 1.2.1 and 1.2.2** 1M subtracting values 1CA difference (2)	F L1
		[22]	

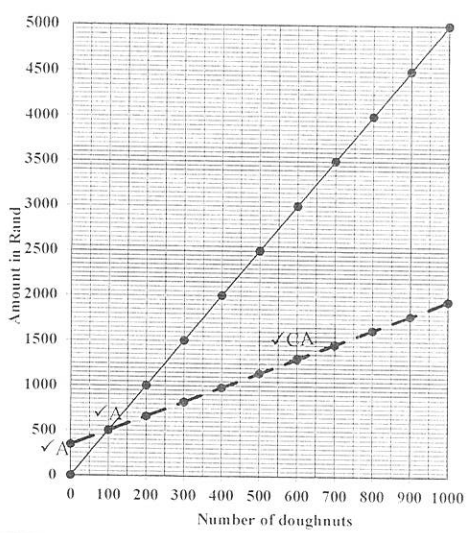
QUESTION 2 [28 MARKS]			
2.1.1	6 am – 10 pm ✓✓RT	2RT correct times (2)	M L1
2.1.2	06:00 – 22:00 ✓✓A	2A correct format for both values (2)	M L1
2.1.3	1 day ✓✓A	2A correct no.of days (2)	M L1
2.1.4	Amount excl.VAT = $\frac{R64,62}{1,15}$ ✓M = R56,19 ✓A Amount of VAT = R56,19 x $\frac{15}{100}$ ✓M = R8,4285 = R8,43 **OR** Amount excl VAT = R64,62 × $\frac{100}{115}$ ✓M = R56,19 ✓A Amount of VAT = R56,19 x 15% ✓M = R8,43 **OR** VAT amount = R64,62 × $\frac{15}{115}$ ✓✓M = R8,428695652 ✓A ≈ R8,43	1M dividing by 1,15 1A amount excl. VAT 1 M multiplying by 15% **OR** 1M multiplying by $\frac{100}{115}$ 1A amount excl. VAT 1M multiplying by 15% **OR** 1M multiplying by 15 1M Dividing by 115 1A VAT amount (3)	F L2

2.1.5 (a)	Discounted amount = R32,31 ✓✓RT	2RT correct amount (2)	F L1
2.1.5(b)	Percentage = $\frac{R32,31}{R64,62}$ × 100% ✓M = 50 % ✓A	1M percentage concept 1A percentage **AO** (2)	F L1
2.1.6	Time taken = 07:23:10 – 07:14:29 ✓M = 08 minutes 41 seconds ✓A	1M subtraction 1A time duration (2)	M L2
2.1.7	Mpshe and Oxpecker ✓✓RT **OR** Kiewiet and Kwikkie ✓✓RT **OR** Leeba and Ibis ✓✓RT **OR** Ihobe and Sunbird ✓✓RT Any correct pair	2RT correct pair (2)	M L1

2.2.1	Annual basic salary = R28 550,75 × 12 ✓MA = R342 609,00 ✓A	1MA multiplying by 12 1A annual basic salary (2)	F L1
2.2.2	Annual taxable income ✓M ✓M = R342 609,00 – (7,5% × R342 609,00) = R316 913,33 ✓CA **OR** ✓M Pension fund contribution = 7,5% × R342 609,00 = R25 695,68 Annual taxable income = R342 609,00 - R25 695,68 ✓M = R316 913,33 ✓CA	1M subtraction 1M multiplying by 7,5% 1CA annual taxable income **OR** 1M multiplying 7,5% 1M subtraction 1CA annual taxable income (3)	F L2
2.2.3	Minimum 305 851✓A Maximum 423 300 ✓A	1 A minimum amount 1 A maximum amount (2)	F L1
2.2.4	A tax rebate is a relief given to the taxpayers. ✓✓E **OR** A tax rebate is a discount given to taxpayers. ✓✓E	2E explanation **OR** 2E explanation (2)	F L1
2.2.5	Amount above = R305 850 – R195 850 ✓MA = R110 000 ✓A	1MA subtraction 1A amount above (2)	F L2
		[28]	

QUESTION 3 [23 MARKS]

