

1. Suppose Anabil produces two outputs: motorbikes & autorickshaw. The table lists some combinations of the quantities of motorbikes and autorickshaws that can be produced in a month given the resources available:

Number of Motorbikes	Number of Autorickshaws
20	0
15	1
10	2
5	3
0	4

- Draw Anabil's PPF of motorbike and autorickshaw using the combinations in the table above.
- Calculate Anabil's opportunity cost when he increases his production of autorickshaw from 0 to 2.
- If Anabil wants to increase the production of autorickshaw from 2 units to 4 units, how many units of motorbikes does he need to give up?
- Does Anabil's PPF exhibit increasing, decreasing, or constant opportunity costs (circle one)? Explain.
- What is Anabil's opportunity cost for each autorickshaw produced?
- What would you say about Anabil's production if 3 autorickshaws and 2 motorbikes were produced in a month? Would he be operating on his PPF?

2. An economy consists of two ice-cream companies: Polar and Igloo. Each company works 12 hours a day and can produce: Chocbars and cone ice creams. Polar produces either 30 thousand chocbars or 50 thousand cone ice creams in one hour. On the other hand, Igloo produces 45 thousand chocbars or 25 thousand cone ice creams in 2 hours.

- Which company has an absolute advantage in the production of chocbars?
- What is the opportunity cost of Igloo for spending 6 hours in making cone icecream?
- Who has a comparative advantage in the production of cone ice cream?

3. Consider the market for memes in meme-land. The demand and supply function are given below:

$$\text{Demand: } Q_d = 200 - 20P$$

$$\text{Supply: } Q_s = 10P + 80$$

- Plot the demand and supply curve with Quantity on x-axis and Price on y-axis. Clearly write the intercepts on both axes and denote the area of consumer surplus and producer surplus.

- b. Find the equilibrium price and quantity and the value of consumer and producer surplus.
- c. There's a sudden increase in the cost of production for memes in Meme-Land. This could happen due to a rise in the price of internet bandwidth, which is necessary for creating and sharing memes online.

What will happen to the demand and supply of memes in Meme-land? What changes will take place, so the market reaches equilibrium?

3. A table representing two products, apples and oranges, along with their respective prices and quantities demanded is given below:

Apple		Orange	
Price per unit	Quantity	Price per unit	Quantity
2	100	3	150
2.5	90	2.8	160

- a. Using the data provided in the table for the months of January and February, calculate the Price Elasticity of Demand (PED) for apples. Comment on the PED.
- b. Calculate the Cross Price Elasticity of Demand (XED) due to price change in orange. Comment on the XED.

4. Initially, the market for laptops was at equilibrium, with the demand for and supply of laptops balanced. However, due to a sudden increase in remote work and online learning, the consumption of laptops surged. Additionally, technological advancements have led to more efficient manufacturing processes, resulting in an increase in the production of laptops. If the consumption of laptops increased more than the impact of technological advancement, describe the impact of these changes in both demand and supply on the market for laptops. Illustrate with the help of a diagram.