

PROBLEM SET # 1 Answers
(CHP 1 & 2, Case, Fair and Oster)

Q.1 Derive the production possibility frontier and fill in the blanks according to the table.

Combination	A	B	C	D	E	F	G	H	K	L
Fish	0	13	23	32	40	47	52	56	59	60
Meats	108	102	95	87	78	67	53	36	19	0

- i) The production possibilities frontier for this isle will be shaped **concave**.
- ii) The slope along this production possibilities frontier **increases at an increasing rate** as more meats (placed on the X-axis) are produced.
- iii) The slope of this production possibilities frontier **varies at each point**.
- iv) When the economy moves from point C to F, the opportunity cost of an additional fish, in terms of meat, is **7 / 6** meat(s).
- v) The opportunity cost of each additional fish in terms of meat _____.
 - a) falls as more fish are produced
 - b) increases as more fish are produced**
 - c) remains constant
 - d) is meaningless because the cost of fish cannot be expressed in terms of meat(s).
- vi) The opportunity cost of each additional meat in terms of fish _____.
 - a) is meaningless because the cost of fish cannot be expressed in terms of meat(s)
 - b) remains constant
 - c) Falls as more fish are produced
 - d) increases as more meats are produced**

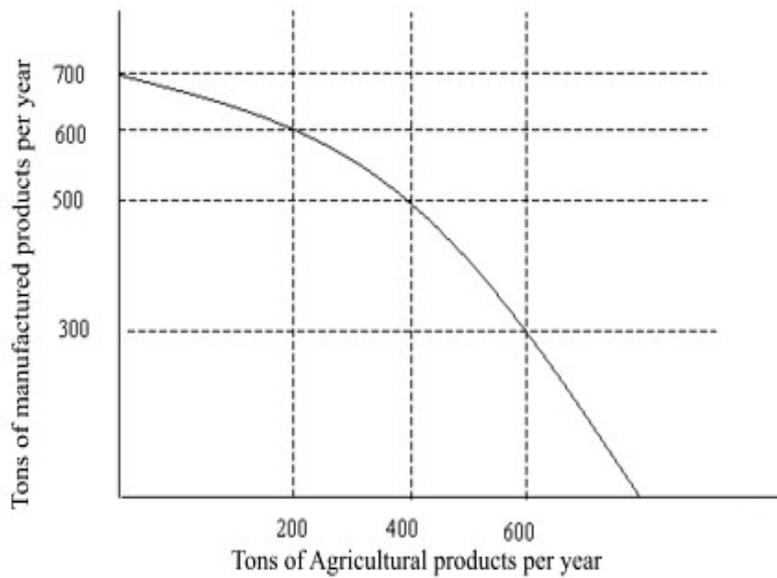
vii) When the economy moves from point K to D, the opportunity cost of an additional meat, in terms of fish, is **27 / 68** fish.

viii) Suppose that society prefers generally fish over meat to consume. Which production combination should be chosen? Explain your reasoning by referring to the economic concept(s).

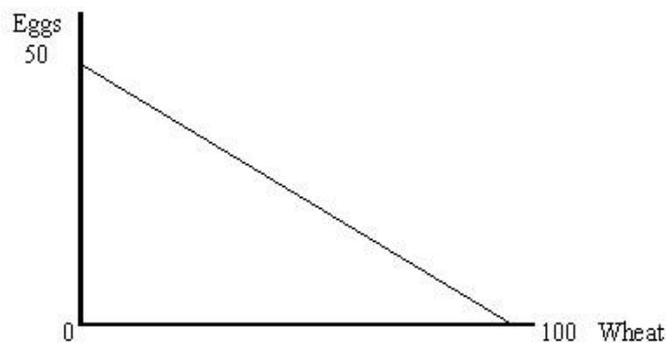
Point H should be chosen according to the “consumer sovereignty”. This concept can be expressed as follows; the idea that consumers ultimately dictate what will be produced (or not produced) by choosing what to purchase (and what not to purchase).

