Instructions and Tips:

- You have 60 minutes to complete this worksheet
- This worksheet consists of 7 questions
- Write answers in the spaces provided
- All working must be clearly shown
- Answers should be given to 2 decimal places

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Question 1

(a) The table below shows Georgia’s shopping bill. Some information was not included

<table>
<thead>
<tr>
<th>Items</th>
<th>Quantity</th>
<th>Unit Price (TTD)</th>
<th>Total Cost (TTD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cassava flour</td>
<td>6.5 kg</td>
<td>2.40</td>
<td>A</td>
</tr>
<tr>
<td>Pimentos</td>
<td>6 bags</td>
<td>B</td>
<td>52.80</td>
</tr>
<tr>
<td>Coconut Water</td>
<td>C liters</td>
<td>12.35</td>
<td>98.80</td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td></td>
<td>167.20</td>
</tr>
</tbody>
</table>

15% VAT (to the nearest cent)

Calculate the values of A, B, C, and D

A: Unit price of Cassava Flour (1 kg) = 2.40 TTD

\[
6.5 \text{ kg} = 2.40 \text{ TTD} \times 6.5
\]

\[
6.5 \text{ kg} = 15.60 \text{ TTD}
\]

B: Total cost (6 bags) = 52.80 TTD

\[
\text{Cost of 1 bag} = \frac{52.80}{6} = 8.80 \text{ TTD}
\]

C: Total cost = 98.80

Unit cost (liters) = 12.35 TTD

\[
\text{Number of litres} = \frac{98.80}{12.35 \text{ TTD}}
\]

\[
\text{Number of litres} = 8
\]

D: 15% VAT

\[
\frac{15}{100} \times 167.20 = 25.08 \text{ TTD}
\]

(5 marks)
(b) VAT was reduced from 15% to 12.5%. Calculate the reduction in Georgia’s bill.

15% VAT
\[
\frac{15}{100} \times 167.20 = 25.08 \text{ TTD}
\]

12.5% VAT
\[
\frac{12.5}{100} \times 167.20 = 20.90 \text{ TTD}
\]

Reduction in Georgia’s bill = 25.08 TTD - 20.90 TTD
Reduction in Georgia’s bill = 4.18 TTD

(2 marks)
Question 2

(a) How much simple interest is due on a loan of $14,000 for two years if the annual rate of interest is $\frac{1}{2}$ percent?

\[
\text{Simple Interest} = \frac{\text{Principal} \times \text{Rate} \times \text{Time}}{100}
\]

\[
\text{Simple Interest} = \frac{14,000 \times 0.5 \times 2}{100}
\]

\[\text{Simple Interest} = $140\]

(b) How much simple interest is due on a loan of $20,000 for three years if the annual rate of interest is 5 percent?

\[
\text{Simple Interest} = \frac{\text{Principal} \times \text{Rate} \times \text{Time}}{100}
\]

\[
\text{Simple Interest} = \frac{20,000 \times 5 \times 3}{100}
\]

\[\text{Simple Interest} = $3000\]
**Question 3**

(a) In the Republic of Trinidad and Tobago, 3 litres of diesel cost TT$5.16

**Calculate the cost of 5 litres of diesel in Trinidad and Tobago**

Cost of 3 litres of diesel = 5.16 TTD

Cost of 1 litre of diesel = \(\frac{5.16 \text{ TTD}}{3}\)

Cost of 5 litres of diesel = \(\frac{5.16 \text{ TTD}}{3} \times 5\)

Cost of 5 litres of diesel = 8.60 TTD

(2 marks)

(b) How many litres of diesel can be bought for TT$100.00 in Trinidad and Tobago?

\(5.16 \text{ TTD} = 3 \text{ litres of diesel}\)

\(1 \text{ TTD} = \frac{3 \text{ litres}}{5.16}\)

\(100 \text{ TTD} = \frac{3 \text{ litres}}{5.16} \times 100\)

100 TTD = 58.14 litres

(2 marks)
Question 4

A man in Barbados invests 12,000 Barbados Dollars (BDS) into an account that pays 8.5% interest per year, compounded annually. Calculate the amount of money that he will have after 3 years.

Compound Interest Formula

\[\text{Amount} = \text{Principal} \left( 1 + \frac{\text{Rate}}{100} \right)^{\text{number of years}}\]

\[\text{Amount} = 12,000 \left( 1 + \frac{8.5}{100} \right)^3\]

\[\text{Amount} = 12,000 \times (1.085)^3 = 15,327.47\]

Amount of money after 3 years = 15,327.47 BDS

(3 marks)
Question 5

A man in Guyana invests 15,000 Guyanese Dollars (GYD) into an account that pays 9.5% interest per year, compounded annually. Calculate the amount of money that he will have after 2 years.

Compound Interest Formula

\[ \text{Amount} = \text{Principal} \left( 1 + \frac{\text{Rate}}{100} \right)^{\text{number of years}} \]

Amount = 15,000 \( \left( 1 + \frac{9.5}{100} \right)^2 \)

Amount = 15,000 \( (1.095)^2 \) = 17,985.38

Amount of money after 2 years = 17,985.38 GYD

(3 marks)
**Question 6**

A farmer purchases a pickup truck for $280,000. The pickup truck depreciates at a rate of 5% per year. Determine the value of the pickup truck after 4 years?

Depreciation formula

\[
\text{Value} = \text{Purchase Price} \left( 1 - \frac{\text{Rate}}{100} \right)^{\text{number of years}}
\]

Value = 280,000 \left( 1 - \frac{5}{100} \right)^4

Value = 280,000 (0.95)^4

Value = 280,000 (0.81450625)

Value = $228,061.75

**Value of pickup truck after 4 years = $228,061.75**

(4 marks)
**Question 7**

The interest rate on savings in a bank decreased from 5 \( \frac{1}{2} \) percent per annum to 4 percent per annum. Calculate the difference in annual interest on a deposit of $10,000.

*Calculating Simple Interest at 5 \( \frac{1}{2} \)%*

\[
Simple \text{ Interest} = \frac{\text{Principal} \times \text{Rate} \times \text{Time}}{100}
\]

\[
Simple \text{ Interest} = \frac{10,000 \times 5.5 \times 1}{100} = $550
\]

*Calculating Simple Interest at 4%*

\[
Simple \text{ Interest} = \frac{\text{Principal} \times \text{Rate} \times \text{Time}}{100}
\]

\[
Simple \text{ Interest} = \frac{10,000 \times 4 \times 1}{100} = $400
\]

*Difference in annual interest on deposit = $550 - $400 = $150*

(4 marks)