

INSTRUCTIONS AND INFORMATION

1. This question paper consists of **FOUR** questions. Answer **ALL** the questions.
2. Number the answers correctly according to the numbering system used in this question paper.
3. Start **EACH** question on a **NEW** page.
4. You may use an approved calculator (non-programmable and non-graphical), unless stated otherwise.
5. Show **ALL** the calculations clearly.
6. Round **ALL** the final answers off appropriately according to the given context, unless stated otherwise.
7. Indicate units of measurement, where applicable.
8. Write neatly and legibly.

QUESTION 1

1.1 Study the following definitions:

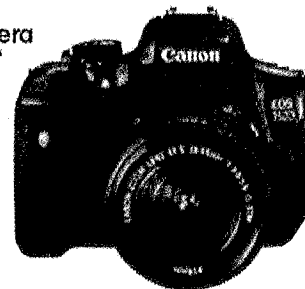
- A Interest calculated on the initial principal and also on the accumulated interest of previous periods of a deposit or loan.
- B A diagram of one room usually drawn to scale
- C A fee that is charged by a lender to a borrower for the right to use the borrowed funds.
- D The amount earned or charged, expressed as a percentage of principal invested or borrowed.
- E The ratio of the size of a model or other representation, to the actual size of the object represented.
- F Interest computed only on the principal (initial amount owed or invested).

Write down the letter of the definition which best matches the term below.

- 1.1.1 Interest rate (2)
- 1.1.2 Scale (2)
- 1.1.3 Floor plan (2)
- 1.1.4 Compound Interest (2)

- 1.2 The advertised alongside shows the cost of a camera including VAT.
VAT in South Africa is calculated at 14% of the product.

Canon
750D DSLR Camera
• Includes 18 - 55mm IS STM lens
• 24.2 Megapixel
• 3" screen
• Built-In Flash
• Touch screen vari-angle
• CMOS sensor
• 5 frames per second
(297879)
WAS 9499
8499
each



- 1.2.1 Calculate the amount of savings on this camera. Use the formula:
Savings = Old Price – New Price (2)
- 1.2.2 Write down the acronym "VAT" in full. (2)
- 1.2.3 Calculate the amount of VAT included in the new selling price of R8 499 (3)
[15]

QUESTION 2

- 2.1 Nicole is a student and has "Pay-as-you-transact"(PAYT) bank account at CT bank. On the 1 March 2017 the bank changed some of their fees. TABLE 1 below shows the 2016/2017 fee and the 2017/2018 fee. Some values in TABLE 1 are missing.

TABLE 1: CT-BANK 2017/18 KEY TRANSACTION FEE

Fee/Transaction	2016/17 Fee	2017/18Fee	Change
Withdrawal (Own ATM)	R5,50	X	9,1%
Withdrawal (Cash at till)	R1,30	R1,50	15,4%
Withdrawal (Other ATM)	R8,50	Y	0%
Withdrawal (International)	R50,00	R50,00	0%
Deposit (ATM)	80c per R100	90c per R100	12.5%
Account monthly fee (PAYT)	R5,25	R5,50	Z

<http://businessstech.co.za>

Use TABLE 1 to answer the questions that follow.

- 2.1.1 Determine the value of:

- (a) X (3)
- (b) Y (2)
- (c) Z (2)

- 2.1.2 Nicole needs to withdraw R200.

Write down the place that Nicole should withdraw the money so that she pays the minimum withdrawal fee possible. (2)

- 2.1.3 Nicole deposited R2 000 into her account at the ATM on 30 June 2017.

