

Name: _____

Cosumnes River College
Principles of Macroeconomics
Problem Set 1
Due February 8, 2017

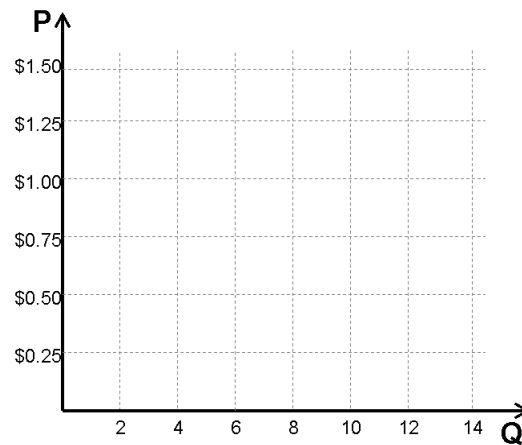
Spring 2017

Prof. Dowell

Instructions: Write the answers clearly and concisely on these sheets in the spaces provided. Do not attach additional sheets.

1. Draw a *demand curve* from the following demand table on the axes below. Label it D_1 . Then suppose the demander gets an increase in income and decides to buy 2 more bars at every price level. Draw this change on your demand curve. Label it D_2 .

Price per candy bar	Candy bars purchased each week
\$0.50	10
0.75	8
1.00	6
1.25	4
1.50	2



2. Fill in the blanks in the following sentences:
- If the price of a good or service falls, the quantity demanded _____.
 - The quantity of a good or service purchased at each price is given by the _____.
 - The quantity of a good or service offered for sale at each price is given by the _____.
 - The laws of supply and demand say that at the equilibrium price the _____ equals the _____.
 - An increase in the price of a good leads to a _____ its demand curve.
 - A change in technology leads to a _____ the supply curve.
 - In an economic equilibrium, there are no forces for _____.
 - The statement that market supply equals market demand is an example of an _____.

3. Indicate whether each of the following statements describes an increase in demand, decrease in demand, change in quantity demanded, increase in supply, decrease in supply, or change in quantity supplied in the given market.
 - a. Store-brand soup prices are cut, reducing sales of Campbell's soup. Market: Campbell's soup.
 - b. Coffee bean prices hit an 18-month low following a bountiful harvest. Market: coffee beans.
 - c. A summer heat wave leads to higher prices for bottled water. Market: bottled water.
 - d. Holiday clothing discounts boost clothing sales. Market: clothing.
 - e. Apple introduces a tinier and more powerful iPod model. Market: older iPod models.
 - f. The cost of pesticides increases, leading to a rise in the price of soy beans. Market: soy beans.

4. Use the information in the table below to draw the supply and demand curves for color printers: (Be sure to clearly label the axes.)

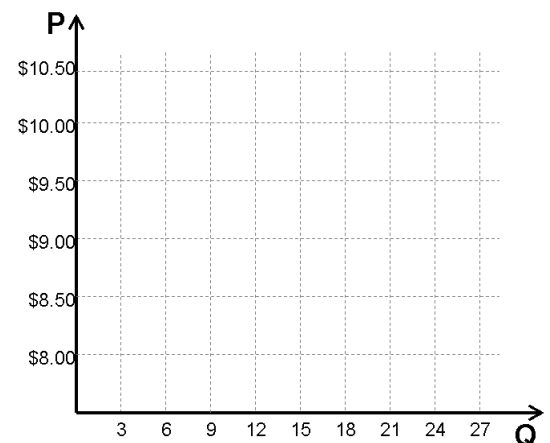
Price	Quantity Demanded	Quantity Supplied
\$50	200	50
\$100	150	150
\$150	100	250
\$200	50	350



- a. What is the equilibrium price and quantity?
- b. If the price were \$150.00, would there be a shortage or a surplus? How big would it be?
- c. Explain why a price of \$150 can't be an equilibrium. (What would happen if the price were \$150?)

5. State the effect of the following events on equilibrium price and quantity of the market given.
- Beetle infestation decimates tobacco crop. Market: cigars.
 - The Organization for Petroleum Export Countries raises oil export quotas. Market: gasoline.
 - Digital image albums become the rage among households while improved technology reduces the cost of producing digital cameras. Market: digital cameras.
 - Hurricanes in the Gulf coast cause gasoline supply disruptions while the summer travel season ends. Market: gasoline.
6. Given the following data for individuals, draw the market demand curve and market supply curve for CDs. Assume that these are the only individuals in the entire market. Price is per CD.

Price	\$8.00	\$8.50	\$9.00	\$9.50	\$10.00	\$10.50
Quantity demanded in units per week						
Mark	3	3	1	0	0	0
Lynn	8	7	6	3	2	1
Jason	6	5	4	3	0	0
Erin	10	9	7	6	4	2
Quantity supplied in units per week						
Jeff	0	1	2	3	4	6
Beth	2	3	3	4	6	7
Chris	0	1	2	3	5	6
Abby	1	1	2	2	3	5



- What would be the equilibrium price and quantity in this market?
- Which would there be—excess *demand* or excess *supply*—at a price of \$8.00? How much? What about at a price of \$10.00?
- If the price of a CD was initially set at \$9.00 but the price was allowed to adjust, would the price rise or fall? Explain your answer.

