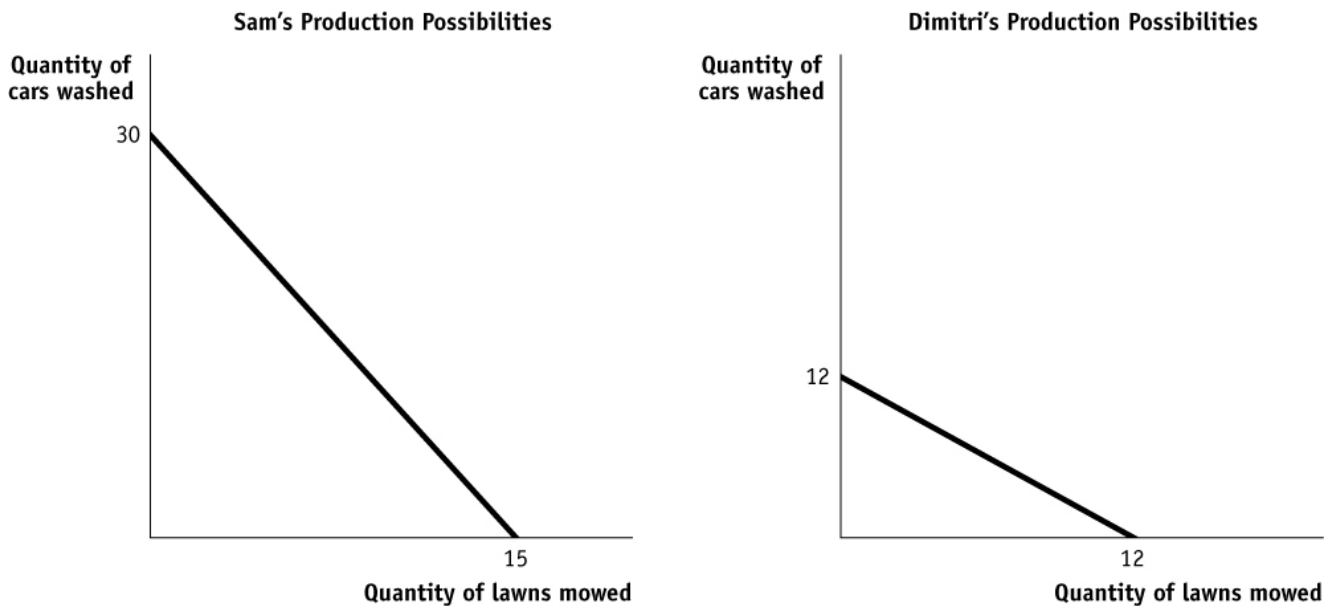


**ECON 1010 Principles of Macroeconomics
Solutions to Exam #1**

Section A: Multiple Choice Questions. (30 points; 2 pts each)

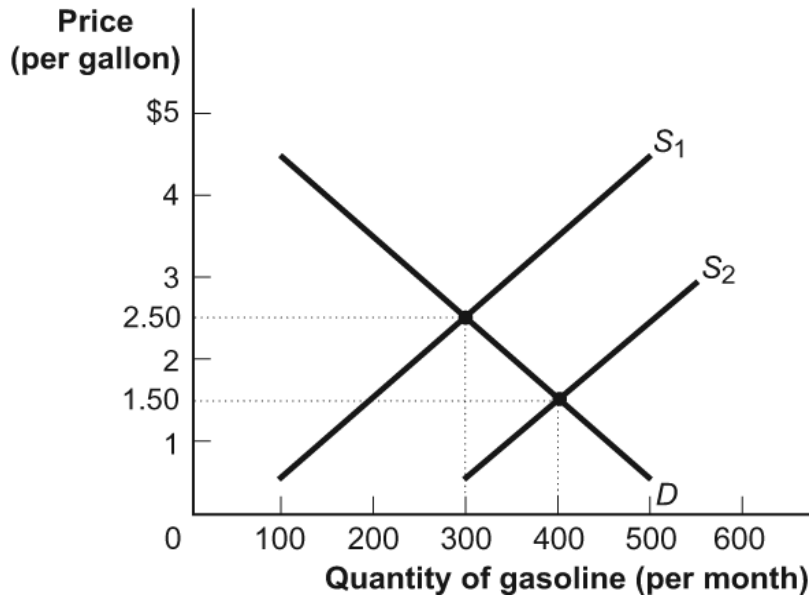


#1. The figure Sam and DiMitre's Production Possibilities depicts production frontiers for Sam and Dimitri, both of whom can mow lawns and wash cars. According to the figure, what is Dimitri's opportunity cost of each lawn mowed?