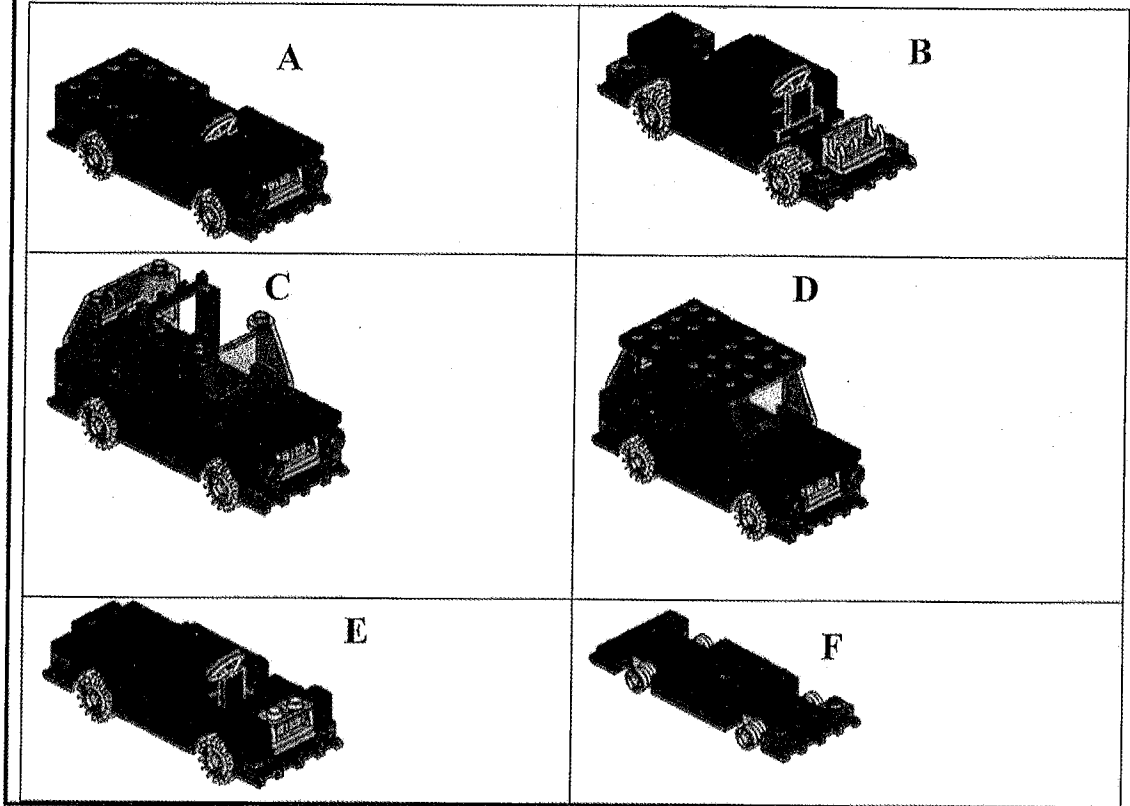
Determine the amount that the bank charged her for this transaction. (3)

- 2.1.4 Give one valid reason why banks charge people bank fees. (2)

2.2

The assembly diagrams **NOT** in order labelled from A to F below, show how to assemble a car.

ASSEMBLY DIAGRAMS NOT IN ORDER



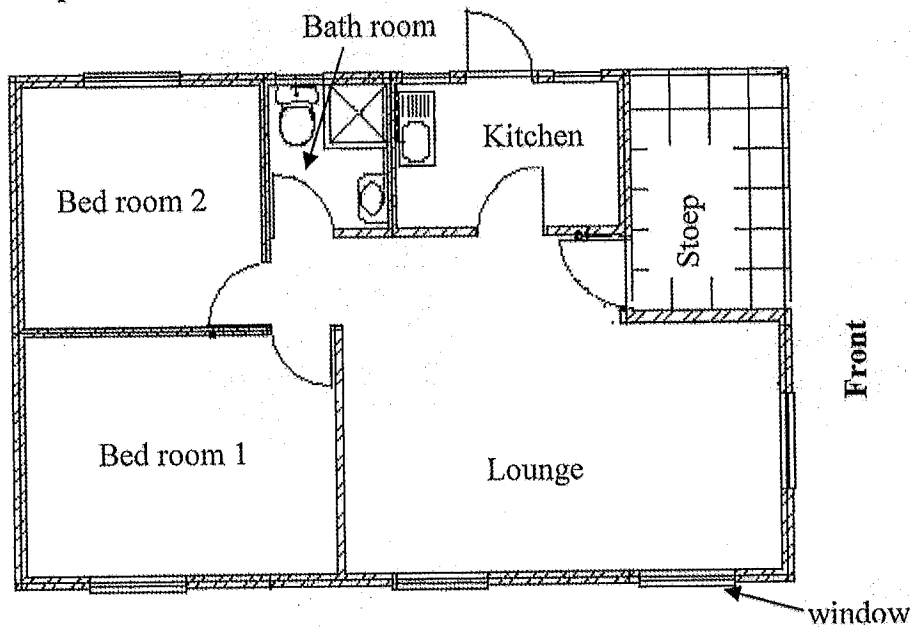
Study the diagram and answer the questions that follow.