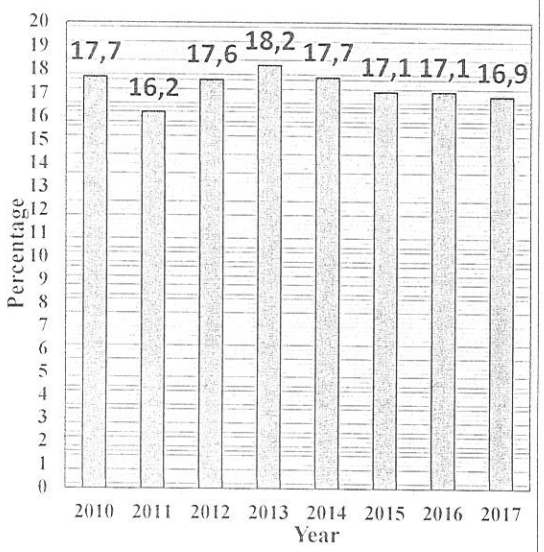
Ques	Solution	Explanation	T &L
3.1.1	A = R5× 1000 ✓SF = R5 000 ✓A	1SF correct substitution 1A correct value **AO** (2)	F L1
3.1.2	B = R340 + (R1,60 × 200) ✓SF = R660✓A	1SF Substituting 200 1A correct value **AO** (2)	F L2
3.1.3	Profit = (R5×750) – 340+(R1,60×750) ✓SF = R2 210 ✓A **OR** Profit = R3 750 - R1 540 ✓RT = R2 210 ✓A	1SF correct substitution 1A correct value **OR** 1RT reading from the table 1A correct value **AO** (2)	F L2

3.1.4		1A Expense R340 1A Break-Even (100,R500) 1CA joining points (3)	F L3
3.1.5	Break-even point = (100 doughnuts , R500) Profit = Income – Expense R5000 = (R5 × no. of doughnuts) – [R340 +(R1,60 × no. of doughnuts)] ✓SF ✓S R5 340 = (R5-R1,60)× no. of doughnuts $\frac{R5\,340}{R3,40}$ = 1570,59 = 1571 doughnuts✓R ✓MA No at break-even point Dineo will get R500 which is less than R5 000 registration fee. ✓C **OR** It will not cover registration fee✓C	1SF correct substitution 1S simplify R5 - R1,60 1R rounding 1MA divide by R3,40 1C conclusion **OR** 1C conclusion (5)	F L4

3.2.1	Total Consolidated Spending = 351,1+259,4+205,4+200,8+200,1+196,3+194,2+64,0✓M =R1 671,3 billion✓A **OR** R1 671 300 000 000 ✓✓A	1M adding correct values 1A correct value in billions **OR** 2A number in trillions **AO** (2)	DH L1
3.2.2	1344,8 – 1671,3 ✓M = - R326,5billion✓CA	1M subtract 1671,3 1CA negative -R326,5 **NPR** (2)	DH L2
3.2.3	Reduce spending on other to improve deficit. ✓✓O **OR** Increase spending on economic development to create more employment. ✓✓O **OR** Any other valid recommendation	2O opinion **OR** 2O opinion (2)	DH L2
3.2.4	Yes. ✓A. It is a large amount of money if it is budgeted for and used for its intended use. ✓✓J **OR** No. ✓A. Insufficient to cover all health expenses. ✓✓J **OR** Any other valid recommendation	1A Answer 2J justification **OR** 1A Answer 2J justification (3)	DH L4
		[23]	

QUESTION 4 [27 MARKS]

4.1.1	Fifty six million five hundred and twenty two thousand✓✓A	2A written in words (2)	DH L2
4.1.2	Total population = 50 573+ 23+254✓✓MA = 50 850 **OR** Total population = 8 967+41 606+ 23+254✓✓MA = 50 850	2MA adding correct values **OR** 2MA adding correct values (2)	DH L2
4.1.3	✓A ✓A Number of people are gradually increasing as the years increase. Medical aid is not affordable ✓O	1 A increasing number of people 1A increasing years 1O opinion (3)	DH L4
4.1.4	Mean number of people from 2010 to 2017 $= \frac{8\,967+8\,312+9\,157+9\,608+9\,470+9\,307+9\,447+9\,475}{8}$ ✓MA ✓MA = 9 217 875 people ✓CA Median number of people from 2010 to 2017 8 312; 8 967; 9 157; 9 307; 9 447; 9 470; 9 475;9 608 ✓A $= \frac{9307+9447}{2}$ ✓MA = 9 377 000 people ✓CA Mean provides the best representation of the data because it includes all the values from 2010 to 2017. ✓O	1MA – adding correct values 1MA –dividing by 8 1CA mean 1A arranging data 1MA dividing by 2 1CA median 1O opinion **No penalty for omitting thousands** (7)	DH L3

4.1.5		1A per bar ×5 bars✓✓✓✓✓ (5)	DH L3
4.2.1	Number of people who belong to medical aid in Ethekwini =3 700 000 × 19,6% ✓MA = 725 200 people✓A	1MA Multiplying by 19,6% 1A Correct number of people **AO** (2)	DH L2
4.2.2	Mean = $\frac{\text{sum of data}}{\text{number of values}}$ $23,6 = \frac{29,2+29,1+24,5+23,7+21,7+X+19,6+19,4}{8}$ ✓M 188,8=167,2 + X ✓S X = 188,8-167,2 ✓M X = 21,6 ✓CA	1M concept of mean 1S simplification 1M subtraction 1CA answer (4)	DH L4
4.2.3	Larger metropolitan area where more people are employed ✓✓O	2O Opinion (2)	DH L4
		[27]	

TOTAL MARKS: [100]

Copyright Reserved