Instructions and Tips:

- You have 90 minutes to complete this worksheet
- This worksheet consists of 8 questions
- Write answers in the spaces provided
- All working must be clearly shown
- Answers should be given to 2 decimal places

Student Name: _______________________________
Student ID: __________________________________
Date: _ _ / _ _ / _ _ _ _

Total Score:

Highest Score:

Tutor's Comments:

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Question 1

Chukwuemeka arrives in Trinidad and Tobago on vacation. He has 50,000 Nigerian Naira (NGN). He changes the 50,000 NGN at a local bank to Trinidad and Tobago Dollars (TTD).

1 TTD = 30.20 NGN

(a) How much TTD should Chukwuemeka receive?

\[
30.20 \text{ NGN} = 1 \text{ TTD} \\
1 \text{ NGN} = \frac{1 \text{ TTD}}{30.20} \\
50,000 \text{ NGN} = \frac{1 \text{ TTD}}{30.20} \times 50,000 \\
50,000 \text{ NGN} = 1,655.629 \text{ TTD}
\]

Chukwuemeka should receive 1,655.63 TTD

(2 marks)

During his stay in Trinidad and Tobago, Chukwuemeka spends 600 TTD. He then travels to Barbados. He converts the remainder of his TTD to the Barbados Dollar (BDS).

1 BDS = 3.22 TTD

(b) How much BDS should Chukwuemeka receive?

Amount of money remaining = Original sum - Money spent
Amount of money remaining = 1,655.63 TTD - 600 TTD
Amount of money remaining = 1,055.63 TTD
(Converting to BDS) \( 3.22 \text{ TTD} = 1 \text{ BDS} \)

\[
1 \text{ TTD} = \frac{1 \text{ BDS}}{3.22} \\
1,055.63 \text{ TTD} = \frac{1 \text{ BDS}}{3.22} \times 1,055.63 = 327.84 \text{ BDS}
\]

Chukwuemeka should receive 327.84 BDS

(2 marks)
**Question 2**

**Option A: Cost 50 TTD**

Navida’s 100 % Cacao Powder 300g

**Option B: Cost 100 TTD**

Navida’s 100 % Cacao Powder 700g

At a local grocery store you observe that there are two sizes of cacao powder packs. Both are of the identical brand and identical quality. Calculate the cost per gram for:
(a) Option A

300 g = 50 TTD
1 g = \frac{50 \text{ TTD}}{300} = 0.17 \text{ TTD}

(b) Option B

700 g = 100 TTD
1 g = \frac{100 \text{ TTD}}{700} = 0.14 \text{ TTD}

(c) Based on your calculations, recommend which option is more cost effective given that you purchase cacao powder regularly and that you have the cash to purchase either option.

Option B is more cost effective since the cost per gram with Option B (0.14 TTD) is lower than the cost per gram with Option A (0.17 TTD).
Question 3

At a supermarket in Belize, a 2 Litre bottle of Coconut water can be purchased for 1.50 Belize Dollars (BZD).

1 BZD = 1.35 XCD

(a) Calculate how much Eastern Caribbean Dollars (XCD) will be needed to purchase this Coconut water in Belize.

\[ 1 \text{ BZD} = 1.35 \text{ XCD} \]
\[ 1.50 \text{ BZD} = 1.35 \text{ XCD} \times 1.50 \]
\[ 1.50 \text{ BZD} = 2.025 \text{ XCD} \]

2.03 XCD will be needed to purchase this Coconut water in Belize.

(1 mark)
1 BZD = 0.50 USD

(b) Calculate the cost per litre of Coconut water in USD.

Cost for 2 litres of coconut water = 1.50 BZD

Cost for 1 litre of coconut water = \( \frac{1.50 \text{ BZD}}{2} = 0.75 \text{ BZD} \)

Converting BZD to USD

1 BZD = 0.50 USD

0.75 BZD = 0.50 USD \times 0.75 = 0.375 USD

Cost per litre of coconut water = 0.38 USD

(2 marks)

1 USD = 6.51 TTD

(c) A businessman in Trinidad and Tobago plans to sell the 2 litre bottle of Coconut water with a 30% markup. Calculate the cost in TTD for a bottle of this Coconut water with the included markup.