2.2.1 Arrange the diagrams in the order needed to assemble the car (4)

2.2.2 Give ONE valid reason why assemble instructions are given in diagram and not only in word form. (2)
[20]

QUESTION 3

- 3.1 Mr Hlongwa intends painting his house. The sketch below shows the layout plan of the rooms in his house.

Layout plan of a house

Study the layout plan above and answer the questions that follow.

- 3.1.1 Determine the number of doors in the house. (2)
- 3.1.2 Write down the compass direction of the window in Bed room 2. (2)
- 3.1.3 Give ONE valid reason for the position of the kitchen in this layout plan. (2)
- 3.1.4 Measure the length of the north side of the house. (2)

- 3.2 The surface area of the house to be painted measures 135 m^2 . The paint bought by Mr Hlongwa has a spread cover rate of $7,5 \text{ m}^2$ per litre of paint. He intends applying TWO layers of paint.

(4)

Determine the minimum number of litres of paint he must buy.

- 3.3 Mr Hlongwa invested R10 000 in a fixed deposit account for 3 years at an interest rate of 7,5% p.a. compounded annually. He intends using this money to buy his paint.

Calculate the amount of money in his fixed deposit account after three years.

(5)

[17]

QUESTION 4

4.1

Roshni went to Pillay's Supermarket. The till slip below shows the items she bought.

