

Basic Education

KwaZulu-Natal Department of Basic Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY P2

COMMON TEST

JUNE 2016

**NATIONAL
SENIOR CERTIFICATE**

GRADE 10

MARKS: 50

TIME: 1 hour

This question paper consists of 6 pages, 1 Annexure and 1 Answer sheet.

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **THREE** questions. Answer **ALL** the questions.
2. Use Annexure A to answer Question 1 and the ANSWER SHEET provided to draw the graph for QUESTION 1.1.5 (b).

Write your name and grade on the space provided on the ANSWER SHEET.

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 calculations clearly.
7. Round **ALL** the final answers off to **TWO** decimal places, unless stated otherwise.
8. Indicate units of measurement, where applicable.
9. Write neatly and legibly.

QUESTION 1

- 1.1 Vaughn is a ABC bank customer. He received the new fee structure effective from 1 March 2016.

Use the fee structure Annexure A to answer the following questions.

- 1.1.1 Write down how much it will cost to withdraw R500 from a supermarket till point. (2)

- 1.1.2 Calculate the amount Vaughn paid for administration fees in 2015. (2)

- 1.1.3 Determine the percentage increase in fees for withdrawing money from ABC Bank ATM in 2016 compare to 2015. You may use the formula:

$$\text{Increase in fees} = \frac{\text{2015 fee} - \text{2016 fee}}{\text{2015 fee}} \times 100\% \quad (4)$$

- 1.1.4 State TWO valid reason why Vaughn may draw money from another bank's ATM when it cost more than using his own bank's ATM. (4)

- 1.1.5 Vaughn has to pay a fee to deposit money into his bank account.

- (a) Explain why the equation to deposit money into a bank account is:

$$\text{Cost (in rand)} = \frac{n}{100} \times 1,70 \quad (2)$$

- (b) Use the axis provided on ANSWER SHEET 1 to draw a graph to illustrate the cost of depositing money into a bank. (4)

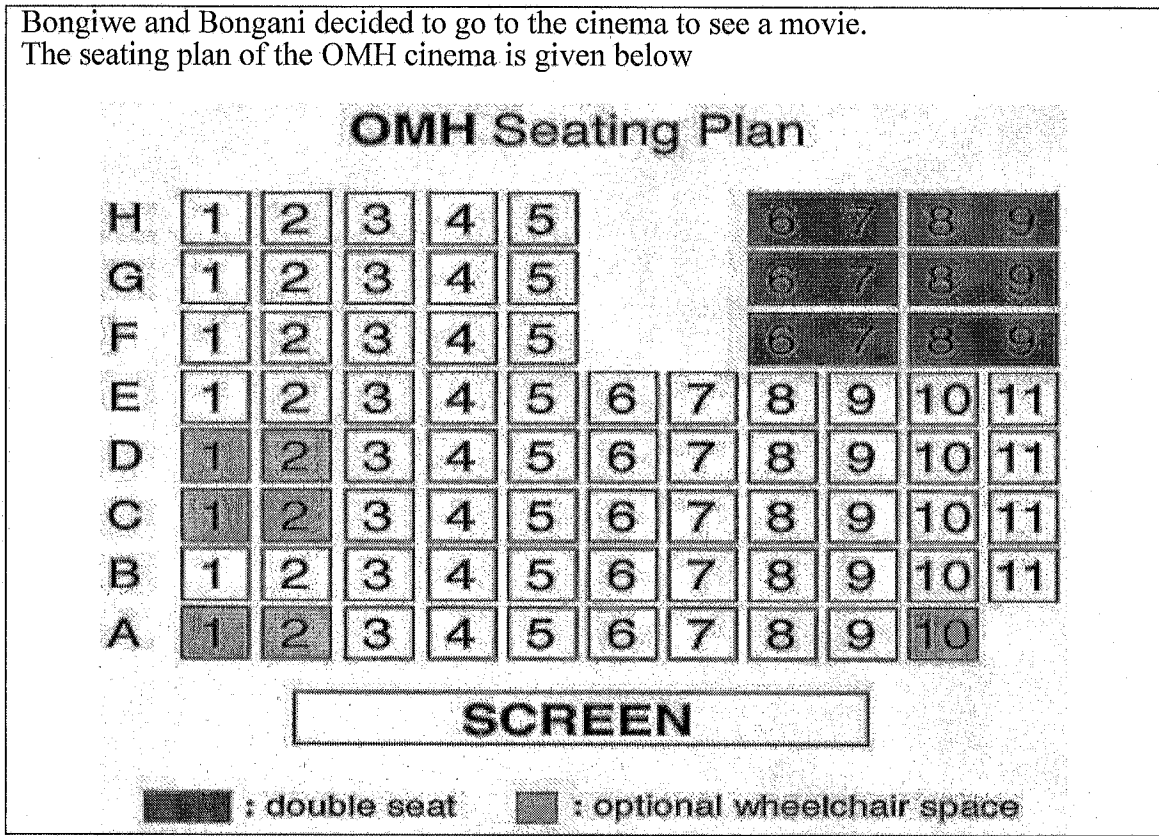
- (c) Give one valid reason why it cost money to deposit money into a bank account. (2)

