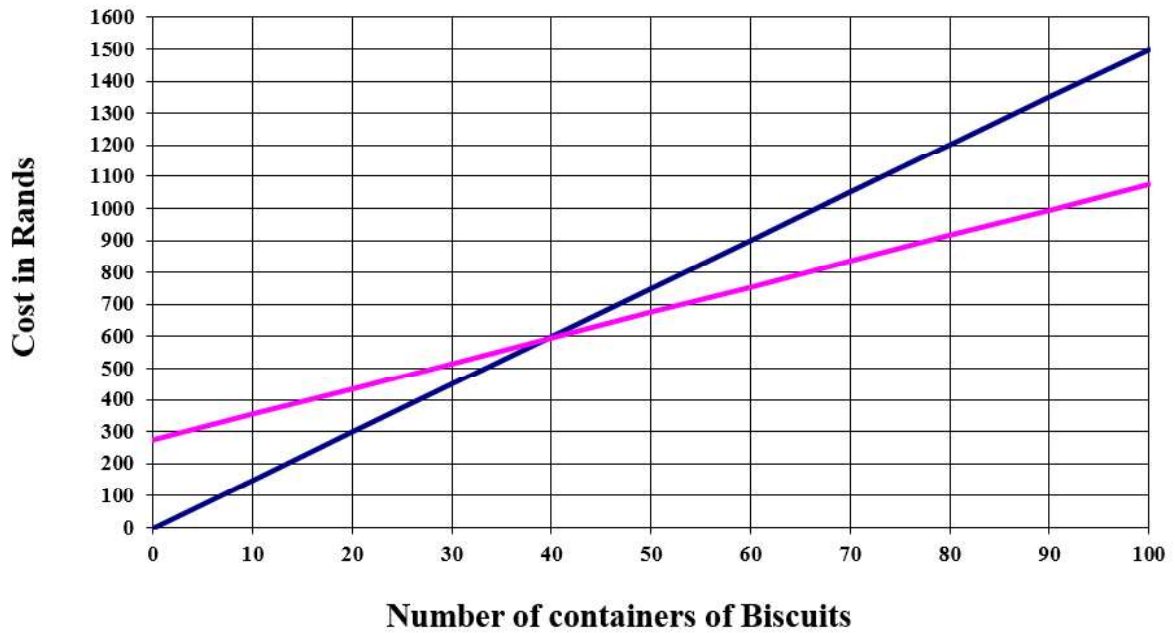


QUESTION 1

1.1

Anelisa sells chocolate chip biscuits at the local market. She pays R275 to rent a stall.

Graph showing Income and Expenses of Anelisa's biscuit business



Use the graph and the information above to answer the following questions.

- 1.1.1 Use the graph to determine the selling price of one container of biscuits. (3)
- 1.1.2 Identify the break-even point and explain its meaning in this context. (3)
- 1.1.3 Calculate the Profit Anelisa will make if she sold 150 containers of biscuits.

You may use the formula:

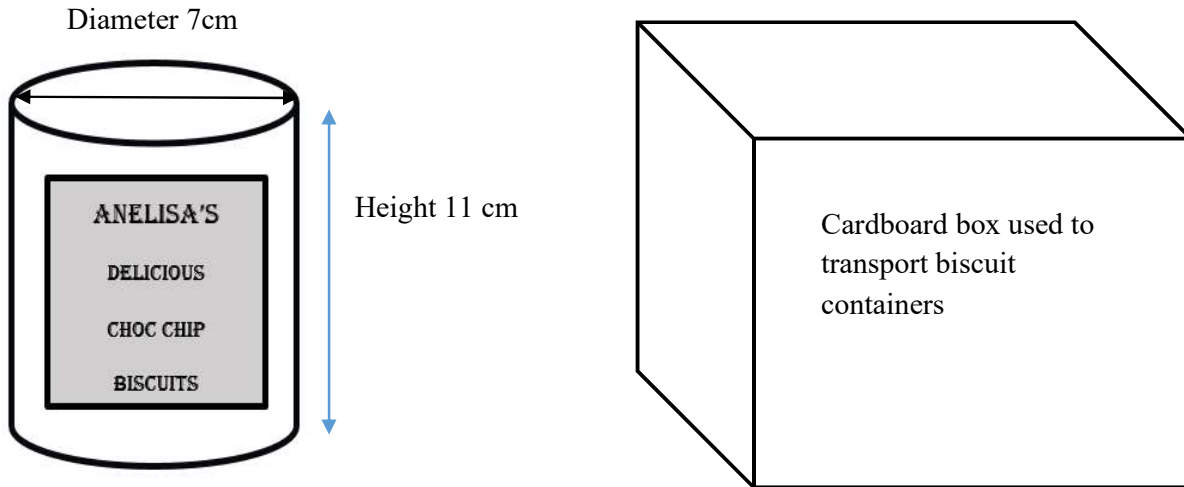
$$\text{Total Expenses} = R275 + (R8,13 \times \text{number of biscuit containers})$$

