1. According to the chart below, which bundle is preferred, assuming total utility is the product of the quantity of popcorn and the quantity of sodas. Circle the correct answer.

<table>
<thead>
<tr>
<th>BUNDLE</th>
<th>QUANTITY OF POPCORN</th>
<th>QUANTITY OF SODAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>B</td>
<td>4.5</td>
<td>2</td>
</tr>
<tr>
<td>C</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>D</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

2. Given the information below, what is the marginal utility associated with eating hamburgers? Show all work.

\[
M_u = \frac{\Delta U}{\Delta Q} = \frac{12}{4} = 3
\]

3. Quantity of Chicken (lbs)

(a) The graph deals with **indifference or iso-utility** curves.

(b) Which combination of chicken and pork yields the highest level of satisfaction?

\[
12 \text{ lbs of chicken} \quad 7 \text{ lbs of pork}
\]

(c) Which combination of chicken and pork yields the lowest level of satisfaction?

\[
8 \text{ lbs of chicken} \quad 5 \text{ lbs of pork}
\]
(2 pts) (d) Given points A and C, how many pounds of chicken is this consumer willing to give up in order to get one more pound of pork? Show all work!

\[
\frac{\Delta Q_c}{\Delta Q_p} = \frac{12 - 9}{3 - 8} = \frac{3}{5}
\]

**pounds**

(1 pt) (e) What is the technical name associated with this trade off? **marginal rate of substitution**

(1 pt) 4. What caused the budget line to change? Circle the correct answer.

(a) The price of Chick-fil-A sandwiches rose.
(b) The price of Subway sandwiches fell.
(c) The expenditure (budget alloment) on Subway sandwiches and Chick-fil-A sandwiches rose.
(d) The price of Subway sandwiches rose.
(e) The price of Chick-fil-A sandwiches fell.
(f) The expenditure (budget alloment) on Subway sandwiches and Chick-fil-A sandwiches fell.

(2 pts) 5. Illustrate a demand curve for Yoplait Yogurt. Be sure to label your axes.
6. Consider the following diagram. Assume the budget for this consumer is $48.

(a) At point C, the consumer is said to be in equilibrium.

(b) Fill in the entries in the table below in conjunction with point C.

<table>
<thead>
<tr>
<th>Quantity of Kool-Aid (glasses)</th>
<th>Quantity of Tea (glasses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Price of Kool-Aid ($/glass)</th>
<th>Price of Tea ($/glass)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4</td>
<td>$3</td>
</tr>
</tbody>
</table>

(c) The slope of the budget line at point C is \(-\frac{12}{16} = -\frac{3}{4} = -0.75\).

(4 pts) 7. TRUE or FALSE. Circle the correct answer.

(a) Total utility may never be negative. **F**
(b) Marginal utility may never be negative. **F**
(c) Indifference curves never intersect. **T**
(d) The Law of Diminishing Marginal Utility states that total satisfaction declines as more of a good is consumed. **F**
(e) The MRS is always negative. **T**
(f) When total utility is a maximum, marginal utility is zero. **F**
(g) The average size of U.S. farms is between 400 and 500 acres. **T**
(h) As a consumer's income rises, the proportion of income spent on food falls. This assertion is known as the Law of Demand. **F**
(1 pt) 8. Suppose a college student can spend $30 on Subway sandwiches and Chick-Fil-A sandwiches. The price of a Subway sandwich is $5 and the price of a Chick-Fil-A sandwich is $3. Which of the following diagrams describes the correct budget line for this student? Circle the correct answer.

(a) Subway sandwiches

(b) Subway sandwiches

(c) Chick-Fil-A sandwiches

(d) Chick-Fil-A sandwiches

(1 pt) 9. A rice farmer in the Beaumont area has assets equal to $16 million and liabilities equal to $9 million. The equity for this operation is equal to $\underline{7}$ million.

(1 pt) 10. Assume that for a given consumer, the marginal utility of cheap food is 160 and the price of cheap food is $40. Also, assume that the marginal utility of environmental quality is 500 and the price of environmental quality is $100. This consumer: (Circle the correct answer.)

(a) is in equilibrium.

(b) should buy more cheap food.

(c) should buy more environmental quality.

(d) can't tell; insufficient information given to answer this question.

\[ \frac{MU_{CF}}{P_{CF}} = \frac{160}{40} = 4 \text{ utils/dollar} \]

\[ \frac{MU_{EQ}}{P_{EQ}} = \frac{500}{100} = 5 \text{ utils/dollar} \]

(1 pt) 11. On average, U.S. farmers get $\underline{20}$ cents of every dollar spent on food.
(2 pts) 12. Consider the following diagram which deals with vintage California wine.

![Diagram: A line graph with the x-axis labeled "Wine" and the y-axis labeled "I".]

(a) This diagram is technically called a/an \(\text{Engel}\) curve.

(b) From this diagram, we can conclude that this California wine is a/an \(\text{normal}\) good.

"On my honor, as an Aggie, I have neither given nor received unauthorized aid on this announced quiz."

________________________________________________________________________

Student’s Signature                                             Date

________________________________________________________________________

Student’s Printed Name                                         UIN