- () 1.2 Vaughn entered the bank at 11:54 and spent 39 minutes in the bank and then drove home. He arrived home at 13:30.
Calculate how long the journey home took. (4)

[24]

QUESTION 2

2.1 Bongiwe and Bongani decided to go to the cinema to see a movie. The seating plan of the OMH cinema is given below



Study the seating plan and answer the questions that follow.

2.1.1 Determine the maximum number of people that can be seated in the cinema. (2)

2.1.2 Write down the ratio
 number of wheel chair spaces : total number of seats, in the form
 1 :

(3)

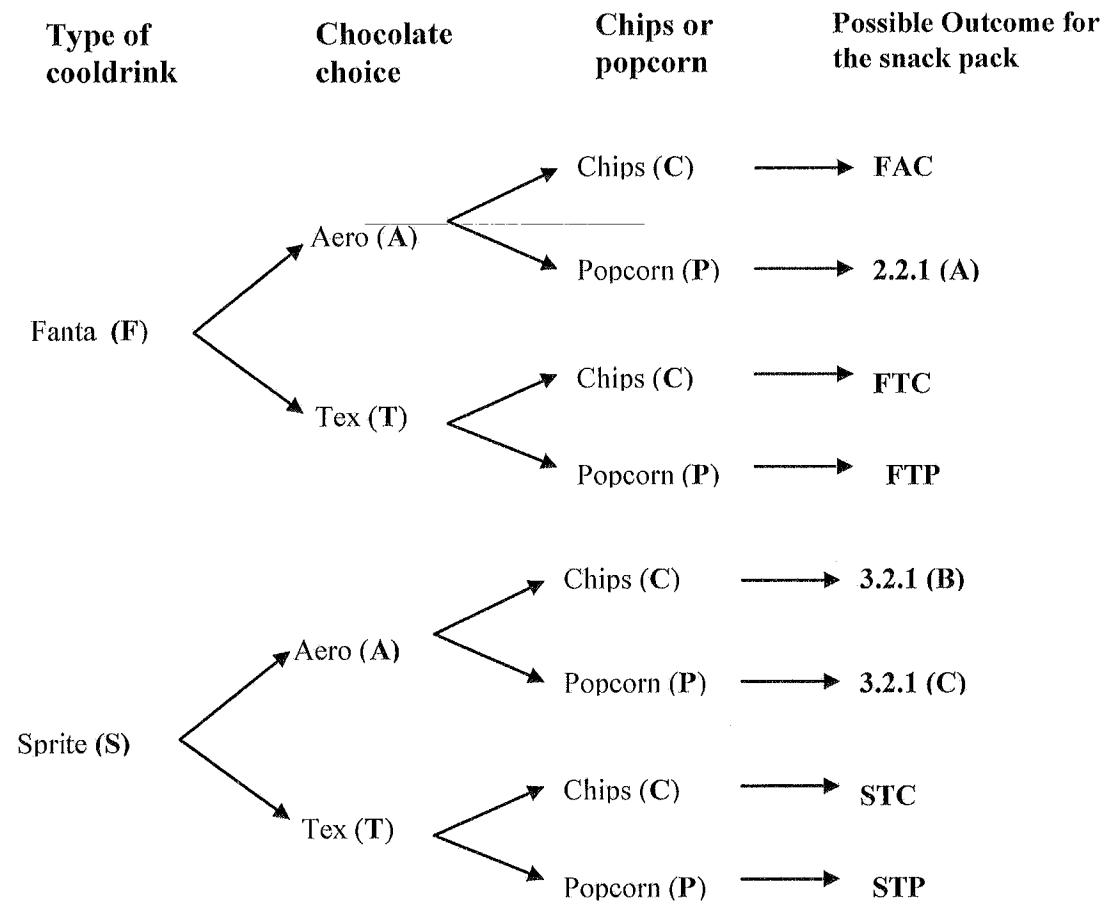
2.1.3 State one valid reason why there are double seats in the cinema. (2)