- a) One car washed
- b) Two cars washed
- c) One-half of a car washed
- d) 30 cars washed

#2. Specialization and trade usually lead to:

- a) lower economic growth.
- b) the exchange of goods of services in markets.
- c) lower living standards.
- d) higher prices.



#3. Examine the demand and supply figure for gasoline. Given the resulting equilibrium after a change in supply from S_1 to S_2 :

- a) the price will remain constant.
- b) the new quantity will be 600.
- c) the new price will be \$2.00.
- d) at the old price of \$2.50, there will be pressure for the price to fall.

#4. A demand schedule is:

- a) a timetable indicating when purchases will be made.
- b) a timetable of household expenditures.
- c) a table showing how much of a good consumers will buy at different prices.
- d) a table showing how much of a good producers will sell at different prices.

#5. A decrease in the price of eggs will result in an increase in:

- a) the demand for eggs.
- b) the supply of eggs.
- c) the quantity of eggs supplied.
- d) the quantity of eggs demanded.

#6. Good X and good Y are substitutes. Holding all other things constant, this means that when the price of good X increases, the:

- a) demand for good X will increase.
- b) demand for good Y will increase.
- c) demand for both good X and good Y will increase.
- d) demand for good Y will decrease.

#7. A newspaper story recently reported that the price of new cars, a normal good, has decreased and the quantity of new cars sold has dropped. The new price and quantity could have been caused by:

- a) a decrease in buyers' incomes.
- b) an increase in buyers' incomes.
- c) an increase in production costs.
- d) a decrease in production costs.

#8. A binding price ceiling is designed to:

- a) keep prices below the equilibrium level.
- b) increase the quality of the good.
- c) prevent shortages.
- d) increase efficiency.

#9. Rent controls in New York City cause all of the following *except*:

- a) an increase in the quantity supplied of rent-controlled apartments.
- b) inefficiently low quality apartments.
- c) wasted resources resulting from the opportunity cost of time associated with trying to find an apartment.
- d) black markets.

#10. One of the consequences of the minimum wage has been:

- a) reduced employment for low-skilled workers.
- b) a shortage of low-skilled workers.
- c) lower production costs for small businesses.
- d) lower inflation.

#11. Which is an example of an intermediate good?

- a) stocks and bonds purchased by a business executive
- b) a cellular telephone purchased by a college student
- c) a wedding ring purchased by an engineer for his fiancée
- d) tires purchased from Goodyear by General Motors for newly produced electric cars

#12. Scarcity in economics means:

- a) we do not have sufficient resources to produce all the goods and services we want.
- b) the wants of people are limited.
- c) there must be poor people in rich countries.
- d) shortages exist in nearly all markets.

#13. Which statement ALWAYS results in an increase in price and quantity?

- a) an increase in supply and a decrease in demand
- b) an increase in demand with no change in supply
- c) an increase in supply with no change in demand
- d) a decrease in demand and supply

#14. Double counting would occur if:

- a) GDP were calculated by adding together C , I , G , and NX .
- b) used goods were included in the GDP calculation.
- c) imports were subtracted from GDP.
- d) inventories were added to the GDP calculation.

