

Dr. Barry Haworth
University of Louisville
Department of Economics
Economics 201
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Homework #1 (due by 9:00pm on Friday, September 1)

*Please submit your answers to this homework through the Assignment link at Blackboard. **No credit will be given for answers submitted in class or emailed to the professor, regardless of the excuse.** This includes unique excuses like my dog ate my homework or aliens showed up in my dorm and accidentally deleted my homework, as well as more traditional excuses like “I lost my Internet”. Please note that all submissions are final, again – regardless of the excuse (which includes “I accidentally hit the submit button”). When you go to Blackboard, you should see that you can save your answers, or “Save and Submit”. Use the Save and Submit button to submit your answers. If you are unfamiliar with Blackboard, then it would be a good idea to visit the class page at Blackboard and check out the homework assignments as they are posted.*

Please note that when Blackboard grades homework answers, more specifically – answers to the fill-in-the-blank questions – your answer must match exactly with the answer that Blackboard is looking for. Below, you’ll find some instructions on how to properly format these answers. Reading this section is strongly recommended.

Homework Questions 1 and 3

Your answers for question #1 and question #3 below involve your calculating the opportunity cost of producing a certain good. Formatting matters with these two answers. For this reason, **understand that your answer can be technically correct but graded as wrong because you didn't follow the directions provided below.** Given that formatting is considered part of your answer, a wrongly formatted answer is still a wrong answer.

Please note the following comments regarding formatting below.

(i) Your answer in questions 1 and 3 may be expressed as a fraction (reduced to its simplest form) or as a decimal rounded to the nearest tenth. Do not write your answer as a compound fraction or mixed number. E.g., if you calculate an answer of $6/4$, then you should simplify that answer to $3/2$ or record the answer as 1.5, but should not record the answer as $6/4$ or $1\ 1/2$.

(ii) Whole number answers in questions 1 and 3 may be expressed as a whole number or as a decimal rounded to the nearest tenth. E.g., if you calculate an answer of 5, then you may record your answer as 5 or 5.0. Similarly, if you calculate an answer of 3.25 or 3.75, then you should round those answers to 3.3 or 3.8 respectively.

Homework #1 Questions

1. Assume that the United States and Canada both produce red meat and fresh vegetables and that their respective PPCs which reflect this are provided below:

United States	A	B	C	D
Quantity of Red Meat	0	10	30	40
Quantity of Fresh Vegetables	80	60	20	0

Canada	W	X	Y	Z
Quantity of Red Meat	0	27	54	72
Quantity of Fresh Vegetables	64	40	16	0

- As the United States moves from pt. B to pt. C, the opportunity cost of producing each additional unit of red meat is _____ units of fresh vegetables
- As the United States moves from pt. C to pt. B, the opportunity cost of producing each additional unit of fresh vegetables is _____ units of red meat
- As Canada moves from pt. X to pt. Y, the opportunity cost of producing each additional unit of red meat is _____ units of fresh vegetables
- As Canada moves from pt. Y to pt. X, the opportunity cost of producing each additional unit of fresh vegetables is _____ units of red meat

2. Given the information in Question 1 about these two countries, select every correct statement (note: there may be a multiple number of correct statements below).

Note that there is no partial credit on this question – you must get it completely correct, or your answer is incorrect.

- The United States has a comparative advantage in producing both red meat and fresh vegetables
- Canada has a comparative advantage in producing both red meat and fresh vegetables
- The United States has a comparative advantage in producing red meat
- The United States has a comparative advantage in producing fresh vegetables
- Canada has a comparative advantage in producing red meat
- Canada has a comparative advantage in producing fresh vegetables

3. In a given period, Bill can use an acre of land to either grow 50 units of wheat, or 10 units of walnuts. In the same time period, Ted can use an acre of land to either grow 50 units of wheat or 60 units of walnuts. Given this information, answer each of the following questions below.

- For Bill, the opportunity cost of producing each additional unit of wheat is _____ units of walnuts
- For Bill, the opportunity cost of producing each additional unit of walnut is _____ units of wheat
- For Ted, the opportunity cost of producing each additional unit of wheat is _____ units of walnut
- For Ted, the opportunity cost of producing each additional unit of walnut is _____ units of wheat

4. The United States and Mexico both produce beer and corn.
The PPC for each country is provided below.

United States	A₁	A₂	A₃	A₄
Quantity of Beer	0	20	40	60
Quantity of Corn	90	60	30	0

Mexico	B₁	B₂	B₃	B₄
Quantity of Beer	0	40	80	120
Quantity of Corn	60	40	20	0

Given the information above, select every correct statement (note: there may be a multiple number of correct statements below). *Note that there is no partial credit on this question – you must get it completely correct, or your answer is incorrect.*

- (a) The United States has a comparative advantage in producing both beer and corn
- (b) Mexico has a comparative advantage in producing both beer and corn
- (c) The United States has a comparative advantage in producing beer
- (d) The United States has a comparative advantage in producing corn
- (e) Mexico has a comparative advantage in producing beer
- (f) Mexico has a comparative advantage in producing corn

Use the PPC tables for the United States and Mexico (Question #4) to answer the question below.

