Economics 101: Problem Set Solutions

Your Name

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Part I: Multiple Choice and Short Answer

1. Marginal Opportunity Cost Calculation

Given the production possibilities table:

Point	Machines	Food
A	0	50
B	2	45
C	4	38
D	6	28
E	8	15
F	10	0

To move from B to C:

$$\text{Marginal Opportunity Cost} = \frac{\text{Lost Food}}{\text{Gained Machines}} = \frac{45 - 38}{4 - 2} = \frac{7}{2} = 3.5 \text{ food units per machine}$$

Answer: 3.5 units of food per machine.

2. Manuel's Decision to Run One More Mile

Manuel's decision implies that the **marginal benefit** of running exceeded the **marginal cost**.

Correct answer: B) The marginal benefit outweighed the cost.

3. Cuba's Economic Decline

Cuba lost economic support, reducing its productive capacity. This causes an **inward shift** in the production possibilities curve.

Correct answer: B) Inward shift of the PPC.

4. Opportunity Cost Concept

The best phrase to describe opportunity cost is:

Correct answer: C) "There is no such thing as a free lunch."

5. Unemployment and the PPC

Unemployment means not all resources are used efficiently, placing the economy **inside** the PPC.

Correct answer: D) Point inside the PPC.

6. Tuition and Enrollment at GSU

If tuition and enrollment have both risen, demand must have increased due to factors like population growth or preferences.

Correct answer: C) Demand increased due to population, income, or preference changes.

7. Optimal Output of Shoes

The optimal output level is where **marginal cost = marginal benefit**, occurring at Q_2.

Correct answer: B) Q_2.

Part II: Short Essay

1. Equilibrium Price and Quantity Changes

(A) Hot Day: Increase in Both Demand and Supply of Lemonade

- **Demand shifts right** (more people want lemonade).
- **Supply shifts right** (more lemonade is produced).
- **Price: Indeterminate** (?).
- **Quantity: Increases**.

(B) Hawaii Volcano Eruption: Increased Demand, Decreased Supply

- **Demand shifts right** (tourists want flights).
- **Supply shifts left** (fewer pilots willing to fly).
- **Price: Increases**.
- **Quantity: Indeterminate** (?).

(C) Windy Day in Arizona: Demand Decreases, Supply Increases

- **Demand shifts left** (less AC use).
- **Supply shifts right** (more electricity from wind).
- **Price: Decreases**.

- **Quantity: Indeterminate** (?).

(D) Decline in Cycling Interest in Italy

- **Demand shifts left** (fewer cyclists).
- **Supply shifts right** (new technology lowers costs).
- **Price: Decreases**.
- **Quantity: Indeterminate** (?).

2. Optimal Production Technique

Given the following costs:

Technique	Labor Cost	Land Cost	Capital Cost	Total Cost
A	$4 \times \$10 = \$40$	$10 \times \$5 = \$50$	$5 \times \$15 = \$75$	**\$165**
B	$5 \times \$10 = \$50$	$3 \times \$5 = \$15$	$3 \times \$15 = \$45$	**\$110**
C	$5 \times \$10 = \$50$	$2 \times \$5 = \$10$	$4 \times \$15 = \$60$	**\$120**

Best choice: Technique B ($110, lowest cost).

$$\text{Profit} = 135 - 110 = 25$$

Since there's a profit, the industry will expand until competition reduces profits.

3. Overproduction of Good X

If marginal cost exceeds marginal benefit, society is producing **too much** of Good X.

Part III: Long Essay (Impact of Sustainable Fashion)

(A) Price and Quantity of Sustainable Clothing

- Increase in supply leads to **lower prices, higher quantity**. - **Graph: Rightward shift in supply curve.**

(B) Price and Quantity of Fast Fashion

- Decrease in demand leads to **lower prices, lower quantity**. - **Graph: Leftward shift in demand curve.**

(C) Price of Clothing Accessories

- Increase in demand leads to **higher prices, higher quantity**. - **Graph: Rightward shift in demand curve.**

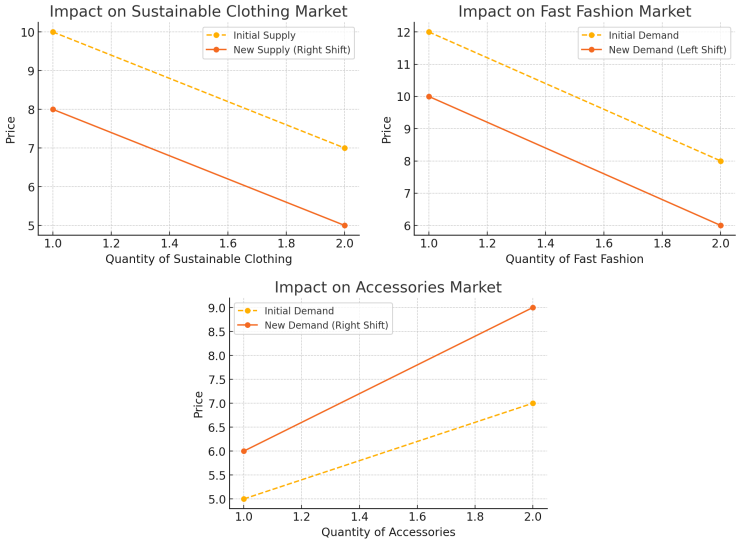

Figure 1: Graphs showing market changes.