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### **Homework #1 (due by 9:00pm on Thursday, January 24)**

*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 when Blackboard grades answers to any 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 7**

Your answers to question #1 and #7 involve your determining 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. Note, however, that there will be at least a little flexibility in formatting (as noted in ii below), but it is your responsibility to find out how much flexibility you’ve got.

Please note the following comments regarding formatting below.

- (i) Your answer in questions 1 and 7 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 your answer is  $\frac{6}{4}$ , then you should record your answer as  $\frac{3}{2}$  or 1.5, but do not write your answer as  $\frac{6}{4}$  or  $1 \frac{1}{2}$ .*
- (ii) Whole number answers in questions 1 and 7 may be expressed as a whole number or as a decimal rounded to the nearest tenth. E.g., if your answer is 5, then you may record your answer as 5 or 5.0, but not as 5.00.*

## Homework #1 Questions

1. Assume that Costa Rica and Mexico both produce coffee and crude oil, as per the PPC provided below.

<b>Costa Rica</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Quantity of Coffee	0	20	50	60
Quantity of Electronic goods	30	20	5	0

<b>Mexico</b>	<b>W</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
Quantity of Coffee	0	20	40	80
Quantity of Electronic goods	16	12	8	0

- As Costa Rica moves from pt. B to pt. C, the opportunity cost of producing each additional unit of coffee is \_\_\_\_\_ units of electronic goods.
- As Costa Rica moves from pt. C to pt. B, the opportunity cost of producing each additional unit of electronic goods is \_\_\_\_\_ units of coffee.
- As Mexico moves from pt. X to pt. Y, the opportunity cost of producing each additional unit of coffee is \_\_\_\_\_ units of electronic goods.
- As Mexico moves from pt. Y to pt. X, the opportunity cost of producing each additional unit of electronic goods is \_\_\_\_\_ units of coffee.

2. Given the tables associated with 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.*

- Costa Rica has a comparative advantage in producing coffee
- Costa Rica has a comparative advantage in producing electronic goods
- Mexico has a comparative advantage in producing coffee
- Mexico has a comparative advantage in producing electronic goods
- Both Mexico and Costa Rica have a comparative advantage in producing coffee
- Both Mexico and Costa Rica have a comparative advantage in producing electronic goods
- Neither country has a comparative advantage in producing coffee
- Neither country has a comparative advantage in producing electronic goods

3. Brazil and Argentina both produce cars and wheat, as per the PPC provided below.

<b>Brazil</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Quantity of Cars	0	24	54	60
Quantity of Wheat	40	24	4	0

<b>Argentina</b>	<b>W</b>	<b>X</b>	<b>Y</b>	<b>Z</b>
Quantity of Cars	0	24	40	64
Quantity of Wheat	80	50	30	0

Given the tables associated with this question (above), select the **correct statement** about the comparative advantage within Brazil and Argentina.

- (a) Brazil has a comparative advantage in producing cars and Argentina has a comparative advantage in producing wheat
- (b) Brazil has a comparative advantage in producing wheat and Argentina has a comparative advantage in producing cars
- (c) Brazil has a comparative advantage in producing both cars and wheat
- (d) Argentina has a comparative advantage in producing both cars and wheat
- (e) Neither country has a comparative advantage in producing cars
- (f) Neither country has a comparative advantage in producing wheat

*Use the PPC tables for Brazil and Argentina above to answer the question below.*

4. Assume that there is an increase in productivity within Brazil that affects **car production**. Indicate which of the answers below is a correct statement (i.e. select every correct response). *Note that there is no partial credit on this question – you must get this question completely correct, or your answer is incorrect.*

- (a) the opportunity cost of producing cars in Brazil will decrease
- (b) the opportunity cost of producing wheat in Brazil will increase
- (c) the opportunity cost of producing cars in Brazil will increase
- (d) the opportunity cost of producing wheat in Brazil will decrease
- (e) the opportunity cost of producing cars in Brazil will not change
- (f) the opportunity cost of producing wheat in Brazil will not change

Use the PPC tables for Brazil and Argentina above to answer the question below.

