QUESTION 4

4.1 Bobby lives in India and wants to start his own take-away business. His speciality is chicken biryani. All his ingredients will be bought in bulk.

Bobby intends selling a plate of chicken biryani for eighty rupees (Rs80).

TABLE 4 shows the estimated cost of ingredients used to make 8 plates of chicken biryani.

TABLE 4: ESTIMATED COST (IN Rs) OF INGREDIENTS USED TO MAKE 8 PLATES OF BIRYANI

PRODUCT	COST(IN Rs)
1 kg chicken	200
1 kg basmati rice	120
Masala powder	10
Other ingredients	62

[Adapted from www.quora.com]

Each plate of biryani will be packed in a disposable food container that costs Rs2,43 each.

GLOSSARY	PICTURE OF A PLATE OF BIRYANI
Biryani is a mixed rice dish made with spices, rice and meat	

Use TABLE 4 and the information above to answer the questions that follow.

4.1.1 Determine (in Rs) the price of 520 g of chicken. (3)

4.1.2 Calculate the total cost to make and package a plate of chicken biryani. (5)

4.1.3 Bobby claims that he can make more than 50% profit on one plate of chicken biryani.

Verify, by showing ALL calculations, if his claim is valid. (5)

4.1.4 The exchange rate between South African rands and Indian rupees on 3 March 2021 is given in TABLE 5 below:

TABLE 5: EXCHANGE RATE

SOUTH AFRICAN RAND (ZAR)	INDIAN RUPEES (Rs)
1	4,8346707
0,206839	1

[Adapted from www.xe.com]

Determine (in ZAR) the price of masala powder. (3)

4.2 Bobby got the idea of selling biryani from his niece Janet who has her own takeaway business in South Africa.

Janet's variable cost to make one plate of chicken biryani is R13,00.
Her fixed cost amounts to R600.

[Adapted from www.quora.com]

Use the information above to answer the questions that follow.

4.2.1 Janet uses the equation below to calculate her total cost:

Total cost = R600,00 + 13 *p*, where ***p*** = number of plates.

Use the equation to determine the number of plates sold if the total cost was R1 380,00. (4)

4.2.2 TABLE 6 below shows Janet's total cost and income from selling different numbers of plates of biryani.

TABLE 6: INCOME AND COST OF SELLING DIFFERENT NUMBERS OF PLATES OF BIRYANI

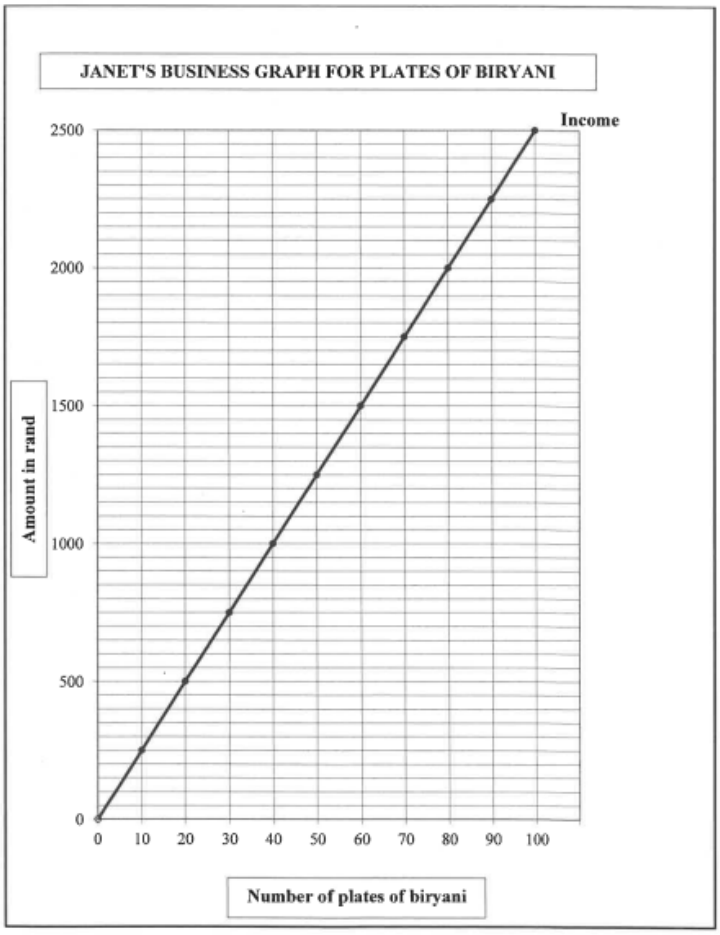
NUMBER OF PLATES	0	10	30	50	70	90	100
INCOME (R)	0	250	750	1 250	1 750	2 250	2 500
COST (R)	600	730	990	1 250	1 510	1 770	1 900

The income graph has already been drawn on the attached ANSWER SHEET.