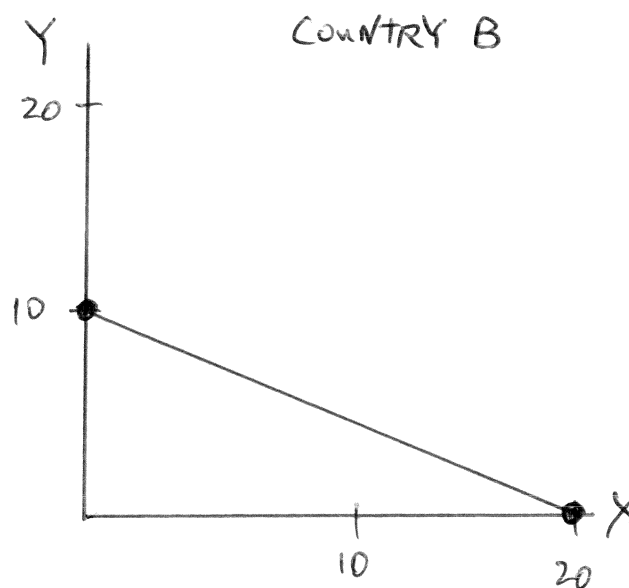
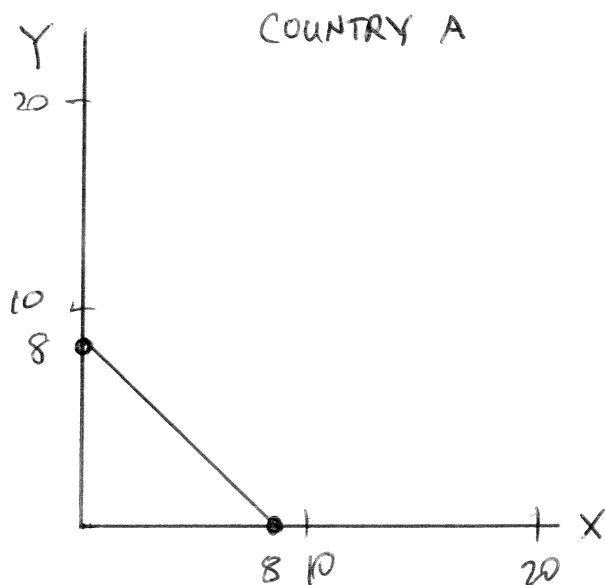
#15. Assume that corn is an input in the production of beef but not in the production of pork. Further, beef and pork are substitutes in consumption. A decrease in the price of corn will:

- a) increase the supply of beef and decrease the demand for pork.
- b) decrease the supply of beef and decrease the demand for pork.
- c) decrease the supply of beef and increase the demand for pork.
- d) increase the supply of beef and increase the demand for pork.

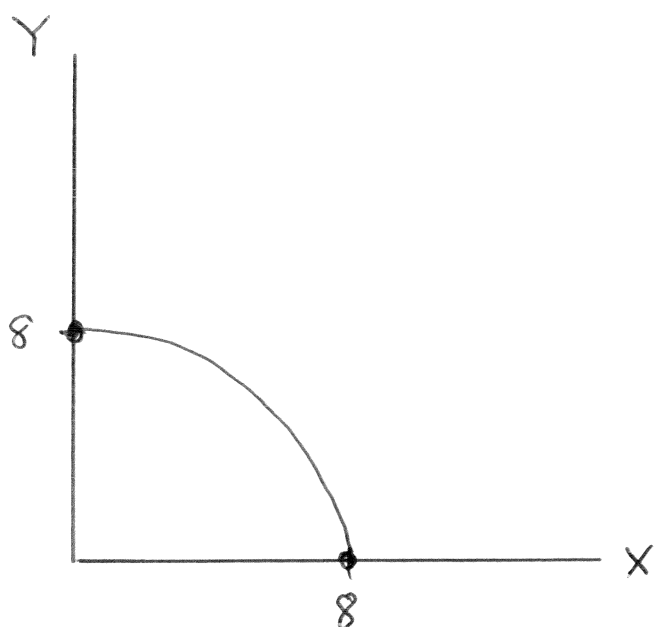
Section B: Short Answer Questions. (70 points)

1. (30 pts) Country A and B produce goods X and Y. Currently the two economies do not trade with one another. Country A can produce 8 units of X or 8 units of Y (or any linear combination in between). Country B can produce 20 units of X or 10 units of Y (or any linear combination in between).

- a) (6 pts) Use the information above to draw the PPF for both countries. Carefully label both axes.



