education

Department:
Education
PROVINCE OF KWAZULU-NATAL

NATIONAL SENIOR CERTIFICATE

GRADE 10

MATHEMATICAL LITERACY

COMMON TEST

MARCH 2019

MARKS: 75

TIME: 1½ hours

This question paper consists of 7 pages with 1 answer sheet.

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INSTRUCTIONS AND INFORMATION

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

2. 2.1 Answer QUESTION 2.2.2 on the attached ANSWER SHEET.

   2.2 Write your surname and name in the spaces provided on the ANSWER SHEET. Hand in your ANSWER SHEET 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 may use an approved calculator (non-programmable and non-graphical). Unless stated otherwise.

6. Show ALL the calculation clearly.

7. Round off ALL the final answers to two decimal places, unless stated otherwise.

8. Indicate units of measurements, where applicable.

9. Write neatly and legibly.

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QUESTION 1

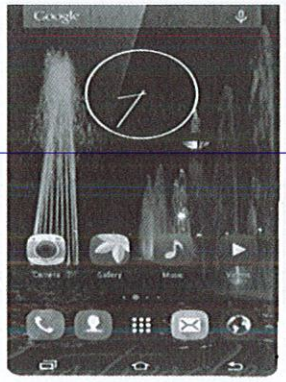
1.1 Mandisa bought a cell phone from J and J electronics.
Study the advertisement below and answer the questions that follow:

Anytime 750 Contract

* Was R749 pm ×24
* Now R699 pm ×24
* Sim-connection R209 once off

Includes :

- R750 airtime value (VAT incl.)
- 750 SMS
- 750 MB + 180 minutes
- 12cm × 5cm Touch screen and 16 GB memory



www.shoplight.com/fashion/mobile

1.1.1 Write down the time on the screen of the cell phone using an analogue format for the morning. (2)

1.1.2 Mandisa used 60% of the total SMS. Calculate how many SMS did she actually used. (2)

1.1.3 Write down the ratio of the touch screen dimensions as breadth is to length. Give your answer as **1: …** (2)

1.1.4 Calculate the percentage change on the monthly instalments.
You may use the following formula :

$$\textbf{Percentage change} = \frac{\textbf{Previous installment} - \textbf{Current installment}}{\textbf{Previous installment}} \times 100\%$$ (3)

1.2 J and J store sells different colours of cell phones. In one month, they sold cell phones valued to R48 560.

1.2.1 If red, silver and black cell phone were sold in the ratio of 1:3:5 respectively. Determine (nearest one hundred rand) the amount of silver cell phone sold. (4)

1.2.2 Write down the ratio in its simplest form if 35 red, 45 silver and 60 black cell phone were sold. (3)

1.2.3 Express as the percentage the price of black cell phones to the total value of cell phones sold, if the value of black cell phones sold is R13 350. (2)

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QUESTION 2

2.1

Mr David is a sheep farmer and uses hay to feed his flock. One bale of hay weighs 144kg.



* *A bale of hay is a dried grass mainly used for animal feeding.*

http//:www.google.com/

2.1.1 Determine the number of sheep that will consume ONE bale of hay per day. If one sheep consumes 6 kg of hay per day. (2)

2.1.2 State with a reason whether the number of sheep in 2.1.1 is discrete or continuous variable. (2)

2.1.3 If one sheep can approximately eat 4,5kg per day, calculate the number of days it will last for 8 sheep to complete ONE bale of hay. (3)

2.2 Mr David buys small bales of hay for R75 each, table 2 shows the price for a number of bales he buys

Table 1: Price for a number of bales bought

Number of bales	0	5	...	12	**N**	35	40
Amount in (R)	R0	**M**	...	R900	R1 500	R2 625	R3 000

Study table 1 above and answer the following questions.

2.2.1 Calculate the value of:

(a) **M** (2)

(b) **N** (2)

2.2.2 Use the ANSWER SHEET provided to draw the graph that illustrates the relationship between number of bales and the amount in rands. (4)

2.3 Mr David used the cheque payment method to pay for his order of animal feed, use the cheque below to answer the following questions.