Cost of Coconut Water = 1.50 BZD

Cost of coconut water = 4.88 TTD

1 BZD = 0.50 USD

1.50 BZD = 0.50 USD \times 1.50 = 0.75 USD

Total cost = 4.88 TTD + 1.46 TTD

Total = 6.34 TTD

(3 marks)

(d) At the point of sale in Trinidad and Tobago, Value Added Tax (VAT) of 12.5% will be added. Calculate the cost in TTD for a 2 litre bottle of this Coconut water, inclusive of the markup and VAT.

Cost inclusive of markup = 6.34 TTD

VAT \( (12.5 \%) = \frac{12.5}{100} \times 6.34 \text{ TTD} = 0.79 \text{ TTD} \)

Total Cost = Cost inclusive of markup + VAT

Total Cost = 6.34 TTD + 0.79 TTD = 7.13 TTD

(4 marks)
Question 4

A sports store in Jamaica sells a bicycle for 18,000 Jamaican Dollars (JMD)

(a) At Christmas time, the customer is given a 20% discount. Calculate the cost of the bicycle at this time.

New Price = Original Price – Discount

New Price = 18,000 JMD – 3,600 JMD

New Price = 14,400 JMD

(b) For every bicycle, the store sells during Christmas time, a profit of 4,500 JMD is made. If the store sells 150 bicycles, what is the store’s overall profit from this bicycle?

Profit from 1 bicycle = 4,500 JMD

Profit from 150 bicycles = 4,500 JMD × 150 = 675,000 JMD

Overall profit from this bicycle = 675,000 JMD

(c) Calculate the stores’ profit from this bicycle in TTD.

18.77 JMD = 1 TTD

1 JMD = \frac{1 TTD}{18.77}

675,000 JMD = \frac{1 TTD}{18.77} × 675,000

675,000 JMD = 35,961.64 TTD
Question 5

Mr. Kalesanwo decides to open a Nigerian restaurant in Trinidad. At a grocery store, he notices two options for purchasing Cassava Flour. Both options are of the same brand and quality. The prices are quoted in Trinidad and Tobago Dollars.

(a) Calculate the cost of purchasing 30 kg of Cassava Flour using 2 kg packs (in TTD).

Required mass of flour = 30 kg

Number of packs required (2 kg) = \( \frac{30 \text{ kg}}{2 \text{ kg}} \) = 15 packs

Cost of one 2 kg pack = 16 TTD

Cost of fifteen 2 kg packs = 16 TTD \times 15

Cost of fifteen 2 kg packs = 240 TTD

(2 marks)
(b) Calculate the cost of purchasing 30 kg of Cassava Flour using 10 kg packs.

Required mass of flour = 30 kg

Number of packs required (10 kg) = \( \frac{30 \text{ kg}}{10 \text{ kg}} = 3 \) packs

Cost of one 10 kg pack = 60 TTD

Cost of three 10 kg packs = 60 TTD \times 3

\[ \text{Cost of three 10 kg packs} = 180 \text{ TTD} \]

(2 marks)

1 TTD = 30.20 NGN

(c) Calculate the cost of the cheaper option for 30 kg of Cassava Flour in Nigerian Naira (NGN).

It is cheaper to purchase 30 kg of Cassava Flour by using the 10 kg packs.

Converting 180 TTD to NGN

1 TTD = 30.20 NGN

180 TTD = 30.20 NGN \times 180

180 TTD = 5,436 NGN

(2 marks)
Question 6

A young Electrical Engineer is hired in the oil and gas industry in Trinidad and Tobago. Her monthly salary consists of a base pay of 15,000 TTD. In addition, every time she is called offshore, she will be paid an additional 2000 TTD.

(a) Calculate her annual salary for that year if she is called offshore 15 times for the year (in TTD).