- b) (6 pts) Now draw the PPF for country A so it is concave to the origin but with the same intercepts. Describe what a concave PPF implies in terms of opportunity costs.



A concave PPF implies increasing opportunity costs. Producing more of Good X requires an ever increasing sacrifice of Good Y. For example, when the economy is only producing a small amount of Good X, the opportunity costs are low because only factors of production well-suited to produce Good X are needed. As more and more of Good X is produced, the economy will need to use resources that are not as well-suited to producing Good X, which implies an increasing opportunity cost.

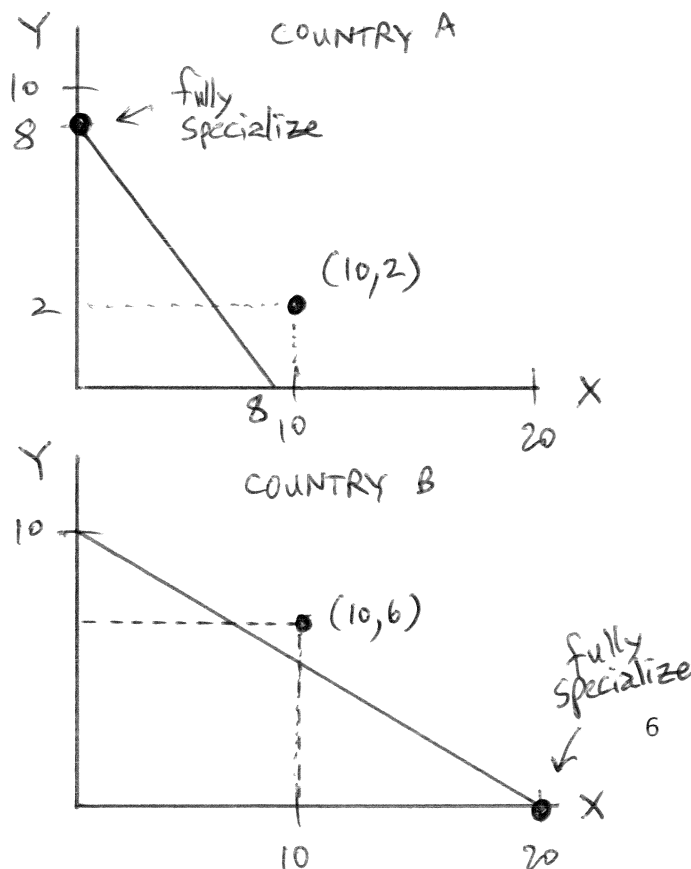
- c) (6 pts) Assume linear PPFs. What are the slopes of the PPFs for Country A and Country B? How do the slopes of the PPFs relate to comparative advantage? Does one of the Countries have an absolute advantage in producing Goods A and B?

The slope for Country A is -1; the slope for Country B is -0.5. The slopes of the PPF determine which country has a comparative advantage in Good X (Good Y). Since the slope is flatter for Country B, the country has a lower opportunity cost for producing Good X and a comparative advantage in Good X. Conversely, Country A has a comparative advantage in Good Y. Country B has an absolute advantage in both goods, but there are still opportunities to gain from trade.

- d) (6 pts) Without trade, assume Country A produces 4 units of X and 4 units of Y while Country B produces 10 units of X and 5 units of Y. Plot the point on your figures in part (a). Are the countries productively efficient? Are they allocatively efficient? Explain.

Yes, the countries are producing efficiently because the combinations are on the PPF. However, we do not know if the allocations above are efficient. That will depend on the preferences of the individuals in the country.

- e) (6 pts) Redraw the figures in part (a) and show how the countries can completely specialize, trade, and reach points outside their respective PPFs.