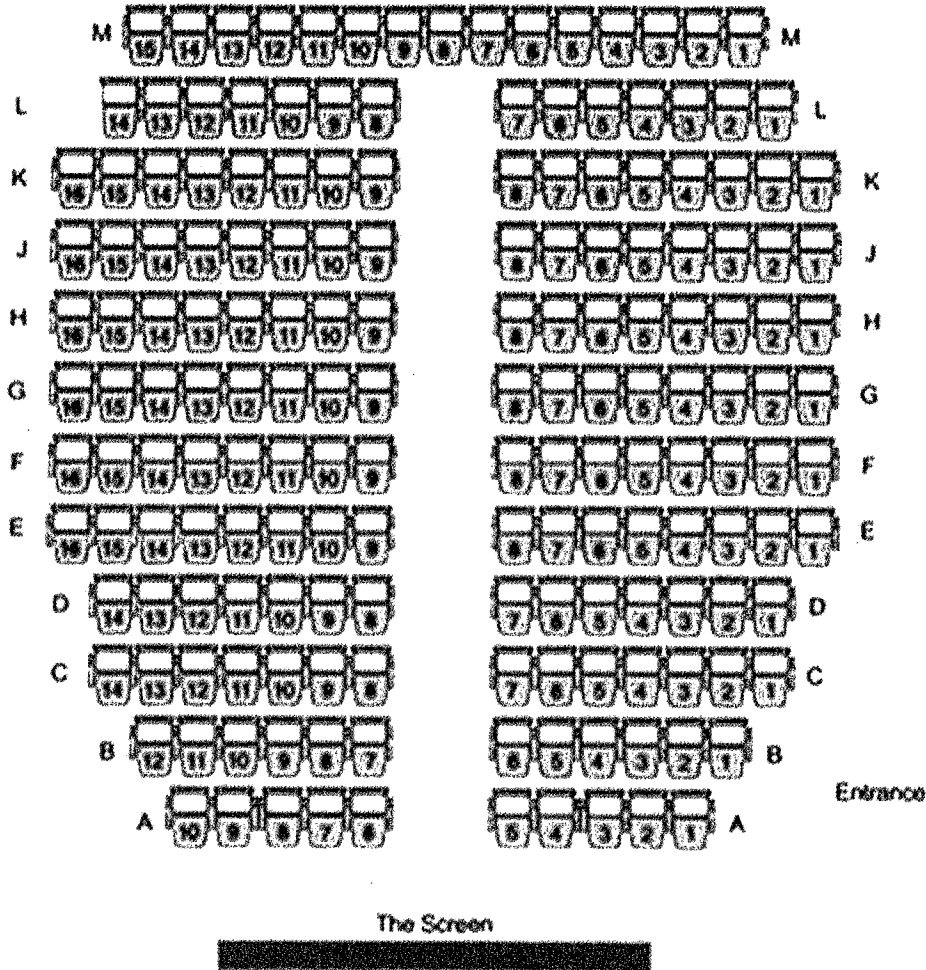
PILLAY'S SUPERMARKET		
<i>THE FRIENDLY GROCER STORE</i>		
24 First Avenue		
Greyville, Durban		
Tel. No.: 031 203 3124		
VAT Reg. No.: ***1234		
# 1 ℓ Clover Milk		R 14,99
2 ℓ Helios oil		R 34,99
# Rosa Tomatoes 400 g		R 15,99
# Carrots 750 g		R 10,99
White Hulets Sugar 2,5 kg		R 35,89
Sliced cooked chicken 250 g		R 24,48
TOTAL (excluding VAT)		R 125,62
VAT		R 11,71
TOTAL (including VAT)		A
AMOUNT TENDERED		R 150,00
CHANGE		B
# Non-VAT items		
15-05-2017	15:35	Lindiwe

Use the till slip to answer the questions that follow:

- 4.1.1 Write down the VAT free items. (2)
- 4.1.2 Determine the price per kilogram of the cooked chicken. (3)
- 4.1.3 Write down the time the purchase was paid for in words. (2)
- 4.1.4 Calculate the missing value A, round off your answer to the nearest 10 cents. (2)
- 4.1.5 Give a reason why the total due was rounded off. (2)
- 4.1.6 Calculate the missing value B. (2)

4.2 Roshini and three friends went to the movies. The layout plan below shows the seats in the movie theatre.

LAYOUT OF SEATS IN A MOVIE THEATRE



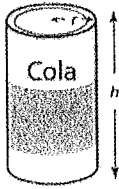
Use layout plan to answer the following questions.

4.2.1 Determine the total number of seats in the movie house. (3)

4.2.2 Roshini is seated exactly in the middle of the row from the front of the screen.

State the row and seat number that Roshini is sitting in. (3)

4.3 The owner of the tuckshop at the movie house buys cooldinks in case lots of 24 as shown below.



Radius (r) = 3,5 cm



The radius of the can is 3,5 cm. The cans are stacked next to each other.

Determine the minimum length and width of the box needed to store the 24 cans in a single layer.

(4)
[23]

TOTAL:

[75]



Education
KwaZulu-Natal Department of Education
REPUBLIC OF SOUTH AFRICA

MATHEMATICAL LITERACY
MARKING GUIDELINE
SEPTEMBER 2017

NATIONAL
SENIOR CERTIFICATE

GRADE 10

MARKS: 75

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

This marking guideline consists of 8 pages.