TOTAL AFRICAN BANK

TAB

Any easy Avenue
20th street
Madson 3580

250-320

cheque

Pay

Bataal : **Coastal Farmers**

Date
Datum: 25-02-2019

The sum of
Die bedrag van :

R 21 616 -53

P ONLY

MAIN BRANCH

This cheque valid for : 90 days

Sign
:_____
David

"1067 : 240438: 62046349404-03

2.3.1 Write down the name of the shop where Mr David bought his stock. (2)

2.3.2 In which month did Mr David purchase his feeding stock? (2)

2.3.3 Complete the cheque by filling the amount **(P)** of purchase in words. (2)

2.3.4 Explain why the amount is written in figures and in words? (2)

2.3.5 Give the period in months in which the cheque is valid for. (2)

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QUESTION 3

3.1 Sanele travels 6 minutes from home to the taxi stop, the taxi takes 17 minutes to reach school which is 25 km away from the taxi stop.

3.1.1 Calculate the total time taken in minutes by Sanele from home to school. (2)

3.1.2 Determine Sanele's total distance to and from school by a taxi in metres. (3)

3.1.3 Sanele's taxi is delayed for twelve minutes in arriving at the taxi stop.

What time did Sanele left home for school if she arrived at school by 07:30? (2)

3.2 Starling City Bus Service offers school transport and charges their rates according to different zones. Sanele's neighbour Jessica takes the bus to school every day Monday to Friday.

Table 2: Starling City Bus Service duty 464

Zones	Distance to School	Daily travel fares per trip
Zone1	Less than 5 km	R7,50
Zone 2	5,1 km to 10km	R8,75
Zone 3	10.1km to 20km	R14,50
Zone 4	20,1km to 25km	R17,50
Zone 5	25,1km to 30km	R22,50
Zone 6	More than 30km	R29,50

Study table 2 and the information above to answer the following questions.

3.2.1 Determine the average speed (to nearest10km/h) of the bus, if it takes 0,42 hours to cover a distance of 27 km to school.

You may use the following formula: $\textbf{Speed} = \frac{\textit{Distance travelled(km)}}{\textit{time taken (hours)}}$ (3)

3.2.2 If a learner pays R350 in 20 days for return trips, in which zone does this learner take bus 464 to school? Show all workings. (3)

3.2.3 State with a possible reason why Starling bus service does NOT charge the flat rate for learners travelling by the bus to school. (2)

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QUESTION 4

4.1 Sasha is a butchery manager and earns R124 000 per year.

4.1.1 ~~R124,000 is another format that is often used to write figures.~~

Explain the purpose in this context of using comma in a number. (2)

4.1.2 Sasha states that 15% and $\frac{6}{40}$ of her salary will yield the same salary increase.

Verify whether her statement is correct. Showing all your calculations. (3)

4.1.3 Hence, calculate her actual salary increase in rand. (2)

4.2 The butchery sells beef at R69/kg

4.2.1 Explain what does R69/kg means? (2)

4.2.2 How much will a customer pay for 1,5kg of beef? (2)

4.2.3 Sasha uses the kitchen scale to weigh meat for customers with an empty bowl weighing 150g. If the scale reads the total weight of 3,25kg.

a) Determine the weight (in kg) of meat placed on the scale. (3)

b) Zinhle was charged R213,90 for beef purchased. Verify, showing all your calculations whether the amount charged is CORRECT. (3)

[17]

TOTAL: [75]