2.2

The cinema offers a combi snack pack consisting of a cooldrink, chocolate and either chips or popcorn.

The tree diagram below indicates the possible choices of the snack pack

TREE DIAGRAM: POSSIBLE CHOICE OF SNACK PACK



Study the tree diagram and answer the questions that follow:

- 2.2.1 Write down the possible outcome A, B and C. (3)
- 2.2.2 Determine the probability of selecting a snackpack with fanta as the cooldrink in a simplified form. (2)
- 2.2.3 Determine the probability of selecting this snackpack with coke as the cooldrink.. (2)

[14]

QUESTION 3

The gardener at a school decided to create a circular garden in the a rectangular grass patch in front of the office. The original dimensions of the grass patch was:

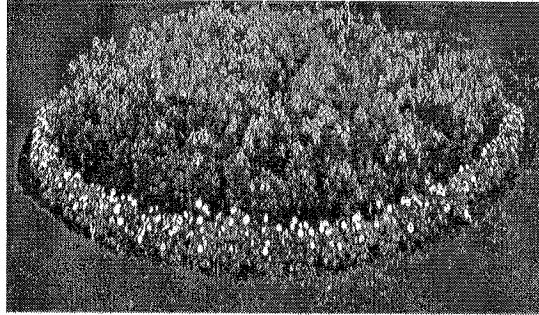
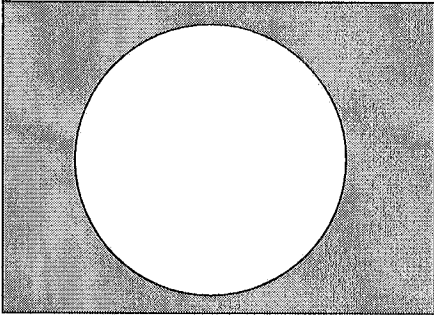
- Length = 20 m and
- Breadth = 15 m

The length of the diameter of the flower garden is 12 m.

He intended growing a hedge of flowers on the circumference of the garden.

Sketch of the garden:

Picture of a circular garden



3.1 Calculate the circumference of the garden .

You may use the following formula:

Circumference of a circle = $2 \times \pi \times \text{radius}$ using $\pi = 3,142$. (4)

3.2 Calculate the area (in m^2) of the circular garden.

Use the formula: **Area of circle = $\pi \times (\text{radius})^2$** using $\pi = 3,142$. (3)

3.3 Calculate the area of the remain grass on the field.
Round off your answer to one decimal place.

Use the formula: **Area of a rectangle = length \times breadth**

(5)
[12]
[50]

TOTAL:

ANNEXURE A**QUESTION 1.1****ABC BANK FEE STRUCTURE FOR 2015 AND 2016**

TRANSACTION TYPE	2015 FEE	2016 FEE
Administration fee	R5,25 (<i>25c increase</i>)
Minimum account balance	R25,00	R25,00
CASH WITHDRAWAL		
Pnp/ Shoprite/ Checkers/ Boxer till points (Fixed)	R1,25	R1,30
ABC Bank ATM	R5,50	R6,00
Other Bank ATM's	R8,00	-----(<i>50c increase</i>)
DEPOSITS		
Notes (ATM)	70c per 100	80c per 100
Coins (ATM)	R1,40 per R100	R1,70 per R100
Notes/Coins (branch)	R1,40 per R100	R1,70 per R100
Special clearance cheque	R80,00	R90,00
TRANSFERS, PAYMENTS/PURCHASES		
Debit orders	R3,20	R3,20
Transfer (branch)	-----	R3,60 (<i>20 c increase</i>)
Transfer(ATM)	FREE	FREE
Purchase at local/international machines	FREE	FREE