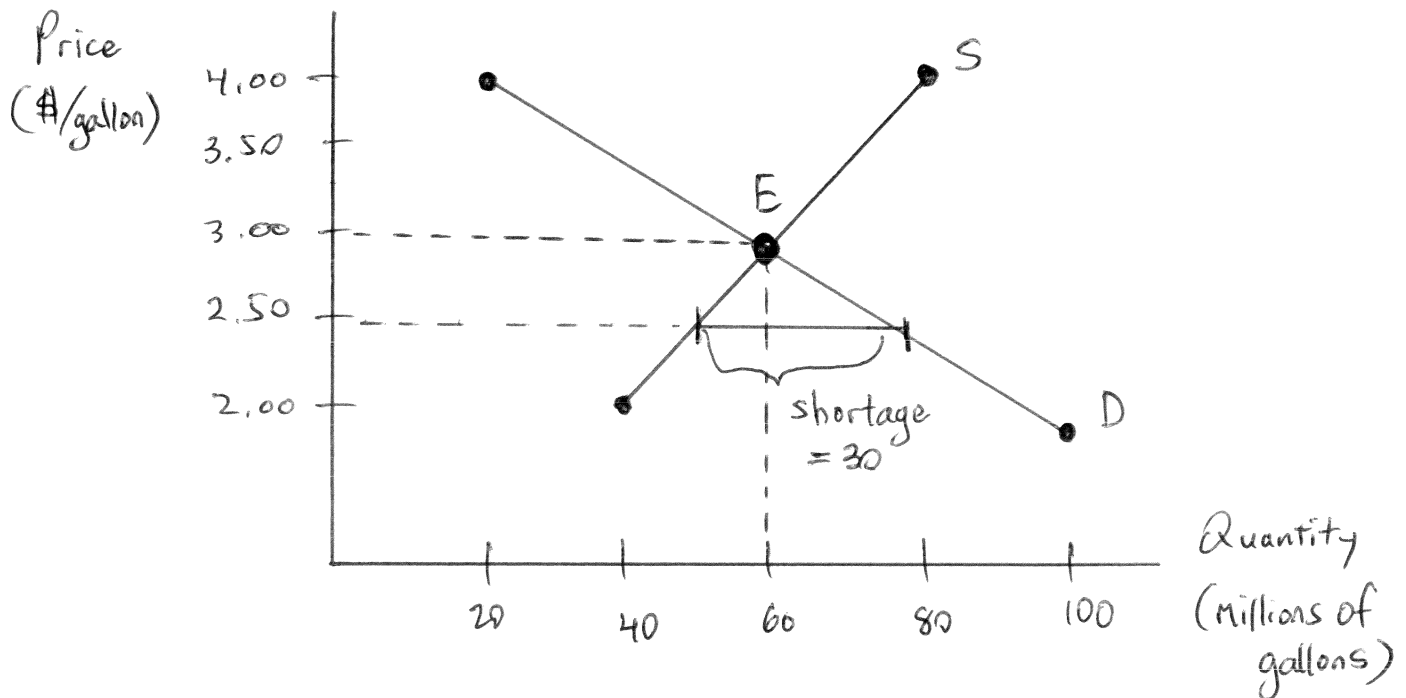


Country A has a comparative advantage in Good Y; Country B has a comparative advantage in Good X. Let Country A specialize in Good Y and produce 8 units. Let Country B specialize in Good X and produce 20 units. Then they trade. Assume Country A keeps 2 units of Good Y and trades 6 units of Good Y to Country B. Assume Country B keeps 10 units of Good X and trades 10 units of Good X to Country A. The new allocations are plotted in the figure to the left. The new allocations are outside the PPFs of both countries, showing the gains from specialization and trade.

3. (30 pts) The table below shows the demand and supply schedules for gasoline.

Price (\$/gallon)	Quantity Demanded (millions of gallons)	Quantity Supplied (millions of gallons)
\$2.00	100	40
\$2.50	80	50
\$3.00	60	60
\$3.50	40	70
\$4.00	20	80