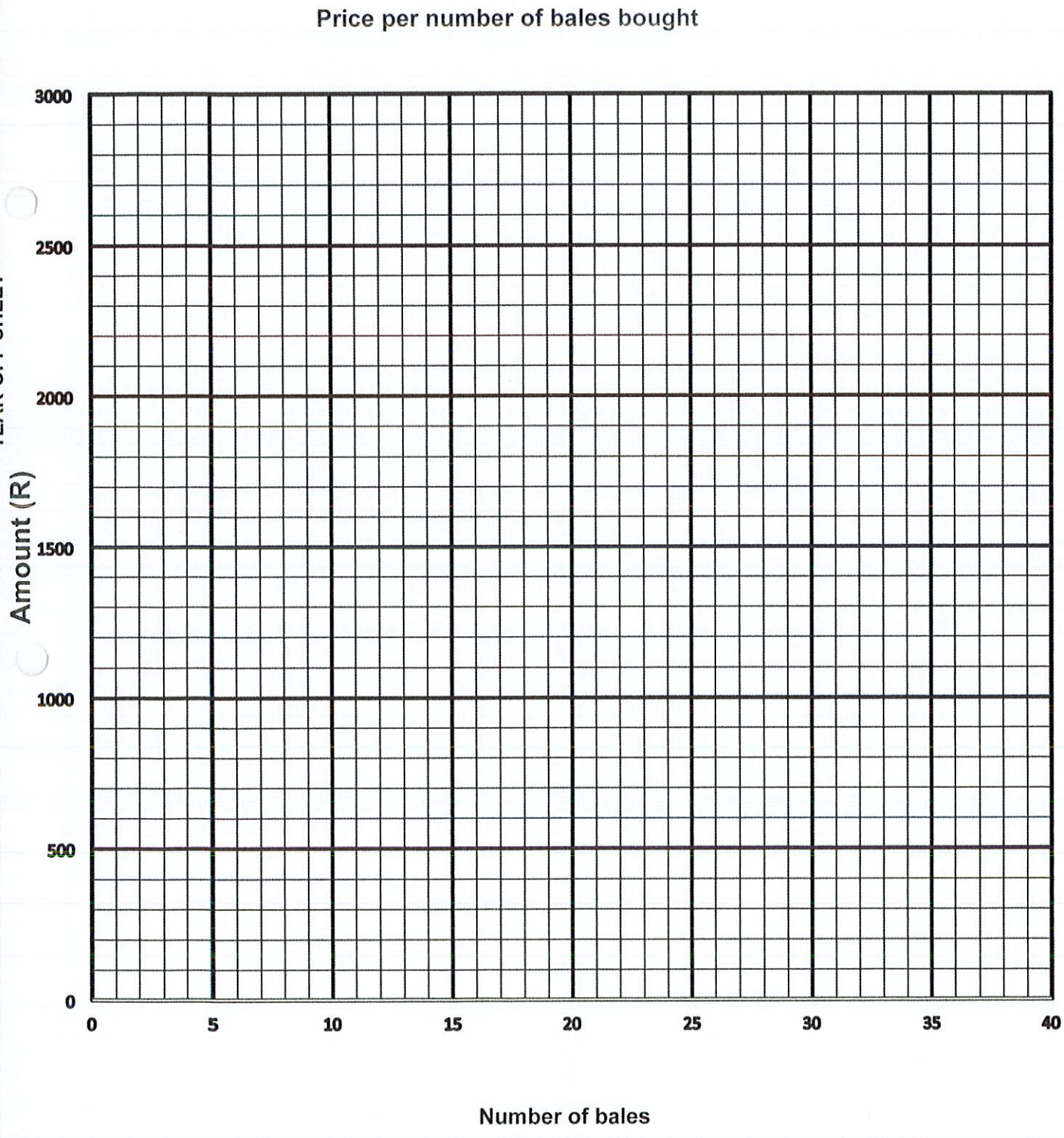
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ANSWER SHEET

Name: _____ **Grade10:**_____

Question 2.2.2

TEAR-OFF-SHEET



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MARCH 2019

MARKING GUIDELINE

NATIONAL
SENIOR CERTIFICATE

GRADE 10

MARKS: 75

SYMBOL	EXPLANATION
M	Method
MA	Method with accuracy
MCA	Method with consistent accuracy
CA	Consistent accuracy
A	Accuracy
C	Conversion
S	Simplification
RT/RG/RD	Reading from a table/ graph/ diagram
NPR	No penalty for units/rounding
SF	Correct substitution in a formula
O	Opinion/ reason/deduction/example
J	Justification
R	Rounding off
F	deriving a formula
E	Explanation
U	Units
AO	Answer only full marks

