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Economics 201
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Homework #1 (due by 9:00pm on Wednesday, January 21)

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, but also 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”). You will get whatever score is assigned to you by Blackboard. 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 answers to the fill-in-the-blank questions – your answer must match exactly with the answer that Blackboard is looking for or your answer will be considered incorrect. You’ll always be given formatting instructions and you must follow those instructions. Below, you’ll find some instructions on how to properly format your answers to these type of questions. A more complete discussion of these rules is provided at Blackboard. Reading that section is strongly recommended.

As stated above, given that answers to the fill-in-the-blank questions must not only be correct, but formatted properly, correct formatting is part of the process. A wrongly formatted answer is still a wrong answer. I.e., you will not have points added to your homework score if you got answers wrong due to formatting mistakes. However, this is still something you will want to bring to Professor Haworth’s attention. *In addition, if you are unsure how to round an answer (e.g. whether 3.25 rounds to 3.2 or 3.3), then please contact Professor Haworth.*

Homework #1 formatting instructions:

Questions 1, 3 and 4: your answer to these questions can be expressed in either one of the following two formats:

- You can express your answer as a fraction (reduced to its simplest form).
- As a decimal rounded to the nearest tenth.

E.g., if you calculate an answer of 2/8, then you must simplify that answer to 1/4 or 0.3 (rather than 0.25, since you’re rounding to the nearest tenth). Recording your answer as 2/8 or 0.25 would be incorrect. If you calculate an answer of 12/10, then you must simplify your answer to 6/5 or 1.2. Recording your answer as 1 1/5 would be incorrect.

Homework #1 Questions

1. Assume that the United States and Canada both produce red meat and fresh vegetables, as reflected in their respective PPC tables below.

United States	A ₁	B ₁	C ₁	D ₁
Quantity of Red Meat	0	160	320	400
Quantity of Fresh Vegetables	400	240	80	0

Canada	A ₂	B ₂	C ₂	D ₂
Quantity of Red Meat	0	100	200	300
Quantity of Fresh Vegetables	270	180	90	0

In answering the questions below, note the formatting instructions.

a. As the United States moves from pt. B₁ to pt. C₁, the opportunity cost of producing each additional unit of red meat is _____ units of fresh vegetables

b. As the United States moves from pt. C₁ to pt. B₁, the opportunity cost of producing each additional unit of fresh vegetables is _____ units of red meat

c. As Canada moves from pt. B₂ to pt. C₂, the opportunity cost of producing each additional unit of red meat is _____ units of fresh vegetables

d. As Canada moves from pt. C₂ to pt. B₂, 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.*

(a) The United States has a comparative advantage in producing red meat

(b) The United States has a comparative advantage in producing fresh vegetables

(c) Canada has a comparative advantage in producing red meat

(d) Canada has a comparative advantage in producing fresh vegetables

(e) The United States has a comparative advantage in producing both red meat and fresh vegetables

(f) Canada has a comparative advantage in producing both red meat and fresh vegetables

3. In a given period, Bill can use an acre of land to either grow 30 units of wheat, or 70 units of rye. In the same time period, Ted can use an acre of land to either grow 20 units of wheat or 90 units of rye. Given this information, answer each of the following questions below.

a. For Bill, the opportunity cost of producing each additional unit of wheat is _____ units of rye

b. For Bill, the opportunity cost of producing each additional unit of rye is _____ units of wheat

c. For Ted, the opportunity cost of producing each additional unit of wheat is _____ units of rye

d. For Ted, the opportunity cost of producing each additional unit of rye is _____ units of wheat

4. Assume that China produces (only) titanium ore and steel, as per the PPC provided below.

China	A	B	C	D
Quantity of Titanium ore	0	20	60	100
Quantity of Steel	300	240	120	0

- a. The opportunity cost of producing each additional unit of titanium ore is _____ units of steel
- b. The opportunity cost of producing each additional unit of steel is _____ units of titanium ore

Question 5 builds upon question 4.

5. Assume that China starts out with the PPC table from Question 4 (i.e. the PPC below).

China (pre-productivity change)	A	B	C	D
Quantity of Titanium ore	0	20	60	100
Quantity of Steel	300	240	120	0

Now, assume that China experiences an increase in productivity with titanium ore that allows them to double their output of titanium ore. That change gives us the PPC below.

