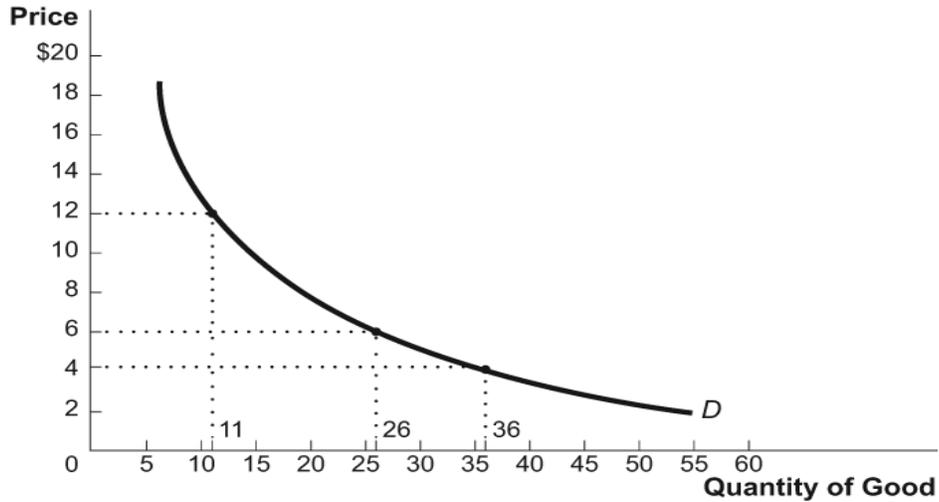


### Problem Set 1

Please write your answers on this problem set or a separate sheet of paper with each answer numbered with your answer choice or solution. Packet **must** be turned in stapled.

1. Consider the following Demand system

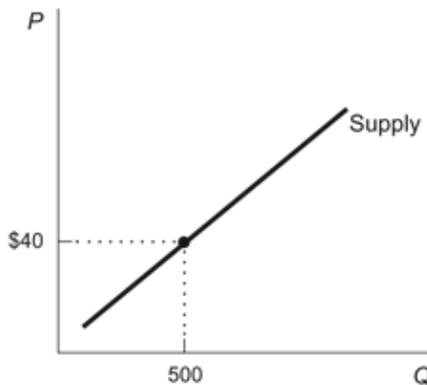


Given the figure above, which of the following statements is true?

- a. At a price of \$12 per unit, consumers are willing and able to purchase between 11 and 26 units of Good X.
- b. 36 units of Good X can be purchased by spending a total of \$4.
- c. At a price of \$6 per unit, consumers are willing and able to purchase 26 units of Good X.
- d. The value of the first 36 units is \$4 for each consumer.

From the figure, the maximum price that consumers are willing to pay for 36 units of Good X is \_\_\_\_\_ per unit.

2.



A vertical reading of the figure indicates that:

- a. at a price higher than \$40, the quantity supplied drops to zero.
- b. to produce 500 units suppliers must be paid at least \$40 per unit.
- c. at a price of \$40 per unit, suppliers are willing and able to sell 500 units.
- d. at a price lower than \$40, the quantity supplied drops to zero.

3. Use the table below represents the value that 4 students place on a used economics book. Use this table to answer the questions that follow. Assume that each student is only interested in buying one book.

BUYER	Buyer's Value
MIKE	\$50
SANDY	\$30
JONATHAN	\$20
HALEY	\$10

- If the price of a used book is \$15, then who would be willing to purchase the product?
- What is the **total value received** by the consumers who buy a book at a price of \$15?
- What is the **total value of consumer surplus** when the price of a used book is \$15?
- Suppose that it is announced that the questions for the midterm will be drawn out of the textbook and that this announcement increases the amount that each person is willing and able to pay by \$10. How many textbooks will be demanded if the price is \$15?
- If the price of a used econ book is \$18 and everybody who is willing to pay that price gets one, what is the value of consumer surplus in this market?
- Use the information provided to complete the demand schedule for a used economics book. Assume that the buyer will purchase a book whenever they are indifferent. Sketch the new demand curve.

Price	Qty. Demanded
\$60	
\$50	
\$40	
\$30	
\$20	
\$10	
\$0	

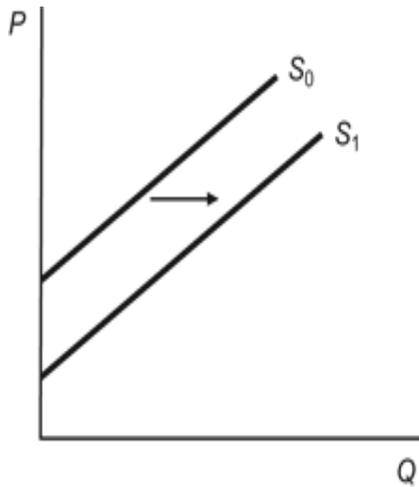
4. Below are 5 students, each of whom owns an iPad. Next to each student is the value that the student puts on their iPad. Assume that if offered the right price each of these students would be willing to sell their iPad.