Q.2 Fill in the blanks according to the figure below.

- i) The production possibilities frontier illustrates the notion of **opportunity cost**.
- ii) If you are producing 400 tons of agricultural products per year, the maximum amount of manufactured products you can produce per year is **500 tons**.
- iii) If you choose to produce only manufactured products, the maximum quantity you can produce per year is **700 tons**.
- iv) The opportunity cost of increasing production of manufactured products from 300 tons to 500 tons per year is **200 tons of agricultural products per year**.



Q.3 Fill in the blanks according to the figure.



i. Figure indicates that if this economy uses all the resources in an efficient way, it is capable to produce _____.

- a) Both 20 units of wheat and 10 units of eggs
- b) Both 20 units of wheat and 5 units of eggs
- c) Both 100 units of wheat and 50 units of eggs
- d) Either 100 units of wheat or 50 units of eggs**

ii. Which of the following output combinations would be interpreted as being inefficient?

- a) 100 units of wheat and 0 units of eggs
- b) 80 units of wheat and 5 units of eggs**
- c) 20 units of wheat and 40 units of eggs
- d) 50 units of wheat and 25 units of eggs

iii. Which of the following output combinations would be interpreted as being impossible to attain for given resources and production technology, ceteris paribus?

- a) 30 units of wheat and 40 units of eggs
- b) 80 units of wheat and 10 units of eggs
- c) 100 units of wheat and 0 units of eggs
- d) 50 units of wheat and 25 units of eggs

iv. Production possibility frontier implies an opportunity cost of **1 wheat = 1/2 egg**

v. What would happen to the production possibilities frontier if there were an increase in general labor inputs to both egg and wheat production?

Shift outward along both axes

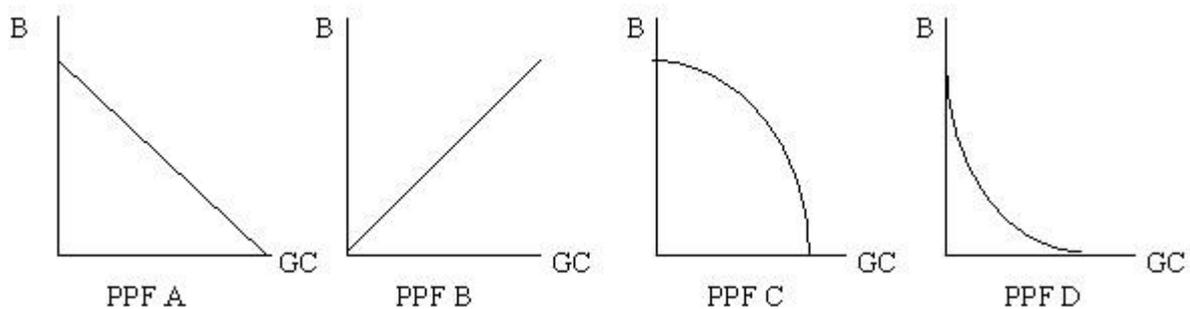
vi. What would happen to the production possibilities frontier if there were a bio – technological advancement in the production of wheat?

Rotate along the wheat axis only and causes the marginal opportunity cost of wheat to decrease

Q.4

i) Which of the PPF shown below indicates increasing marginal opportunity costs to golf club production? **Answer: C**