China (post-productivity change)	A	B	C	D
Quantity of Titanium ore	0	40	120	200
Quantity of Steel	300	240	120	0

Given the situation above, which of the following statements below would be correct:

- (a) increased productivity with titanium ore in China will decrease the opportunity cost of producing titanium ore and will decrease the opportunity cost of producing steel
- (b) increased productivity with titanium ore in China will have decrease the opportunity cost of producing titanium ore, but will have no effect on the opportunity cost of producing steel
- (c) increased productivity with titanium ore in China will increase the opportunity cost of producing titanium ore but will decrease the opportunity cost of producing steel
- (d) increased productivity with titanium ore in China will decrease the opportunity cost of producing titanium ore but will increase the opportunity cost of producing steel
- (e) increased productivity with titanium ore in China will have no effect on the opportunity cost of producing steel and will have no effect on the opportunity cost of producing titanium ore

Questions 6 and 7 should be answered using the PPC tables below, where we assume that Russia and Mongolia only produce iron ore and petroleum.

Russia	A ₁	A ₂	A ₃	A ₄
Quantity of Iron Ore	0	40	200	240
Quantity of Petroleum	300	250	50	0

Mongolia	B ₁	B ₂	B ₃	B ₄
Quantity of Iron Ore	0	70	140	210
Quantity of Petroleum	180	120	60	0

6. Given the information in the PPC tables above, which of the following is a correct statement:

- (a) Russia has a comparative advantage in producing iron ore and Mongolia has the comparative advantage in producing petroleum
- (b) Mongolia has a comparative advantage in producing iron ore and Russia has the comparative advantage in producing petroleum
- (c) Russia has a comparative advantage in producing both iron ore and petroleum
- (d) Mongolia has a comparative advantage in producing both iron ore and petroleum

Question 7 builds upon question 6.

7. Assume that an increase in productivity within Mongolia allows this country to double their output of iron ore in each column of their PPC table above (i.e. 70 units of petroleum in column B₂ becomes 140 units of iron ore, 140 units of iron ore in column B₃ becomes 280 units of iron ore, and 210 units of iron ore in column B₄ becomes 420 units of iron ore).

In this situation, which of the following statements below is correct:

- (a) Mongolia's increase in productivity with iron ore will cause Mongolia's previous comparative advantage in petroleum to switch to a comparative advantage in iron ore, but Russia will have a comparative advantage in petroleum
- (b) Mongolia's increase in productivity with iron ore will cause Mongolia's previous comparative advantage in iron ore to switch to a comparative advantage in petroleum, but Russia will now have a comparative advantage in iron ore
- (c) Mongolia's increase in productivity with iron ore will lead to Mongolia having a comparative advantage in both iron ore and petroleum
- (d) Mongolia's increase in productivity with iron ore will not affect Mongolia's comparative advantage in either good
- (e) Mongolia's increase in productivity with iron ore will lead to Russia having a comparative advantage in both iron ore and petroleum

Multiple choice questions #8-16 are all based on the following information below.

Assume that the country of Mexico has a production possibilities curve (PPC) that reflects this country's production of avocados and tomatoes, two goods where Mexico is an exporter on the world market. Although we don't need to make this assumption, let's still just assume their PPC has avocados on the vertical axis and tomatoes on the horizontal axis.

In Questions #8-16 below, you must predict the effect of each individual event on the PPC of Mexico by selecting the most likely effect from the set of answer responses below each question.

8. Assume that there is positive technological change within Mexico that only affects the avocado industry. How does this event affect the PPC of Mexico?

- a. No shift, but movement from a point inside this PPC to a point that's on the PPC
- b. No shift, but movement from a point that's on this PPC to a point inside the PPC
- c. Increase (shift outward) in the PPC that affects both goods
- d. Decrease (shift inward) in the PPC that affects both goods
- e. Increase (shift outward) in the PPC that affects only avocados
- f. Increase (shift outward) in the PPC that affects only tomatoes
- g. none of the above

9. Assume that there is an increase in the unemployment associated with producing tomatoes within Mexico. How would this event affect the PPC of Mexico?

- a. Decrease (shift inward) in the PPC that affects both goods
- b. Decrease (shift inward) in the PPC that affects only tomatoes
- c. No shift, but movement from a point inside this PPC to a point that's on the PPC
- d. No shift, but movement from a point that's on this PPC to a point inside the PPC
- e. No shift, but movement between 2 points, up along the PPC (i.e. producing more avocados)
- f. No shift, but movement between 2 points, down along the PPC (i.e. producing more tomatoes)
- g. none of the above

10. Assume that after clear-cutting large areas of forest and jungle within southern Mexico, there is an increase in the amount of available land within Mexico, land that can be used to produce both avocados and tomatoes. How does this event affect the PPC of Mexico?