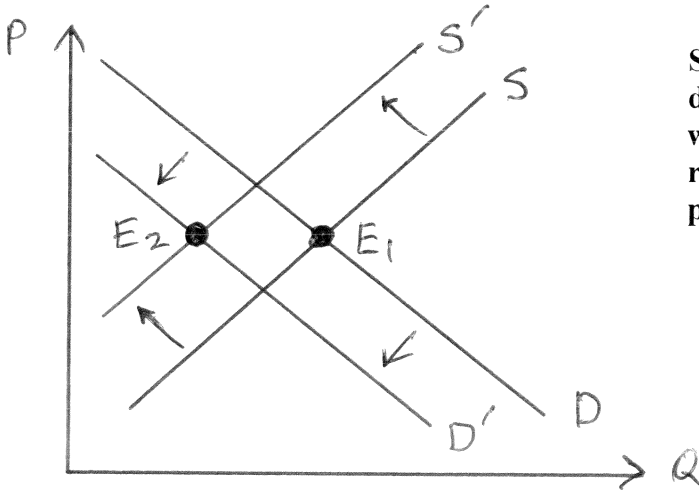
- a) (6 pts) Draw the demand and supply curves for the gasoline market. Carefully label the axes and label the equilibrium point E.



- b) (6 pts) The government thinks the equilibrium price is too high and passes legislation that gas prices cannot be exceed \$2.50 per gallon. Draw the effects on your graph in part (a). Is this a price ceiling or floor, and what are the consequences of the legislation?

This is a price ceiling. It is likely to lead to a shortage of gasoline, black market, low-quality gasoline, inefficient allocation to consumers, and a waste of resources as consumers spend time searching for gasoline.

- c) (6 pts) The EPA enacts stricter fuel efficiency standards for automobiles. What are the predicted impacts on the gasoline market? Show the effect in a graph.

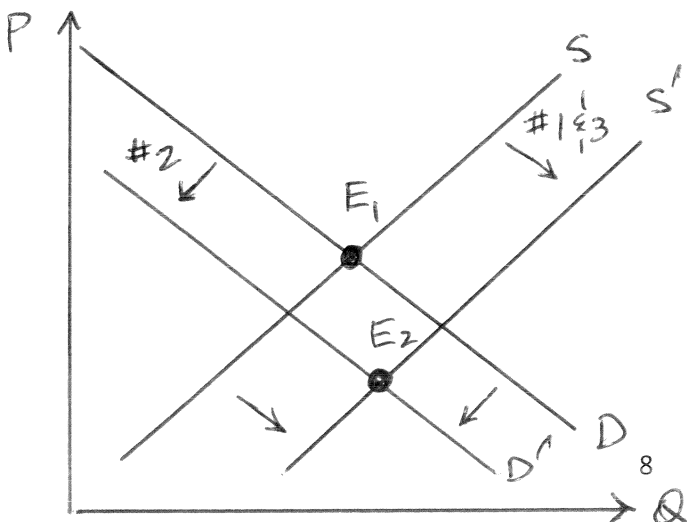


Stricter fuel efficiency standards will decrease the demand for gasoline. This will shift the demand curve to the left, reducing the equilibrium quantity and price of gasoline.

- d) (6 pts) In addition to the improvements in fuel efficiency for automobiles, a major oil refinery in the gulf coast is made inoperable due to a hurricane. Graph the effects of the hurricane on your graph in part (c) and make a prediction regarding the equilibrium price and quantity of gasoline given the simultaneous shifts.

The hurricane will lead to a reduction in the supply of gasoline. As shown in the figure above, this is a shift to the left (or up) in the supply curve. The prediction for the equilibrium price and quantity from the simultaneous shifts are: quantity will unambiguously fall; price could go up or down depending on the magnitude of the shifts.

- e) (6 pts) Gasoline prices in the U.S. are significantly lower in 2015 than they were at this time in 2014. Name two events that may have led to the fall in gasoline prices. Redraw the demand-supply figure and show how the events will impact the gasoline market. (Note: It is not necessary to use the numbers from the Table.)



Three commonly cited reasons for lower gasoline prices are: 1) OPEC's strategy to increase production and drive out U.S. producers; 2) lower global economic growth; and 3) new discoveries in extracting "tight" oil that have increased the supply of gasoline.

4. (10 pts) TRUE or FALSE.

- Last week the Federal Reserve decided to keep the federal funds rate at zero.

TRUE

- The current unemployment rate in the U.S. is about 10%.

FALSE

- You purchase a 2010 Honda Accord produced in the U.S. The sale counts toward U.S. GDP in 2015.

FALSE

- Only goods count towards GDP; services do not.

FALSE

- Inflation refers to an increase in nominal GDP.

FALSE