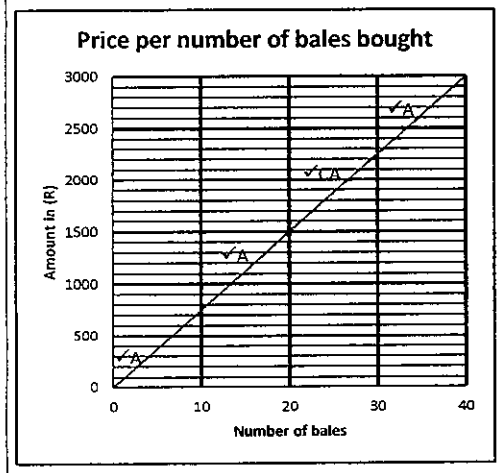
This marking guideline consists of 6 pages.

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QUESTION 1 [18 MARKS]

QUE	SOLUTION	EXPLANATION	L/T
1.1.1	Time = 8:35am ✓✓ A	2A, Time format (2)	L1 M
1.1.2	No. of SMS = $\frac{60}{100}$ ✓M × 750 = 450 SMS ✓A **OR** ✓M No. of SMS = 60% × 750 = 450 SMS ✓A **OR** No. of SMS = 0,6 × 750 ✓M = 450 SMS ✓A	1M, % concept 1A, Number of SMS **OR** 1M, % concept 1A, Number of SMS **OR** 1M, % concept 1A, Number of SMS **AO** (2)	L1 B
1.1.3	Ratio = $\frac{5cm}{5} : \frac{12cm}{5}$ ✓M = 1 : 2,4 ✓A	1M, Correct ratio order 1A, Simplified ratio (2)	L1 B
1.1.4	% change = $\frac{R749 - R699}{R749}$ ✓SF × 100% = $\frac{R50}{R749}$ × 100% ✓S ≈ 6,68% ✓CA	1SF, Substituting correct values 1S, Simplification 1CA, Percentage **NPR** (3)	L2 F
1.2.1	Total ratio parts = 1+3+5 = 9 ✓M Amount of silver cell phones = $\frac{3}{9}$ × R48 560✓MA = R16 186,66667 ✓A = R 16 200 ✓CA	1M, Adding parts in a ratio 1MA, Concept of the ratio 1A, Answer 1CA, Rounding **AO** (4)	L3 B
1.2.2	Ratio = 35 : 45 : 60 ✓A = $\frac{35}{5} : \frac{45}{5} : \frac{60}{5}$ ✓MA = 7 : 9 : 12 ✓A	1A, Correct ratio order 1MA, Dividing by 5 1A, Correct simplified ratio (3)	L2 B
1.2.3	% = $\frac{R13350}{R48560}$ × 100% ✓M = 27,49% ✓A	1M, % concept 1A, Answer **AO** (2)	L2 B
		[18]	

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QUESTION 2 [25 MARKS]			
QUE	**SOLUTION**	**EXPLANATION**	**L/T**
2.1.1	Number of sheep = 144 ÷ 6 ✓MA = 24 sheep ✓A	1MA,Dividing correct values 1A, Answer **AO** (2)	L1 B
2.1.2	✓CA Discrete variable, number of sheep can be expressed using whole numbers ✓J	1CA, Discrete variable 1J, Justification (2)	L1 B
2.1.3	No. of days = $\frac{144kg}{(4,5kg \times 8)}$ ✓MCA $= \frac{144kg}{36kg}$ ✓S = 4 days ✓A	1MCA, CA answer in 2.1.1 1S, Simplification 1A, Number of days (3)	L3 B
2.2.1(a)	M = R75 × 5✓M = R375 ✓A	1M, Multiplying 1A ,Answer **AO** (2)	L3 B
2.2.1(b)	N = R1 500 ÷ R75✓M = 20 ✓A	1M, Dividing correct values 1A, Answer **AO** (2)	L3 B
2.2.2		1A, Correct Starting point 2A, Two correct point 1CA, Joining of points (4)	L3 B