- a. Increase (shift outward) in the PPC that affects both goods
- b. Decrease (shift inward) in the PPC that affects both goods
- c. No shift, but movement from a point inside this PPC to a point that's on the PPC
- d. No shift, but movement from a point that's on this PPC to a point inside the PPC
- e. No shift, but movement between 2 points, up along the PPC (i.e. producing more avocados)
- f. No shift, but movement between 2 points, down along the PPC (i.e. producing more tomatoes)
- g. none of the above

11. Assume that changes in immigration policy lead to a large migration of Mexican citizens out of Mexico and into the U.S. How does this event affect the PPC of Mexico?

- a. Increase (shift outward) in the PPC that affects both goods
- b. Decrease (shift inward) in the PPC that affects both goods
- c. No shift, but movement from a point inside this PPC to a point that's on the PPC
- d. No shift, but movement from a point that's on this PPC to a point inside the PPC
- e. No shift, but movement between 2 points, up along the PPC (i.e. producing more avocados)
- f. No shift, but movement between 2 points, down along the PPC (i.e. producing more tomatoes)
- g. none of the above

12. Assume that storms passing through Mexico decrease the amount of available inputs into the production of avocados. How does this event affect the PPC of Mexico?

- a. No shift, but movement from a point inside this PPC to a point that's on the PPC
- b. No shift, but movement from a point that's on this PPC to a point inside the PPC
- c. Increase (shift outward) in the PPC that affects only avocados
- d. Increase (shift outward) in the PPC that affects only tomatoes
- e. Decrease (shift inward) in the PPC that affects only avocados
- f. Decrease (shift inward) in the PPC that affects only tomatoes
- g. none of the above

13. Assume there is a decrease in overall labor productivity, and that this change negatively affects the production of both avocados and tomatoes. How does this event affect the PPC of Mexico?

- a. No shift, but movement from a point inside this PPC to a point that's on the PPC
- b. No shift, but movement from a point that's on this PPC to a point inside the PPC
- c. Increase (shift outward) in the PPC that affects both goods
- d. Decrease (shift inward) in the PPC that affects both goods
- e. Increase (shift outward) in the PPC that affects only avocados
- f. Increase (shift outward) in the PPC that affects only tomatoes
- g. none of the above

14. If there is a decrease in the unemployment associated with producing both avocados and tomatoes within Mexico, then how does this event affect the PPC of Mexico?

- a. Increase (shift outward) in the PPC that affects both goods
- b. Decrease (shift inward) in the PPC that affects both goods
- c. No shift, but movement from a point inside this PPC to a point that's on the PPC
- d. No shift, but movement from a point that's on this PPC to a point inside the PPC
- e. No shift, but movement between 2 points, up along the PPC (i.e. producing more avocados)
- f. No shift, but movement between 2 points, down along the PPC (i.e. producing more tomatoes)
- g. none of the above

15. Assume that when Mexico is producing at full employment, there is an increase in the demand for avocados. How does this event affect the PPC of Mexico?

- a. Increase (shift outward) in the PPC that affects only avocados
- b. Decrease (shift inward) in the PPC that affects only avocados
- c. No shift, but movement from a point inside this PPC to a point that's on the PPC
- d. No shift, but movement from a point that's on this PPC to a point inside the PPC
- e. No shift, but movement between 2 points, up along the PPC (i.e. producing more avocados)
- f. No shift, but movement between 2 points, down along the PPC (i.e. producing more tomatoes)
- g. none of the above

16. Assume that there is an increase in the productivity associated with producing tomatoes within Mexico. How does this event affect the PPC of Mexico?

- a. Increase (shift outward) in the PPC that affects both goods
- b. Decrease (shift inward) in the PPC that affects both goods
- c. No shift, but movement from a point inside this PPC to a point that's on the PPC
- d. No shift, but movement from a point that's on this PPC to a point inside the PPC
- e. No shift, but movement between 2 points, up along the PPC (i.e. producing more avocados)
- f. No shift, but movement between 2 points, down along the PPC (i.e. producing more tomatoes)
- g. none of the above