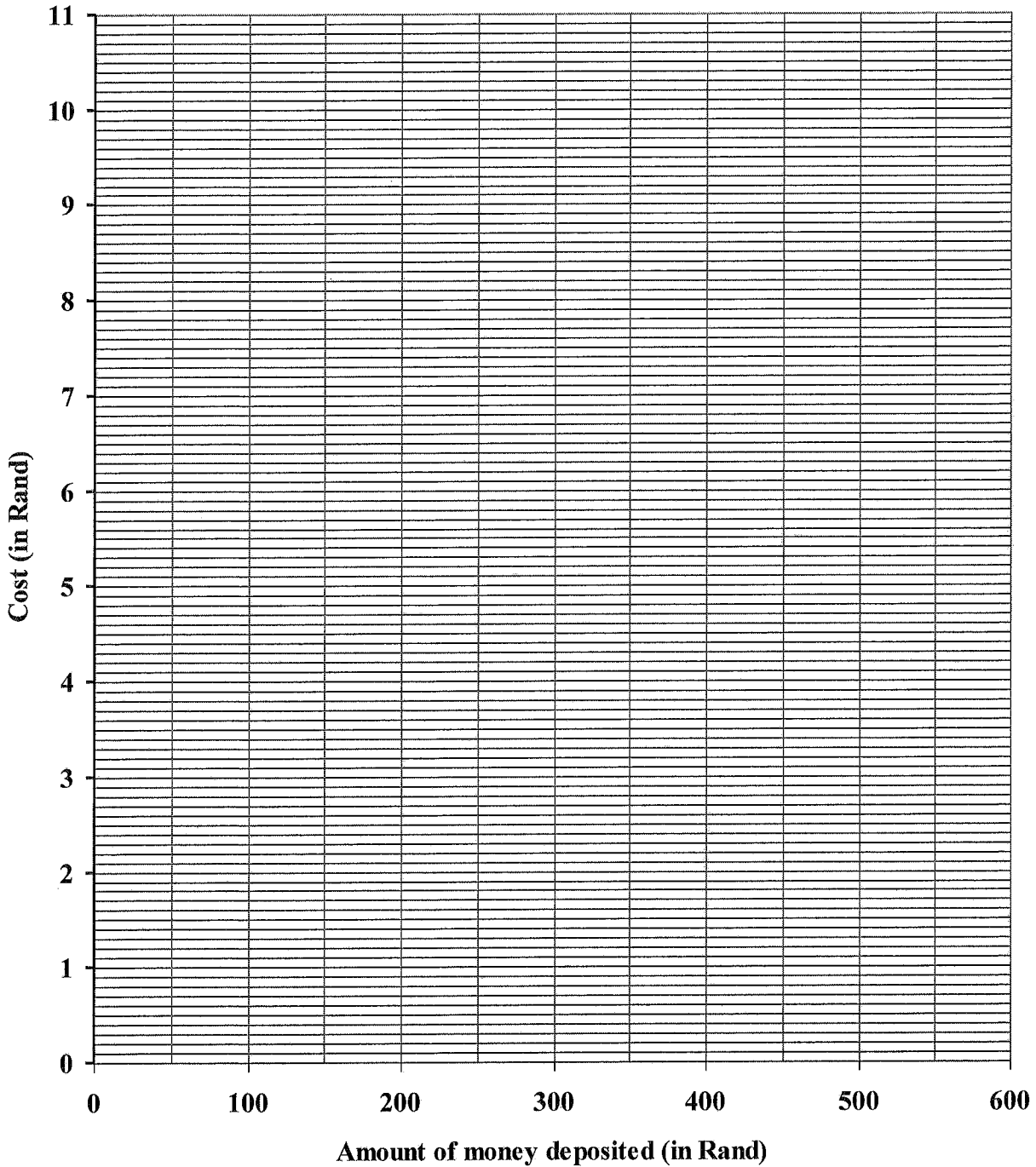
ANSWER SHEET 1

Name of learner: _____

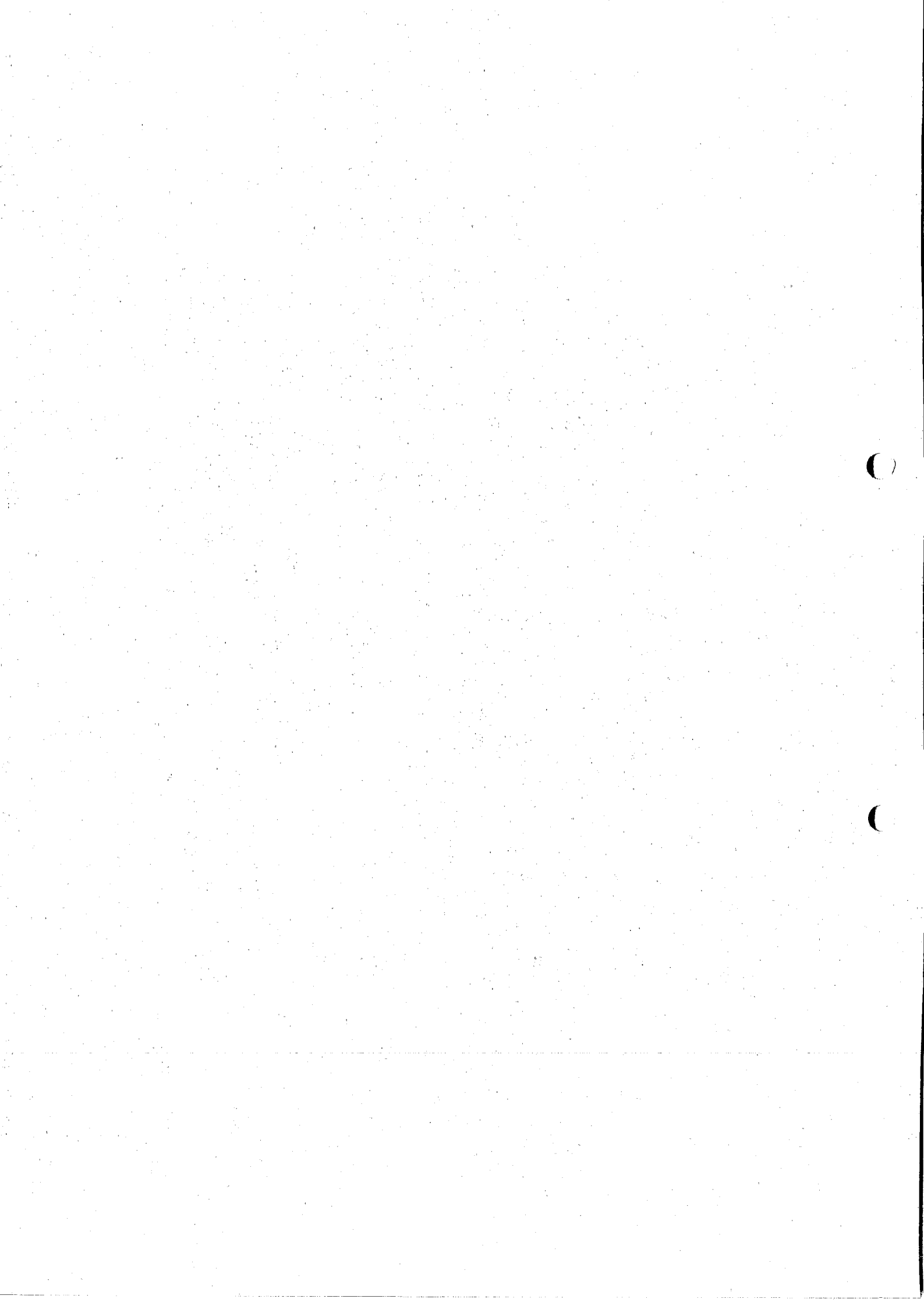
Grade: _____

Question 1.1.5 (b)

COST OF DEPOSITING MONEY INTO THE BANK



TEAR-OFF SHEET





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MEMORANDUM

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Codes	Explanation
M	Method
MA	Method with Accuracy
CA	Consistent Accuracy
A	Accuracy
C	Conversion
J	Justification/Reason/Explain
SF	Substitution into a given formula
S	Simplification
RD	Reading from a table OR a graph OR a diagram OR a map OR a plan
O	Opinion
P	Penalty, e.g. for no units, incorrect rounding off, etc.
R	Rounding Off
NP	No penalty for rounding OR omitting units

This memorandum consists of 6 pages.