QUE	SOLUTION	EXPLANATION	L/T
2.3.1	Coastal farmers ✓✓A	2A, Answer (2)	L1 F
2.3.2	February ✓✓A	2A, Month (2)	L1 F
2.3.3	P = Twenty one thousand six hundred and sixteen rand and fifty three cents ✓✓A	2A, Amount in words (2)	L1 F
2.3.4	For security reason ✓✓R **OR** So that it is not easy to change or tamper with the amount in figures ✓✓R	2R, Reason **OR** 2R, Reason (2)	L4 F
2.3.5	3 Months ✓✓A	2A, Answer (2)	L1 B
		[25]	

QUESTION 3[15 MARKS]			
QUE	**SOLUTION**	**EXPLANATION**	L/T
3.1.1	Time = 6 minutes + 17 minutes ✓M = 23 minutes ✓A	1M, Adding time 1A, Answer (2)	L1 M
3.1.2	Distance = 25 km × 2 ✓M = 50 km × 1000 ✓MA = 50 000 m ✓A	1M, Return trip, or 50km 1MA, Conversion 1A, Answer (3)	L2 M
3.1.3	Time = 07:30 – 23 minutes – 12 minutes ✓MCA = 06:55 ✓CA **OR** Time = 7:30 – 35 minutes ✓MCA 06 : 55 ✓CA	1MCA, Subtracting time 1CA, Answer **OR** 1MCA, Subtracting total time 1CA, Answer **AO** (2)	L2 M
3.2.1	Speed = $\frac{27\,\text{km}}{0{,}42\,\text{hours}}$ ✓SF = 64,28571 ✓ CA ≈ 60 km/h ✓ R	1SF, Correct substitution 1CA, Speed 1R, Rounding (3)	L2 M
3.2.2	Daily cost = $\frac{\text{R350}}{20\,\text{days}}$ ✓ = R 17,50 Cost per trip = $\frac{\text{R17,50}}{2}$ = R8,75 ✓A Zone 2 ✓RT	1M, Dividing R350 by 20 days 1A, Cost per trip 1RT, Correct zone (3)	L4 M
3.2.3	Because learners travel different distances ✓✓R	2R, Reason (2)	L4 M
		[15]	

QUESTION 4 [19 MARKS]			
QUE	**SOLUTION**	**EXPLANATION**	L/T
4.1.1	The purpose of the comma is to separate numbers using a thousand separator ✓✓E	2E, thousand separator (2)	L4 B
4.1.2	% = $\frac{6}{40} \times 100\%$ ✓M = 15% ✓A Her statement is correct ✓J	1M, % Concept 1A, Answer 1J, Justification (3)	L4 B
4.1.3	Increase = 15% × R124 000 ✓M = R18 600 ✓A **OR** Increase = $\frac{6}{40} \times R124\,000$ ✓M = R18 600 ✓A	1M, % concept 1A, Answer **OR** 1M, Multiplying by $\frac{6}{40}$ 1A, Answer **AO** (2)	L1 F
4.2.1	One kilogram of beef costs R69 ✓✓E **OR** The price of beef per kilogram is R69 ✓✓E	2E, Explanation **OR** 2E, Explanation (2)	L4 F
4.2.2	Cost = 1,5 kg × R69 ✓MA = R103,50 ✓A	1MA, Multiplying correct values 1A, Answer **AO** (2)	L2 B
4.2.3(a)	Beef in kg = $\frac{3250-150}{1000}$ ✓M = $\frac{3100}{1000}$ ✓MA = 3,1 kg ✓A **OR** ✓M Weight in kg = 3,25 – 0,15 ✓MA = 3,1 kg ✓A	1M, Subtraction 1MA, Conversion 1A, Answer **OR** 1M, Subtraction 1MA, Conversion 1A, Answer (3)	L2 M
4.2.3(b)	Cost = R69 × 3,1 ✓MCA = R213,90✓CA ∴ The amount charged is correct. ✓CA	1MCA, from 4.2.3(a) 1CA, answer 1CA, conclusion (3)	L2 B
		[17]	
		TOTAL: [75]	