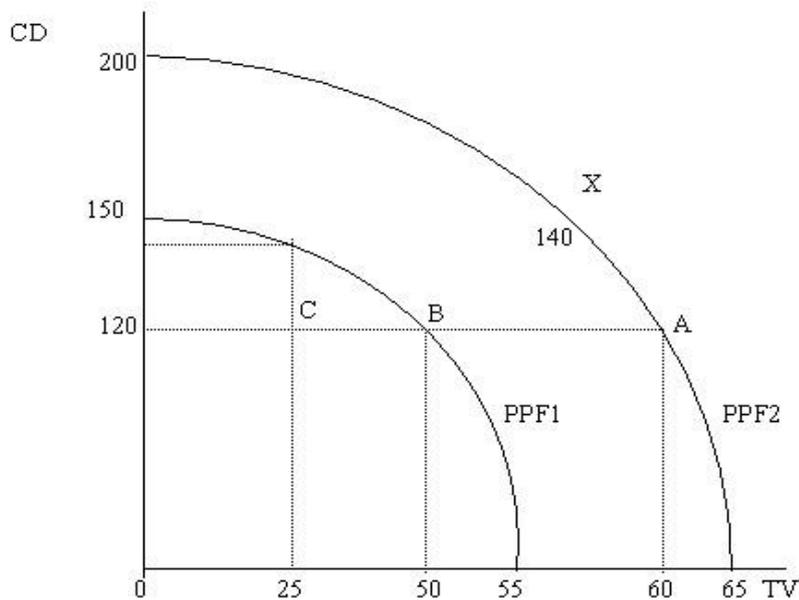
ii) Which of the PPF shown below indicates increasing marginal opportunity costs to baseball bat production? **Answer: C**



"B" represents Baseball Bats and "GC" represents Golf Clubs

- iii) Which of the PPF shown above indicates that each additional unit of golf clubs will cause increasing amounts of baseball bats to be sacrificed? **Answer: C**
- iv) Which of the PPF shown above indicates that each additional unit of baseball bats will cause a constant amount of golf clubs to be sacrificed? **Answer: A**
- v) Which of the PPF shown above indicates an impossible situation describing the production of baseball bats and golf clubs? **Answer: B**

Q.5



- i. If economy is operating along PPF2, the maximum number of TVs that can be produced is **65** and the maximum number of CDs that can be produced is **200**
- ii. If economy is operating along PPF1 the maximum number of TVs that can be produced is **55** and the maximum number of CDs that can be produced is **150**
- iii. If the economy is operating at point C (inside PPF1), the opportunity cost of moving to point B is **zero**
- iv. Which of the following events would allow the economy to move from point A to point B, ceteris paribus?

- a) A decrease in the amount of resources
 - b) A decrease in the amount of idle capital
 - c) An advancement in electronic technology
 - d) An increase in the efficiency of the present resources
- v. The shift from PPF1 to PPF 2 can be described by **economic growth**.
- vi. A point outside the production possibilities frontier indicates **impossible production with given resources and technology**.

PART C: Multiple Questions

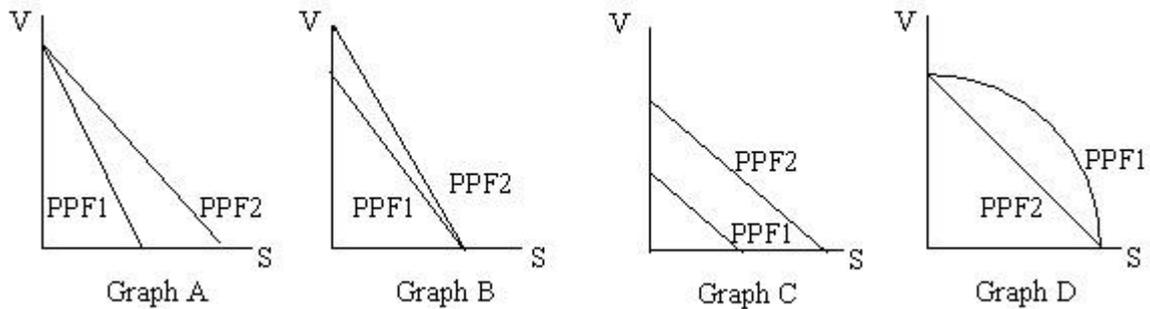
1. Economics is about the allocation of scarce resources. Which of the following is NOT an example of economic scarcity?
- a) If Mark goes to cinema on Saturday night, he will not be able to afford complete his assignments.
 - b) If METU Bookstore increases the number of titles it carries, it will have to reallocate shelf space to accommodate the new titles.
 - c) If Renault increases the production of SUV's, it will have to spend more on advertising.
 - d) If Mary studies for her economics quiz this evening, she will not have time to walk with her dog.
2. Which of the following is FALSE about a market economy?
- a) The interaction between buyers and sellers answers the basic economic questions of what gets produced, how it gets produced, and who gets it.
 - b) It relies on millions of individual economic decisions to determine economic outcomes.
 - c) Decisions are regulated by a central agency.
 - d) In its pure form, it is also known as a laissez-faire economy.