Use TABLE 6 and the same grid on the ANSWER SHEET to draw another line graph representing the cost of different numbers of plates of biryani. (3)

4.2.3 Determine the minimum number of plates of biryani that Janet must sell before she starts making a profit. (2)

ANSWER SHEET:



QUESTION/*VRAAG* 4 [35 MARKS/*PUNTE*]			
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.1	Cost of 520 g/*Koste van 520 g* $520\text{g} = \frac{520}{1\,000}$ ✓C × Rs200 ✓MA = Rs104 ✓CA **OR/*OF*** Unit cost per gram/*Eenheidsprys per gram* ✓C Rs 200 ÷ 1 000 g = Rs 0,20/g Rs 0,20/g × 520 g ✓MA = Rs 104 ✓CA	1C conversion 1MA multiplying by correct value 1CA simplification **OR/*OF*** 1C conversion 1MA multiplying by correct value 1CA simplification (3)	F L2 *
4.1.2	Total cost of one plate/*Totale koste van een bord* (Rs200 + Rs120 + Rs10 + Rs62) ÷ 8 $= \frac{\text{Rs}392}{8}$ ✓A ✓MA = Rs49 ✓CA Total cost including food container/ *Totale koste voedselhouer ingesluit* = Rs49 + Rs2,43 ✓MA = Rs51,43 ✓CA **OR/*OF***	1A total ingredients 1MA divide by 8 1CA simplification 1MA adding the container 1CA simplification **OR/*OF***	F L3

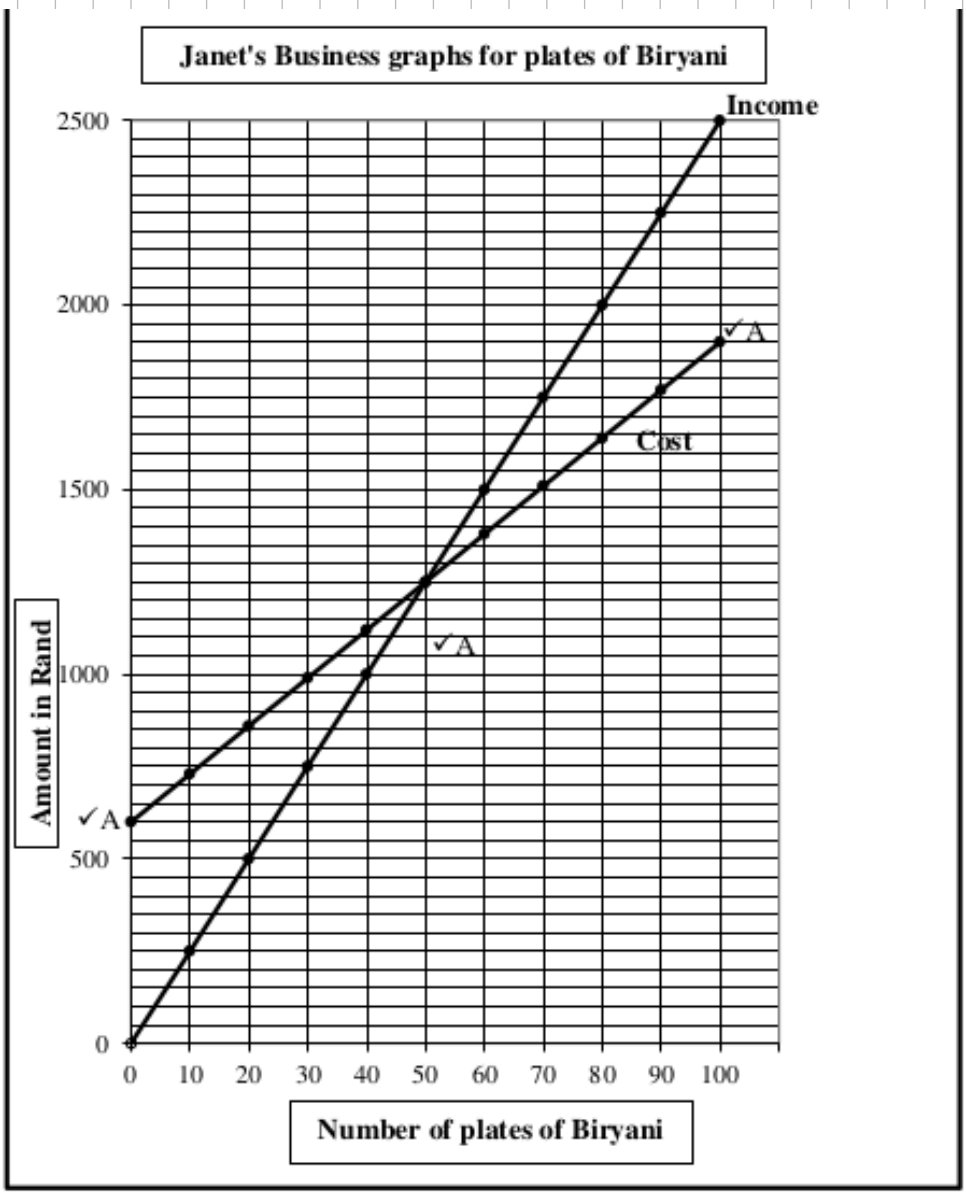
Q/*V*	**Solution/*Oplossing***	**Explanation/*Verduideliking***	**T&L**
4.1.2	Total cost of 8 plates/*Totale koste van 8 borde* = Rs200 + Rs120 + Rs10 + Rs62 + (Rs2,43 ×8) ✓A = 392 +(2,43 ×8) ✓MA = Rs411,44 ✓CA Total cost of one plate/*Totale koste van een bord* $= \frac{411{,}44}{8}$ ✓MA = Rs51,43 ✓CA **OR/*OF*** Total cost of one plate/*Totale koste van een bord* $= \frac{\text{Rs}200}{8} + \frac{\text{Rs}120}{8} + \frac{\text{Rs}10}{8} + \frac{\text{Rs}62}{8}$ ✓MA = Rs25 + Rs15 + Rs1,25 + Rs7,75 ✓CA = Rs49 ✓A Total cost including food container/*Totale koste insluitend koshouer* = Rs49 + Rs2,43 ✓MA = Rs51,43 ✓CA	1A total ingredients 1MA adding the container 1CA simplification 1MA divide by 8 1CA simplification **OR/*OF*** 1MA divide by 8 1CA simplification 1A total ingredients 1MA adding 1CA simplification (5)	