5. If there is an increase in productivity within the United States that affects beer production, then what effect will this improvement have on the opportunity cost of producing beer and corn within the United States?

note: there may be a multiple number of correct statements below and that there is no partial credit on this question – you must get it completely correct, or your answer is incorrect.

- (a) the opportunity cost of producing beer in the United States will increase
- (b) the opportunity cost of producing beer in the United States will decrease
- (c) the opportunity cost of producing beer in the United States will not change
- (d) the opportunity cost of producing corn in the United States will increase
- (e) the opportunity cost of producing corn in the United States will decrease
- (f) the opportunity cost of producing corn in the United States will not change

Use the PPC tables for the United States and Mexico (Question #4) to answer the question below.

6. If there is an increase in productivity within the United States that affects beer production, then what effect will this improvement have on the comparative advantage situation within the United States (i.e. relative to Mexico)?

- (a) this technological change will not affect the comparative advantage of the United States
- (b) if this technological change is significant enough, then this change could cause the comparative advantage within the United States to switch from beer to corn
- (c) if this technological change is significant enough, then this change could cause the comparative advantage within the United States to switch from corn to beer
- (d) if this technological change is significant enough, then this change could cause the United States to have a comparative advantage in both beer and corn
- (e) if this technological change is significant enough, then this change could cause Mexico to have a comparative advantage in both beer and corn

7. The table below represents the production possibilities for apples and tomatoes.

	A	B	C	D	E	F
Quantity of Apples	0	5	10	15	20	25
Quantity of Tomatoes	42	40	36	28	16	0

Calculate the opportunity cost of producing apples, and then calculate the opportunity cost of producing tomatoes. Once you've done this, indicate which of the following statements below is correct:

- (a) This PPC reflects increasing opportunity cost with both apples and tomatoes
- (b) This PPC reflects decreasing opportunity cost with both apples and tomatoes
- (c) This PPC reflects constant opportunity cost with both apples and tomatoes
- (d) This PPC reflects increasing opportunity cost with apples and decreasing opportunity cost with tomatoes
- (e) This PPC reflects increasing opportunity cost with tomatoes and decreasing opportunity cost with apples

Question #8 is on the next page

8. Assume that South Africa has a production possibilities curve (PPC) that reflects their production of diamonds and gold. Predict the effect of each event below on the PPC of South Africa by matching the event from the first list (Event/Question Items) to the most likely item on the “Effect on Country X’s PPC (Answer Items)” list below.

Note that it is at least possible to have the same answer for more than one event).

Event (Question Items):

- a. How does a decrease in unemployment affect the PPC of South Africa?
- b. How does an improvement in the mining process associated with producing diamonds affect the PPC of South Africa?
- c. How does a managerial innovation associated with producing gold, an innovation that allows for improved productivity in gold production affect the PPC of South Africa?
- d. How does the migration of laborers from Namibia into South Africa affect the PPC of South Africa?
- e. How does an increase in the demand for gold, a change that occurs during a period when South Africa is producing at full employment, affect the PPC of South Africa?
- f. How does a decrease in the productivity associated with producing diamonds affect the PPC of South Africa?
- g. How does an increase in unemployment within South Africa affect the PPC of South Africa?
- h. How does an increase in the amount of available capital affect the PPC of South Africa?
- i. How a decrease in the amount of available land where gold and diamond mining is permitted by law to occur affect the PPC of South Africa?

Effect on Country X’s PPC (Answer Items):

- A. Movement from a point inside this PPC to a point that's on the PPC
- B. Movement from a point that's on this PPC to a point inside the PPC
- C. Movement between 2 points, up along the PPC (i.e. toward diamonds)
- D. Movement between 2 points, down along the PPC (i.e. toward gold).
- E. Increase (shift outward) in the PPC that affects both goods
- F. Decrease (shift inward) in the PPC that affects both goods
- G. Increase (pivot outward) in the PPC that affects only diamonds
- H. Increase (pivot outward) in the PPC that affects only gold
- I. Decrease (pivot inward) in the PPC that affects only diamonds
- J. Decrease (pivot inward) in the PPC that affects only gold