3. In a command economy, the _____
- a) Market decides what will be produced.
 - b) Market decides distribution.
 - c) Means of production are privately owned.
 - d) **Government sets output targets.**
4. In a laissez-faire economy _____ what gets produced, how it is produced, and who gets it.
- a) **Buyer and seller behavior determines**
 - b) Consumers but not firms determine
 - c) The central government authority determines
 - d) Firms but not consumers determine
5. The concept of scarcity implies _____.
- a) Unlimited human resources and limited producer wants
 - b) **Unlimited human wants and limited resources**
 - c) Limited human wants and unlimited resources
 - d) That we can have everything we want
6. You have an hour between your economics and math classes. What is the opportunity cost of that time if you use it to complete your math homework instead of your economics homework?
- a) **The economics homework you could have not completed**
 - b) The cost of your calculator and math textbook
 - c) The math homework you chose to complete
 - d) Zero, because it doesn't cost any money to do your math homework
7. Suppose that you belong to your local Bicycle Club. The Club has voted in the following manner to spend its funds: 5 members voted for the trip to Ontario, Canada; 3 members voted for the purchase of speedometers for the club members and 2 members voted for the purchase of the video Breaking Away. Given the results, the club used the money for the trip to Ontario. The opportunity cost to the club was _____.

- a) Not getting the video
 - b) Not getting the video and the speedometers
 - c) Not getting the speedometers
 - d) None of the above since the club could have done many other things with their funds
8. Production is technologically efficient when _____.
- a) Technological change occurs
 - b) The maximum output possible given the amounts of resources and technology is reached
 - c) It generates a point beyond the production possibilities frontier
 - d) The maximum amounts of resources are used
9. If the PPF is a downward sloping straight line, then _____.
- a) The opportunity cost of producing a good is constant
 - b) Production is efficient
 - c) Technological changes have ceased
 - d) Resources are highly specialized, making it difficult to use for alternative uses
10. Which of the following will cause the production possibilities frontier to shift outward?
- a) An inefficiency that has been corrected
 - b) A decrease in the size of the capital stock
 - c) An increase in the size of the labor force
 - d) A decrease in the unemployment rate
11. Assume that an economy produces two types of goods, consumer goods and capital goods. It is currently operating on its production possibilities frontier. If the society wishes to consume at a level currently outside its production possibilities frontier it should _____.
- a) produce a greater amount of capital goods and sacrifice consumption today
 - b) produce more consumer goods
 - c) wait for a technological change to hopefully shift the frontier far enough to reach the desired point
 - d) use its resources more efficiently to reach the desired output

12. The production possibilities frontier represents _____.
- a) Combinations of goods and services for which consumers are indifferent
 - b) The maximum combination of goods and services that can be produced with fixed resources and technology
 - c) The maximum amount of labor and capital available to society
 - d) The maximum rate of growth of capital and labor in a country
13. It is correct to state that a society, which is on its production possibilities frontier, is _____.
- a) Consuming too much output
 - b) Underutilizing its resources
 - c) Fully utilizing its productive resources
 - d) Technologically inefficient
14. The slope of a production possibilities frontier indicates the _____.
- a) Marginal opportunity cost of the good on the X-axis
 - b) The amount of resources needed to produce the combination of goods
 - c) Marginal opportunity cost of the good on the Y-axis
 - d) The amount of goods produced
15. The slope of a production possibilities frontier that is concave to the origin indicates that the opportunity cost _____ as more of a good is produced.
- a) remains constant
 - b) Decreases
 - c) Increases
 - d) Decreases at an increasing rate

Answer the questions 16, 17 and 18 according to the graphs below.