	Value
David	\$800
Ivan	\$400
Wanda	\$800
Phillip	\$700
Sherry	\$550

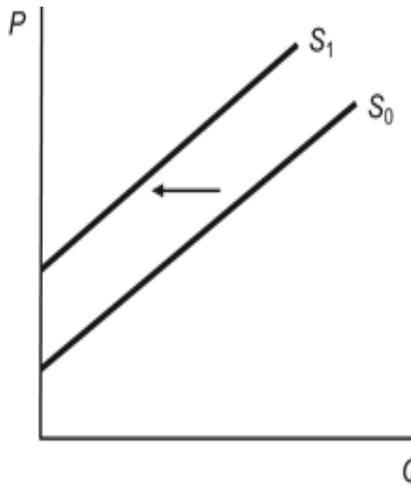
- If the market price of a used iPad is \$300, then how many of these students will be willing and able to sell their iPad? Calculate the value of producer surplus.
- If the market price of a used iPad is \$500, then how many of these students will be willing and able to sell their iPad? Calculate the value of producer surplus.
- If the market price of a used iPad is \$675, then how many of these students will be willing and able to sell their iPad? Calculate the value of producer surplus.
- Why are more people willing and able to sell their iPad at the higher price?
- Use the information provided to draw the supply of iPads in this market.

Price	Qty. Supplied
\$300	
\$400	
\$500	
\$600	
\$700	
\$800	

**Figure A**



**Figure B**



5. How many of the following statements are TRUE?
- Figure A depicts the expectation that the future price will decrease.
  - Figure A depicts the entry of foreign producers because of a reduction in trade barriers.
  - Figure B depicts falling input prices.
  - Figure B depicts technological innovations.
  - Figure B depicts an increase in taxes.
6. Each of the events listed below has an impact on the market for bicycles. For each event, which curve is affected (supply or demand for bicycles), what direction does it shift?
- The price of automobiles increases.
  - Consumers' incomes decrease, and bicycles are a normal good.
  - The price of steel used to make bicycle frames increases.
  - An environmental movements shifts tastes toward bicycling
  - Consumers expect the price of bicycles to fall in the future. A technological advance in the manufacture of bicycles occurs.
  - The prices of bicycle helmets and shoes are reduced.
  - Consumers' incomes decrease, and bicycles are an inferior good.
7. A recent explosion in the demand for (and price of) organically produced foods has caused many farmers to convert from traditional farming methods to higher-cost organic farming methods. Explain what has happened to the opportunity cost of traditional farming and why. Based on your explanation, does it make sense to see so many farmers moving to organic farming? Explain.

8. For each of three potential buyers of oranges, the table displays the willingness to pay for the first three oranges of the day. Assume Alex, Barb, and Carlos are the only three buyers of oranges.

	First Orange	Second Orange	Third Orange
Alex	\$2.00	\$1.50	\$0.75
Barb	\$1.50	\$1.00	\$0.80
Carlos	\$0.75	\$0.25	\$0

- a. If the market price of an orange is \$1.20, the market quantity of oranges demanded per day is \_\_\_\_\_.
  - b. If the market price of an orange is \$0.70, the market quantity of oranges demanded per day is \_\_\_\_\_.
  - c. If the market price of an orange is \$1.20, then what is the value of consumer surplus?
  - d. If the market price of an orange increases from \$0.60 to \$1.05, total consumer surplus increases/decreases by \_\_\_\_\_.
  - e. How much value does Alex get from consuming two oranges?
9. Ford Motor Company announces that *next month* it will offer \$3,000 rebates on new Mustangs. As a result of this information, today's demand curve for Mustangs
- a. Shifts to the left.
  - b. Shifts either to the right or to the left, but we cannot determine the direction of the shift from the given information.
  - c. Shifts to the right.
  - d. Will not shift; rather the demand curve for Mustangs will shift to the right next month.
10. Linesha, a college student working part-time receives a wage increase. An avid movie buff, she increased her purchases of DVDs and reduced her purchases of video cassettes. Based on this information,
- a. DVDs and video cassettes are substitutes.
  - b. DVDs are normal goods and video cassettes are inferior goods.
  - c. DVDs and video cassettes are normal goods.
  - d. the cross-price elasticity between DVDs and video cassettes is negative.

11. Suppose that when the price of hamburgers decreases, the Ruiz family increases their purchases of ketchup. To the Ruiz family, hamburgers and ketchup are \_\_\_\_\_
- normal goods and the income elasticity of demand for both goods is positive.
  - complements and the cross-price elasticity of demand between these two goods is positive.
  - substitutes and the cross-price elasticity of demand between these two goods is negative.
  - complements and the cross-price elasticity of demand between these two goods is negative.
12. In this example we will consider the market for used textbooks. There are 11 buyers and 11 sellers in this market. Each buyer would like to buy up to 1 used textbook and the value they place on a used textbook is given in column 1. Each seller has one textbook to sell and the second column lists the minimum price they are willing to accept for their used textbook.