Base pay for 1 month = 15,000 TTD
Base pay for 12 months = 15,000 TTD × 12 = 180,000 TTD
Earning from one offshore call = 2,000 TTD
Earning from fifteen offshore calls = 2,000 TTD × 15 = 30,000 TTD

Salary for year = 180,000 TTD + 30,000 TTD = 210,000 TTD

(b) As a citizen of Trinidad and Tobago, the young engineer is entitled to an annual personal allowance of 72,000 TTD. Calculate the amount of her salary that she will be taxed on for that year (in TTD).

Amount that will be taxed = Annual Salary - personal allowance

= 210,000 TTD - 72,000 TTD

Amount that will be taxed = 138,000 TTD

(c) The engineer is taxed at a rate of 25%. Calculate, the amount of money that she takes home for that year (in TTD), after being taxed.

Amount that will be taxed = 138,000 TTD

Tax amount = \(\frac{25}{100} \times 138,000 \text{ TTD} = 34,500 \text{ TTD}\)

Annual take home = Annual Salary - Tax

Annual take home = 210,000 TTD - 34,500 TTD

Annual take home = 175,500 TTD
**Question 7**

Mr and Mrs. Yang visit Tobago and are awestruck with the beauty of the island. They decide to purchase an acre of beach front land. The cost is 500 TTD per square foot.

1 Acre = 43,560 square feet.

(a) Calculate the cost in TTD of one acre of the beach front land.

Cost of 1 square foot = 500 TTD

Cost of 43,560 square feet = 500 TTD \times 43,560

Cost of one acre = 21,780,000.00 TTD

(b) Stamp duty will be charged at a rate of 2% of the cost of the land. Calculate the amount that Mr. and Mrs. Yang will have to pay in Stamp duty.

Cost of land = 21,780,000.00 TTD

Stamp Duty = \frac{2}{100} \times 21,780,000.00 TTD

Cost of one acre = 21,780,000.00 TTD

Stamp Duty = 435,600 TTD

1 USD = 6.51 TTD

(c) Calculate the total amount of money that Mr. and Mrs. Yang will spend in USD.

Total amount = Cost of one acre + Stamp duty

Total amount = 22,215,600 TTD

Total amount = 22,215,600 TTD

1 TTD = \frac{1 \text{ USD}}{6.51}

22,215,600 TTD = \frac{1 \text{ USD}}{6.51} \times 22,215,600 = 3,412,534.56 USD

(2 marks)
**Question 8**

(a) The table below shows Adrian's shopping bill for his convenience store. 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>Flash drives</td>
<td>15</td>
<td>20.00</td>
<td>A</td>
</tr>
<tr>
<td>Mobile phones</td>
<td>40</td>
<td>B</td>
<td>12,000</td>
</tr>
<tr>
<td>Cranberry flavored Water</td>
<td>C litres</td>
<td>4.35</td>
<td>435</td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td></td>
<td>12,735</td>
</tr>
</tbody>
</table>

12.5% VAT (to the nearest cent) D

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

A: Price of 1 Flash drive = 20.00 TTD  
   Price of 15 Flash drives = 20.00 TTD × 15  
   Price of 15 Flash drives = \[300.00 \text{ TTD}\]

B: Total cost (40 mobile phones) = 12,000 TTD  
   Cost of 1 mobile phone (Unit price) = \[
   \frac{12,000}{40} = 300 \text{ TTD} \]

C: Total cost = 435 TTD  
   Unit cost (litre) = 4.35 TTD  
   Number of litres = \[
   \frac{435 \text{ TTD}}{4.35 \text{ TTD}} = 100 \]

D: 12.5% VAT  
   \[
   \frac{12.5}{100} \times 12,735 = 1591.88 \text{ TTD} \]  (5 marks)
(b) VAT was increased from 12.5% to 20%. Calculate the increase in Adrian’s bill.

12.5% VAT

\[
\frac{12.5}{100} \times 12,735 = 1591.88 \text{ TTD}
\]

20 % VAT

\[
\frac{20}{100} \times 12,735 = 2,547 \text{ TTD}
\]

Increase in Adrian’s bill = 2,547 TTD – 1591.88 TTD

Increase in Adrian’s bill = \boxed{955.12 \text{ TTD}}

(2 marks)