5. If there is an increase in productivity within Brazil that affects **wheat production**, then what effect will this have on the comparative advantage of Brazil (i.e. relative to Argentina)?

- (a) if the increase in productivity is large enough, this change in productivity could give Brazil a comparative advantage in both goods (i.e. both cars and wheat)
- (b) if the increase in productivity is large enough, this change in productivity could cause Brazil to have no comparative advantage in either good (i.e. Argentina would have it in both goods)
- (c) if the increase in productivity is large enough, this change in productivity could cause the comparative advantage of Brazil to switch from wheat to cars
- (d) if the increase in productivity is large enough, this change in productivity could cause the comparative advantage of Brazil to switch from cars to wheat
- (e) this change in productivity will not affect the comparative advantage of Brazil

6. The PPC model helps us better understand the concept of economic growth within an economy. To answer this question, you'll need to read a Federal Reserve Bank of Dallas article entitled "US Economy: Productivity Growth" by Evan Koenig. The article is provided in the "**Homework #1 material**" folder within "Course Documents" at Blackboard. *Note that there is no partial credit on this question – you must get it completely correct, or your answer is wrong.*

According to this article, what are the three main (underlying) causes of labor productivity growth which are cited in the article:

- (a) increases in the amount of capital per worker
- (b) increases in the quantity of available public transportation
- (c) improvements in technology and the organization of production processes
- (d) increases in income
- (e) improvements in the quality of the workforce
- (f) migration

7. In one period, Country A can either produce 50 units of cotton, or 100 units of corn, and Country B can either produce 100 units of cotton or 60 units of corn. Given this information, answer both of the following questions below (*note: round your answers to the nearest tenth*).

**Country A:**

- (a) The opportunity cost of producing each additional unit of cotton is \_\_\_\_\_ units of corn
- (b) The opportunity cost of producing each additional unit of corn is \_\_\_\_\_ units of cotton

**Country B:**

- (c) The opportunity cost of producing each additional unit of cotton is \_\_\_\_\_ units of corn.
- (d) The opportunity cost of producing each additional unit of corn is \_\_\_\_\_ units of cotton

8. Assume that the country of Chile has a production possibilities curve (PPC) for the production of copper and blueberries, two goods where Chile is a major exporter on the world market. That PPC has copper on the vertical axis and blueberries on the horizontal axis.

Predict the effect of each individual event on the PPC of Chile by matching the event from the first list to the most likely effect (below, from the “Effect on Chile’s PPC” list) below. Note that it is possible to for different events to have the same effect (i.e. it’s possible to have the same answer for more than one event).

**Event (Question Item):**

- a. How does an increase in unemployment affect the PPC of Chile?
- b. How would an earthquake which destroys the amount of available land, affecting both copper and blueberry production within Chile, affect Chile’s PPC?
- c. How does migration of laborers from Bolivia into Chile affect Chile’s PPC?
- d. How does increased demand for copper within Chile (during a period of full employment) affect the PPC of Chile?
- e. How does automation (technological change) within the copper industry affect Chile’s PPC?
- f. How does a decrease in the availability of inputs for blueberries affect Chile’s PPC?
- g. How does an increase in demand for blueberries, a change that occurs during a period of full employment within Chile, affect the PPC of Chile?
- h. How does an increase in the overall capital stock within Chile affect their PPC?
- i. How does a decrease in the productivity associated with producing copper affect Chile’s PPC?

**Effect on Chile’s PPC (Answer Item):**

- A. Movement from a point inside this PPC to a point that's on the PPC, but no shift
- B. Movement from a point that's on this PPC to a point inside the PPC, but no shift
- C. Movement between 2 points, up along the PPC (i.e. toward copper), but no shift
- D. Movement between 2 points, down along the PPC (i.e. toward blueberries), but no shift
- E. Increase (shift outward) in the PPC that affects both goods
- F. Decrease (shift inward) in the PPC that affects both goods
- G. Increase (shift outward) in the PPC that affects only copper
- H. Increase (shift outward) in the PPC that affects only blueberries
- I. Decrease (shift inward) in the PPC that affects only copper
- J. Decrease (shift inward) in the PPC that affects only blueberries