$$\text{Profit} = \text{Income} - \text{Total Expenses}. \quad (6)$$

1.2

Anelisa packs the biscuits into clear plastic cylindrical containers which have her own rectangular label on. The cylindrical container has a diameter of 7cm and a height of 11cm. She packs the cylindrical containers into a rectangular cardboard box to transport to the local market.

Diagrams of biscuit container and cardboard box not drawn to scale



Use the information above to answer the following questions.

- 1.2.1 The length of the label is 90mm. The width of the label is half of the length. Anelisa claims that 278,41cm² of the clear plastic cylindrical biscuit container is not covered by her label.

Verify, using calculations if this claim is CORRECT

You may use the formulae:

Surface area of a Cylinder = $2\pi r^2 + 2\pi rh$ using $\pi = 3,142$

Area of a rectangle = length × width (6)

- 1.2.2 Calculate the minimum dimensions of the cardboard box (length, width and height) (in cm) used to transport the containers of biscuits, if the box contains a total of 48 biscuit containers packed in two layers. (6)

[24]

QUESTION 2

2.1

Sbahlé took a home loan for R346 500. The loan manager advised her to pay extra each month towards the home loan. TABLE 1 shows the effect of paying extra money into a home loan.

TABLE 1: EFFECT OF PAYING EXTRA MONEY INTO A HOME LOAN ACCOUNT

	Current repayment	New repayment
Loan	R346 500	R346 500
Monthly repayment	R3 272	R3 772
Loan period in months	300	187
Total cost of loan	R981 600	A

[Adapted source:www.sahomeloans.co.za]

Refer to TABLE 1 above and answer the following questions:

2.1.1 Determine how much extra was paid into the loan per month. (2)

2.1.2 Determine how many years and months the loan was reduced by when paying extra money per month. (4)

2.1.3 Calculate A, the total cost of the loan.

You may use the formula:

Total cost of the loan = Monthly repayment × loan period (2)

2.1.4 By considering the total interest paid at the end of the loan and how much was saved in interest by increasing the monthly repayment, the loan manager states that almost 43,5% can be saved in interest.

Verify using a calculation if this statement is correct. (6)

2.1.5 What effect does paying more money into the loan have on the loan account. (2)

QUESTION 3

3.1

Siya is studying the effects of increased water usage in Durban. TABLE 2 below shows the 2018 and 2019 water tariff rates for Durban.

TABLE 2: NEW TARIFFS CAME INTO EFFECT FROM JULY 1, 2019

Type of water supply	Roof tank Semi-pressure system		Domestic Full pressure for property rateable values less than R250 000		Domestic Full pressure for property rateable values greater than R250 000		Industrial, commercial and other users	
Monthly Consumption								
Prices per kilolitre excluding VAT	<i>old</i>	<i>new</i>	<i>old</i>	<i>new</i>	<i>old</i>	<i>new</i>	<i>old</i>	<i>new</i>
0kl to 6kl	nil	nil	nil	nil	R18.63	R21.39	R29.12	R33.35
From 6kl to 25kl	R14.98	R17.23	R22.01	R25.30	R22.01	R25.30	R29.12	R33.35
From 25kl to 30kl	R20.52	R23.57	R29.30	R33.70	R29.30	R33.70	R29.12	R33.35
From 30kl to 45kl	R45.21	R51.98	R45.21	R51.98	R45.21	R51.98	R29.12	R33.35
More than 45kl	R49.73	R57.15	R49.73	R57.15	R49.73	R57.15	R29.12	R33.35

[Adapted source: www.durban.gov.za]

Study TABLE 2 and answer the questions that follow.