QUESTION 1 [15 MARKS]			
No	Solution	Explanation	T & L
1.1.1	D ✓✓A	2 A	F L1
1.1.2	E ✓✓A	2 A	M&P L1
1.1.3	B ✓✓A	2 A	M&P L1
1.1.4	A ✓✓A	2 A	F L1
1.2.1	Savings = R9 499 – R R8 499✓M = R1 000✓A	1M subtraction 1A simplification AO	F L1
1.2.2	Value added tax. ✓✓A	2 A	F L1
1.2.3	VAT amount = R8 499 × $\frac{14}{114}$ ✓M✓A = R1 043,74✓CA	1 M multiplying 1 A correct VAT concept 1CA correct rounding	F L2
			(3)
			[15]

QUESTION 2 [20 MARKS]			
No	Solution	Explanation	T&L
2.1.1 (a)	$X = R5,50 + [R5,50 \times \frac{9,1}{100}] \sqrt{M} \sqrt{A}$ $= R6,00 \sqrt{CA}$	1 M calculating % 1A increasing 1CA AO	F L2
2.1.1 (b)	$Y = R8,50 \sqrt{\sqrt{A}}$	2 A	F L1
2.1.1 (c)	$Z = \frac{0,25}{5,25} \times 100\% \sqrt{M}$ $= 4,76\% \sqrt{A}$	1 M % change 1 A AO	F L2
2.1.2	Cash at till $\sqrt{\sqrt{A}}$	2 A	F L4
2.1.3	$R2\,000 \div R100 = 20 \sqrt{A}$ Therefore the cost will be 20×90 cents \sqrt{M} $= 1\,800$ cents $= R18,00 \sqrt{CA}$	1A number of 20 1M multiplying 1CA simplification	F L2
2.1.4	The personnel working in the bank need to be paid a salary. $\sqrt{\sqrt{O}}$ OR The bank needs to make profit. $\sqrt{\sqrt{O}}$ OR Any other valid reason $\sqrt{\sqrt{O}}$	2O	F L4

No	Solution	Explanation	T&L
2.2.1	F \sqrt{A} B E A C D \sqrt{A}	1A F (start) 2A B E A C in order 1A D (end)	M L4
2.2.2	Children who cannot read will be able to follow the diagrams. $\sqrt{\sqrt{O}}$ OR To make the assembly easy. $\sqrt{\sqrt{O}}$	2O	M L4

[20]

QUESTION 4 [23 MARKS]			
No	Solution	Explanation	T&L
4.1.1	Clover milk ✓/A Rosa tomatoes } ✓/A Carrots }	1 A for first item 1 A other 2 items	F L1
4.1.2	250 g chicken cost R24,48 ✓/A Cost of 1 kg chicken = $4 \times R24,48$ ✓/M = R97,92 ✓/CA	1A 4 by 250g 1M multiplying 1CA solution.	F L2
4.1.3	Twenty five minutes to four in the afternoon ✓/A ✓/A	1 A time 1A afternoon	F L1
4.1.4	A = R125,62 + R11,71 ✓/M/A = R137,33 ≈ R137,30 ✓/A	1M adding 1A solution AO	F L2
4.1.5	South Africa does not work with 1 cent, 2 cent and 5 cent pieces ✓/A ✓/A OR 1 cent, 2 cent and 5 cent are not available in South Africa.	2 A	F L4
4.1.6	B = R150,00 – R137,30 ✓/M = R12,70 ✓/CA	1M subtracting 1CA solution AO	F L1

No	Solution	Explanation	T&L
4.2.1	Number of seats = $15 + (6 \times 16) + (3 \times 14) + 12 + 10$ ✓/M ✓/A = 175 ✓/CA	1M counting 1A adding all the correct values 1CA AO	M&P L2
4.2.2	Row M ✓/A Seat 8 ✓/A ✓/A	1A row 2A seat	M&P L2
4.3	Diameter of the can = $2 \times 3,5$ cm = 7 cm ✓/A ✓/M Width wise there are 4 cans = 4×7 cm = 28 cm ✓/A Length wise there are 6 cans = 6×7 cm = 56 cm ✓/A	1A diameter 1M multiplying 1A width 1CA length	M L3

TOTAL: 75
[23]