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.1.3	Profit of one plate/*Wins van een bord* ✓MA Rs80 – Rs51,43 = Rs28,57 ✓CA % profit of one plate/*% wins van een bord* $= \frac{Rs28,57}{Rs51,43} \times 100\%$ ✓M = 55,55% ✓CA Bobby's claim is VALID/*Bobby se eis is GELDIG* ✓O **OR/*OF*** ✓✓A Rs51,43 × 1,5 ✓MA =Rs77,15 ✓CA Rs80,00 > Rs77,15 Bobby's claim is VALID/*Bobby se eis is GELDIG* ✓O **OR/*OF*** Percentage income/*Persentasie inkomste* $= \frac{Rs80}{Rs51,43} \times 100\%$ ✓MA = 155,55% ✓CA Percentage profit/*Persentasie wins* 155,55% - 100% ✓M = 55,55% ✓CA	**CA from Question 4.1.2** 1MA subtracting CP from SP 1CA simplification 1M percentage calculation 1CA simplification 1O conclusion **OR/*OF*** 2A calculating 1,5 1MA multiplying 1CA simplification 1O conclusion **OF/*OR*** 1MA percentage calculation 1CA simplification 1M subtracting values 1CA simplification	F L4

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.1.3	***OF/OR*** 50% of cost price/*50% van die kosprys* = Rs 51,43 x 50% ✓MA = Rs 25,72 ✓CA Profit per plate/*Wins per bord* = Rs 80 – Rs 51,43 ✓M = Rs 28,57 ✓CA Rs 28,57 >Rs 25,72 Bobby's claim is VALID/*Bobby se eis is GELDIG* ✓O	***OF/OR*** 1MA percentage calculation 1CA simplification 1M subtracting values 1CA simplification 1O conclusion (5)	
4.1.4	Cost of masala/*Koste van masala* ✓RT $= \frac{Rs10}{Rs1} \times 0,206839$ ✓MA = R2,06839 = R2,07 ✓A **OR/*OF*** Cost of masala/*Koste van masala* $= \frac{Rs10}{4,834670}$ ✓RT ✓MA = R2,06839 = R2,07 ✓A	1RT correct values 1MA multiplying by 0,260839 1A simplification **OR/*OF*** 1RT correct values 1MA dividing 1A simplification (3)	F L2

4.2.1	Cost (R) = 600,00 + 13 p, where p = number of plates. ✓SF 1 380,00 = 600,00 + 13p 1 380,00 – 600,00 = 13p ✓MA ✓CA R780 = 13 p p = 60 plates ✓CA	1SF correct substitution 1MA subtracting 600 1CA simplification 1CA simplification **AO** (4)	F L2 *

4.2.2



1A Start point (0;600)
1A End point (100; 1 900)
1A Correct straight line

Number of Plates	0	10	30	50	70	90	100
Cost (R)	600	730	990	1250	1 510	1 770	1 900

(3)

Q/V	Solution/*Oplossing*	Explanation/*Verduideliking*	T&L
4.2.3	50 plates ✓✓RT	2RT number of plates (2)	F L2 *