"S" represents sugar and "V" represents vanilla.

16. Which of the graphs indicate an increase in resources?

- a) A b) B **c) C** d) D

17. Which of the graphs indicate a change in technology of producing sugar?

- a) A** b) B c) C d) D

18. Which of the graphs indicate a change in technology of producing vanilla?

- a) A **b) B** c) C d) D

19. The shape of a concave production possibilities frontier is due to _____.

- a) ceteris paribus
 b) Normative economics
 c) Scarcity
d) The law of increasing costs

20. Technologically efficient points are found _____.

- a) Only on the production possibilities frontier**
 b) Only inside the production possibilities frontier
 c) Inside and on the production possibilities frontier
 d) Only outside the production possibilities frontier

21. A society uses more resources (than previously) to produce more of Good A. This implies that _____.

- a) this society has chosen the perfect output mix and it will remain unchanged
- b) unemployment has declined
- c) technology has improved
- d) it will have less of Good B

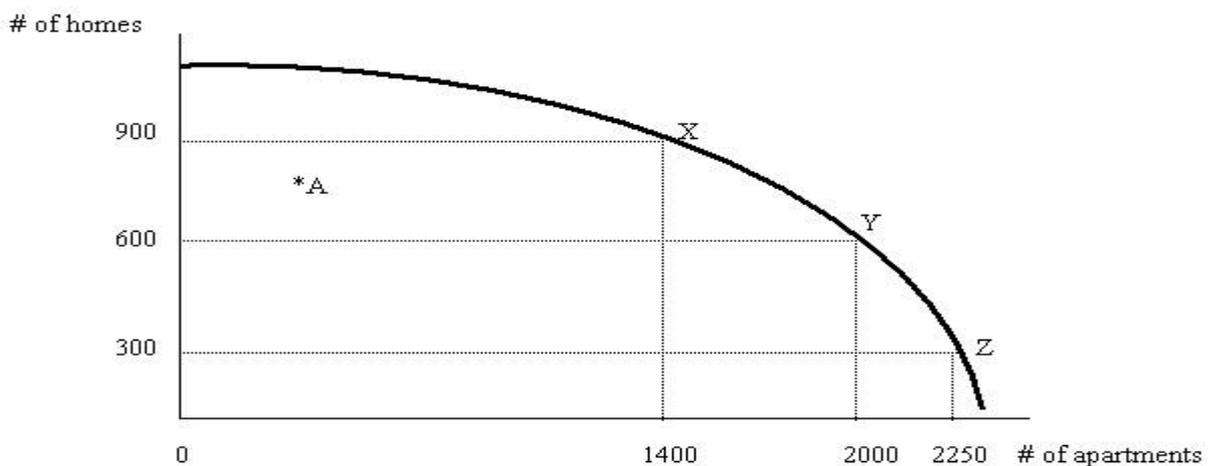
22. Suppose that you have 4 things you could do on Saturday night. Your order of preference is: 1) watch TV; 2) study economics; 3) read a book; and 4) go to a movie. Your opportunity cost of watching TV is _____

- a) the movie you did not go to
- b) studying not done
- c) the book you did not read
- d) the sum of the values in A, B and C above
- e) zero since it did not cost you anything to watch TV

Answer the questions 23 and 24 according to the graphs below.

23. Which of the following points indicates there are idle resources in the economy?

- a) A
- b) X
- c) Y
- d) Z



24. Between points Y and X, the opportunity cost of building another home is _____.

- a) 1.11 apartments
- b) 2 apartments
- c) 2,000 apartments
- d) 600 apartments