- 3.1.1 Siya states the difference between the old and new costs, for domestic full pressure water supply for a property valued at R585 000, if the owner used 27 kl of water for the month is R100 per month.

Verify, using calculations if this statement is CORRECT (6)

- 3.1.2 Siya owns a flat valued at R190 000. In December 2019, he received a water bill for R358,67 including 15% VAT for domestic full pressure. Calculate the number of kilolitres he used for the month of December. (6)

- 3.1.3 State two ways in which we can save water. (2)

3.2

Siya received a cooler box as a gift. The label on the cooler box says it has a capacity of 50 litres.



[Source:www.gamestore.co.za]

- 3.2.1 The inner length of the cooler box is 610 mm and the inner breadth is 34 cm. Determine the inner height of the cooler bag in cm excluding the lid.

You may use the formula:

$$\text{Volume} = \text{Length} \times \text{Breadth} \times \text{Height}$$

NOTE: 1 litre = 1000 cm³ (5)

- 3.2.2 Determine the maximum number of ice bags that can be emptied into the cooler box, if one bag of ice hold 8 cups of water, ignore the weight of the plastic covering of the bag.

NOTE: 1 cup = 250ml (5)

[24]

QUESTION 4

- 4.1 TABLE 3 below shows the working age population (15-64 years) in the 2nd quarter of 2019 according to Statistics South Africa.

TABLE 3: WORKING AGE POPULATION 2ND QUARTER OF 2019

	Apr-Jun 2019	1 st Qtr to 2 nd Qtr Change
	Thousand	Thousand
South Africa	38 433	
Western Cape	4 642	23
Eastern Cape	4 289	12
Northern Cape	802	A
Free State	1 906	A
KZN	7 109	27
North West	2 599	11
Gauteng	10360	50
Mpumalanga	2947	11
Limpopo	3780	12

[Adapted source: www.statssa.gov.za]

- 4.1.1 Determine the interquartile range for 9 provinces during the period April-June 2019 (5)
- 4.1.2 The mean for quarter to quarter change in thousands for the nine provinces is 16 666,67. Determine the missing values for Northern Cape and Free State. (4)

- 4.2 TABLE 4 below shows the working age population (15-64 years) in the 3rd quarter of 2019 according to Statistics South Africa.

TABLE 4: WORKING AGE POPULATION 3RD QUARTER 2019

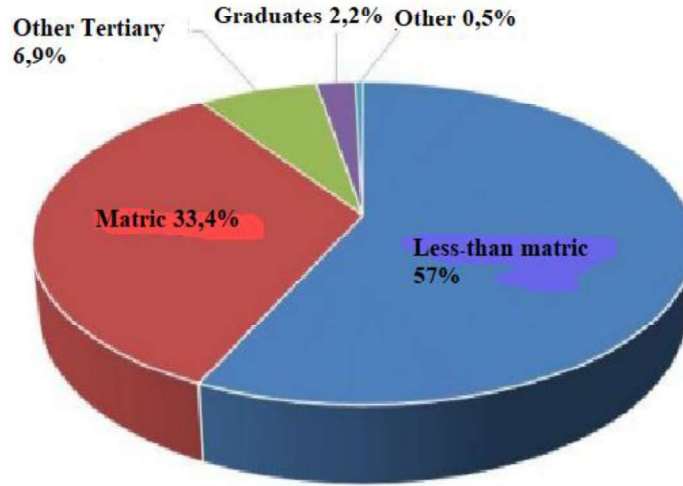
LABOUR FORCE		NOT ECONOMICALLY ACTIVE (NEA)	
23,1 million		15,5 million	
Employed	Unemployed	Discouraged work seekers	Other NEA
16,4 m	6,7m	2,8m	12,7m

[Adapted source: www.statssa.gov.za]

- 4.2.1 Determine the total working age population (2)
- 4.2.2 A claim was made that the the probability (as a percentage) of being employed between the ages of 15 - 64 years is 50%. (4)
- 4.2.3 Explain who the other NEA population could be. (2)

4.3

The pie chart below shows the proportion of the unemployed by education level in the 3rd quarter of 2019 according to Statistics South Africa.



[Source: www.statssa.gov.za]

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

- 4.3.1 Determine the number of people with a matric qualification that were unemployed in the third quarter of 2019. (3)
- 4.3.2 Explain why the percentage number of people with less than a matric qualification have the highest percentage of unemployment. (2)

[22]

TOTAL: 100