



Microeconomics

Unit 1 Practice Sheet ([Video Help](#))

Part 1- Production Possibilities- Assume that the table below shows the economy of Cliffordland.

	A	B	C	D	E
Capital Goods	0	2	4	6	8
Consumer Goods	30	28	25	15	0

- Calculate the opportunity cost of switching from combination A to producing B. **2 Consumer goods**
- Calculate the opportunity cost of switching from combination B to producing D. **13 Consumer goods**
- Calculate the opportunity cost of switching from combination B to producing A. **2 Capital goods**
- Calculate the opportunity cost of switching from combination D to producing B. **4 Capital goods**
- Is this an example of increasing opportunity cost or constant opportunity cost? Explain. **This is an example of increasing opportunity cost. The first 2 capital goods cost 2 consumer goods while the last two capital goods cost 15 consumer goods. This production possibilities curve is bowed out.**
- Assume the economy of Cliffordland intentionally decides to produce combination D rather than combination B. What is the long-term trade-off of this decision? Explain. **Choosing to produce more capital goods and less consumer goods will provide more long run growth in the future.**

Part 2- FRQ Practice- Complete the following question from the 2016 AP exam (Question 2).

- Martha has a fixed budget of \$20, and she spends it all on two goods, X and Y. The price of X is \$4 per unit, and the price of Y is \$2 per unit. The table below shows the total benefit, measured in dollars, Martha receives from the consumption of each good.

Quantity of X	Total Benefit from X	Quantity of Y	Total Benefit from Y
0	\$0	0	\$0
1	\$16	1	\$10
2	\$28	2	\$18
3	\$36	3	\$24
4	\$40	4	\$28
5	\$41	5	\$30

- What is Martha's marginal benefit of the fifth unit of good X?
- Calculate the total consumer surplus if Martha consumes 5 units of X. Show your work.
- Martha is currently consuming 4 units of X and 2 units of Y. Use marginal analysis to explain why this combination is not optimal for Martha.
- What is Martha's optimal combination of goods X and Y?
- Indicate whether each of the following will cause the optimal quantity of good Y to increase, decrease, or stay the same.
 - The price of good Y doubles.
 - Martha's income falls to \$10 with no changes in prices.
 - Martha's income doubles, and the price of both goods double.



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Question 2

points (1+1+1+1+3)

(a) 1 point:

- One point is earned for stating that the marginal benefit is \$1.

(b) 1 point:

- One point is earned for correctly calculating the total consumer surplus from consuming 5 units of X.

$$CS = (\$16 - \$4) + (\$12 - \$4) + (\$8 - \$4) + (\$4 - \$4) + (\$1 - \$4) = \$21$$

OR

$$CS = \$41 - \$20 = \$21$$

(c) 1 point:

- One point is earned for explaining that this combination of X and Y is not optimal because the marginal benefit per dollar of good X ($MB_x/P_x = \$4/\$4 = 1$) is less than the marginal benefit per dollar of good Y ($MB_y/P_y = \$8/\$2 = 4$). (This can also be stated as $MB_x/MB_y < P_x/P_y$.)

$(MB_x/P_x = 1)$ is not equal to $(MB_y/P_y = 4)$ is acceptable.

MB_x/P_x is less than MB_y/P_y is acceptable.

MB_y/P_y is greater than MB_x/P_x is acceptable.

(d) 1 point:

- One point is earned for stating that Martha's optimal combination is 3 units of X and 4 units of Y.

(e) 3 points:

- One point is earned for stating that the optimal quantity of good Y will decrease.
- One point is earned for stating that the optimal quantity of good Y will decrease.
- One point is earned for stating that the optimal quantity of good Y will stay the same.



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Part 3- Comparative Advantage- Answer the following questions to verify that you fully understand opportunity cost, absolute advantage, comparative advantage, and terms of trade.

	Units produced per hour	
	Beef	Peppers
China	20	5
France	8	4

	Hours needed to produce one unit	
	Planes	Cars
Mexico	12	6
Bolivia	25	5

- Is this an output problem or an input problem?
Output, we're looking at the amount produced
- What is China's opportunity cost of producing 1 pepper? **4 Beef**
- What is France's opportunity cost of producing 1 beef? **1/2 Pepper**
- What is China's opportunity cost of producing 1 beef? **1/4 Pepper**
- What is France's opportunity cost of producing 1 pepper? **2 Beef**
- Who has the absolute advantage in producing beef? **China**
- Who has the absolute advantage in producing peppers? **China**
- Who has the comparative advantage in producing beef? **China**
- Who has the comparative advantage in producing peppers? **France**
- What would acceptable terms of trade be between China and France? **Possible terms of trade include 1 pepper for 3 beef**
- Is this an output problem or an input problem?
Input, we're looking at the hours it takes
- What is Mexico's opportunity cost of producing 1 plane? **2 Cars**
- What is Bolivia's opportunity cost of producing 1 car? **1/5 Plane**
- What is Mexico's opportunity cost of producing 1 car? **1/2 Plane**
- What is Bolivia's opportunity cost of producing 1 plane? **5 Cars**
- Who has the absolute advantage in producing cars? **Bolivia**
- Who has the absolute advantage in producing planes? **Mexico**
- Who has the comparative advantage in producing cars? **Bolivia**
- Who has the comparative advantage in producing planes? **Mexico**
- What would acceptable terms of trade be between Mexico and Bolivia? **Possible terms of trade are 1 plane for 3 cars**