7. The demand and supply curves for hotdogs in Sacramento are given by the following two equations:

$$Q^D = 8,000 - 800P$$

$$Q^S = 2,000 + 200P,$$

where P is the price measured in dollars and Q^D is the number of hotdogs demanded and Q^S is the number of hotdogs supplied.

- a. Find the equilibrium price and quantity.
- b. If students suddenly acquire a greater taste for hotdogs, which of the following might be the new demand curve? Circle it.

$$Q^D = 6,500 - 800P$$

$$Q^D = 9,500 - 800P$$

Find the equilibrium price and quantity after the shift of the demand curve.

- c. If instead one of the stores selling hotdogs goes out of business, which of the following might be the new supply curve? Circle it.

$$Q^S = 1200 + 200P$$

$$Q^S = 2800 + 200P$$

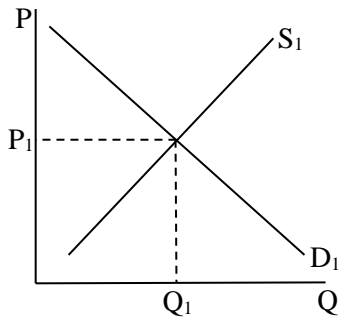
Find the equilibrium price and quantity after the shift of the supply curve.

8. Suppose the market demand and supply curves for mead are given by the equations $Q^D = 38 - 3P$ and $Q^S = P - 2$. Solve for the equilibrium price and quantity. Represent the equilibrium on the axes below using a properly labeled supply and demand diagram.

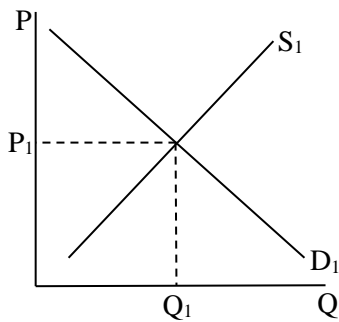


9. For each of the following events, show the resulting shift in the supply and or demand curve and label the new equilibrium quantity as Q_2 and the new equilibrium price P_2 . Also, in words, and using the terminology discussed in class, describe what happens.

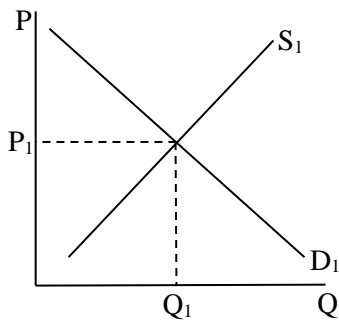
a. an increase in the income in the market for a normal good



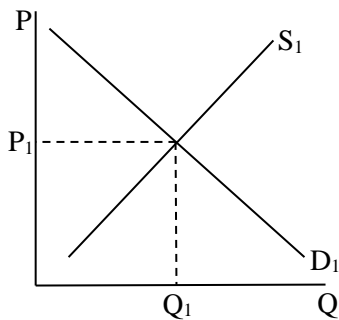
b. an increase in the price of an input



c. an increase in the price of a substitute



d. a decrease in the price of a complement



10. For each of the following transactions, state the effect both on U.S. GDP and on the individual components of aggregate expenditure:
- You buy a new car from a U.S. producer.
 - You buy a new car imported from Germany
 - Your family's rental car business buys a new car from an American producer.
 - Your family's rental car business buys a new car imported from Korea.
11. Explain what double counting is and discuss why GDP is not equal to total sales.
12. Larson has started a home wine –making business and he buys all his ingredients from his neighborhood farmers' market and a local bottle manufacturer. Last year he purchased \$4,000 worth of ingredients and bottles and produced 2,000 bottles of wine. He then sold all 2,000 bottles of wine to a restaurant for \$10 each. The restaurant sold all the bottles of wine to customers for \$45 each.
- For the total wine production, calculate the value added by Larson.
 - For the total wine production, calculate the value added by the restaurant.

13. You are given the following data for a hypothetical economy:

Spending Component	Value (billions of dollars)
Personal Consumption Expenditure	\$600
Exports	75
Government Purchases of Goods and Services	200
Construction of New Homes and Apartments	100
Sale of Existing Homes and Apartments	200
Imports	50
Beginning of Year Inventory	100
End of Year Inventory	125
Business Fixed Investment	100
Government Payments to Retirees	100
Beginning of Year Capital Stock	3,000
End of Year Capital Stock	3,175

Showing your work, complete the following:

a. Calculate GDP for this economy.

b. Calculate net investment.

c. Calculate Net Domestic Product (NDP).

d. Is NDP less than GDP? If yes, why? Explain.

14. Suppose the data below represents the economic activity of a country in 2010:

Spending (or income) Component	Value (billions of dollars)
Consumption	\$140
Business Fixed and Residential Construction	\$27
Inventory Stock at the end of 2009	\$10
Inventory Stock at the end of 2010	\$5
Depreciation	\$12
Government Spending	\$80
Government Purchases	\$65
Exports	\$21
Imports	\$17
Labor Income	\$126
Capital Income	\$70
Net Income of Foreigners	\$5
Taxes, Subsidies and Transfers	\$28

Showing your work, complete the following:

a. Calculate inventory investment.

b. Calculate net exports.

c. Calculate gross domestic product.

d. Calculate the statistical discrepancy.

e. Calculate national saving.