Ques	Solution	Explanation	Level
1.1.1	R1,30 ✓✓A	2A answer only (2)	L2
1.1.2	Admin fee (2015) = R5,25 - R0,25 ✓M = R5,00 ✓A	1M for subtraction 1A answer Answer only full marks (2)	L2
1.1.3	Increase in fees = $\frac{2016 \text{ fee} - 2015 \text{ fee}}{2015 \text{ fee}} \times 100\%$ $= \frac{R5,50 - R5,00}{R5,00} \times 100\%$ ✓A $= \frac{R0,50}{R5,00} \times 100\%$ $= 10\%$ ✓CA	1M substitution 1A correct values 1A simplification 1CA answer Answer only full marks (4)	L3
1.1.4	Own bank ATM offline (not working) ✓✓O OR In an emergency ✓✓O OR Too far/costly to travel ✓✓O OR Any valid reason	20 opinion 20 opinion (4)	L4
1.1.5 (a)	✓A ✓A It cost R1,70 per R100 deposited into the bank	1A using R1,70 1A explaining per R100 (2)	L4

Ques	Solution	Explanation	Level
1.1.5 (b)	<p>COST OF DEPOSITING MONEY INTO THE BANK</p> <p>1A starting at (0 : 0) 2A any three other correct points plotted 1CA joining the points</p>		L3
1.1.5 (c)	To pay the workers ✓✓ (Any other valid reason)	2A answer	L4

Ques	Solution	Explanation	Level
1.2	<p>Time difference between 11:54 and 13:30 ✓M = 1h and 36 minutes ✓A</p> <p>Time spent in bank = 39 min</p> <p>Time to travel home = 1h and 36 min - 39 min ✓M = 57 min ✓ CA</p>	<p>IM difference 1A simplification</p> <p>IM subtracting 39 min ICA answer</p>	L4
		[24]	

QUESTION 2 [14]

Ques	Solution	Explanation	Level
2.1.1	Number of people = $10 + 4 \times 11 + 3 \times 9$ $= 10 + 44 + 27$ $= 81$ ✓CA	1MA adding correct values ICA (2)	L2
2.1.2	✓A $7 : 74 \sqrt{M}$ $= 1 : 10,6$ ✓CA	1A for using 7 1M Ratio 1A solution NP (3)	L3
2.1.3	Dating/engaged/married couples may want to sit close to each other $\checkmark \checkmark O$	2O opinion (2)	L4
2.2.1	A = FAP ✓A B = SAC ✓A C = SAP ✓A	1A for A 1A for B 1A for C (3)	L2
2.2.2	P (Fanta) = $\frac{4}{8}$ ✓A $= \frac{1}{2}$ ✓CA	1A probability ICA simplification (2)	L3
2.2.3	P(coke) = 0 OR zero ✓✓A	2A answer (2)	L3
		[14]	

QUESTION 3 [12]

Ques	Solution	Explanation	Level
3.1	Circumference = $2 \times 3,142 \times 6$ m $= 37,704$ m ✓A	1SF substitution 1A radius 1A solution 1A unit (4)	L3
3.2	Area of circle = $3,142 \times (6 \text{ m})^2$ $= 113,112 \text{ m}^2$ ✓CA	1SF substitution 1CA solution 1A unit (3)	L3
3.3	Area of rectangle = length \times breadth $= 20 \text{ m} \times 15 \text{ m}$ ✓SF $= 300 \text{ m}^2$ ✓A	1SF substitution 1A solution	L2
	Area of remaining grass = $300 \text{ m}^2 - 113,112 \text{ m}^2$ ✓M $= 186,888 \text{ m}^2$ ✓CA $= 186,9 \text{ m}^2$ ✓R	1M subtraction 1CA simplification 1R rounding (5)	L4
		[12]	

TOTAL: 50