Value to Buyers	Value to Sellers
\$53	\$17
\$40	\$32
\$58	\$13
\$38	\$40
\$51	\$45
\$60	\$10
\$35	\$28
\$55	\$21
\$45	\$43
\$48	\$25
\$43	\$36

- Solve for the equilibrium quantity and price. What is the value of total surplus in this market?
13. Suppose that when the price of apples rises by 20%, the quantity demanded of oranges rises by 6%. What is the cross-price elasticity of demand between apples and oranges? Are these two goods substitutes or complements?
14. For each pair of goods listed below, which good would you expect to have the more elastic demand? Why?
- Cigarettes; a trip to Florida over spring break
  - An AIDS vaccine over the next month; an AIDS vaccine over the next five years
  - Beer; Budweiser
  - Insulin; aspirin

15. For each pair of goods listed below, which good would you expect to have the more elastic supply? Why?
- Televisions; beachfront property
  - Crude oil over the next week; crude oil over the next year
  - A painting by van Gogh; a print of the same painting by van Gogh
16. True or False:
- If the quantity demanded of a good is sensitive to a change in the price of that good, demand is said to be price inelastic.
  - The demand for tires should be more inelastic than the demand for Goodyear brand tires.
  - The demand for aspirin this month should be more elastic than the demand for aspirin this year.
  - If the cross-price elasticity of demand between two goods is 1.4, the goods are likely to be complements.
  - If the demand for a good is -0.7, an increase in its price will increase total revenue in that market.
  - If the income elasticity of demand for a bus ride is -2.4, then a bus ride is an inferior good.
  - If the price elasticity of supply for blue jeans is 1.3, an increase of 10 percent in the price of blue jeans would increase the quantity supplied of blue jeans by 13 percent.

17. The table below provides the demand schedule for motel rooms at Small Town Motel. The second and third columns show the demand schedule when consumer incomes have risen from \$50,000 to \$60,000. Use this information to answer the following questions. Remember to use the midpoint formula when necessary.

Price	Qty. Demanded when income is \$50,000	Qty. Demanded when income is \$60,000
\$20	24	34
40	20	30
60	16	26
80	12	22
100	8	18
120	4	14

- What is the income elasticity of demand when motel rooms rent for \$40?
- What is the income elasticity of demand when motel rooms rent for \$100?
- Are motel rooms normal or inferior goods? Why?
- Are motel rooms likely to be necessities or luxuries? Why?

18. The island of Pago-Pago imports boomerangs from Australia, a past time toy played on the island by boys and girls. Consider the following market information about boomerangs:

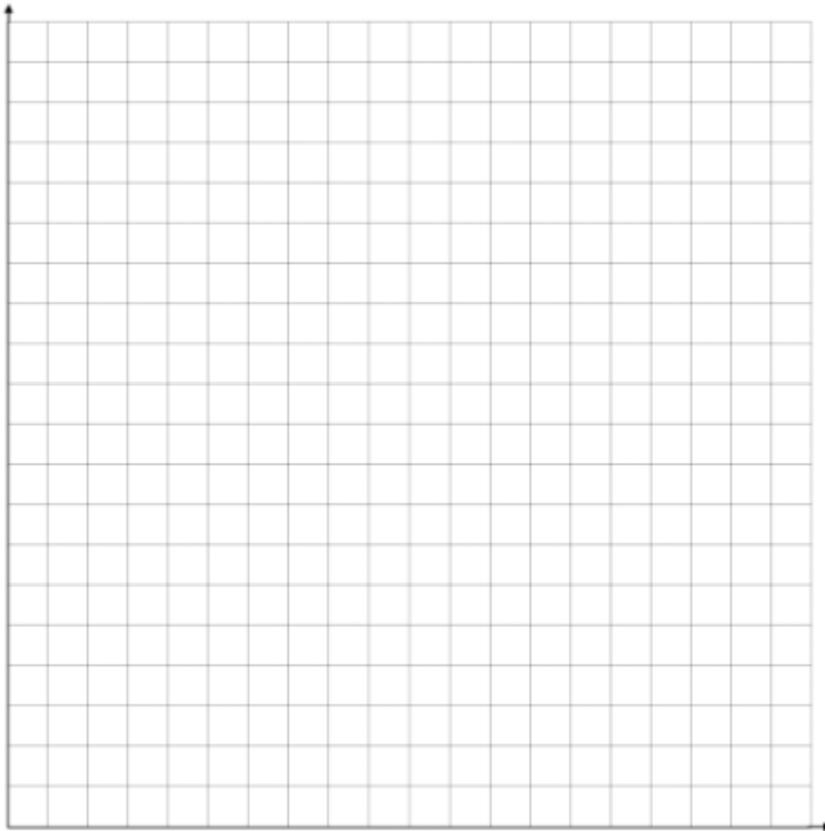
At a price of (in ogaps):	10	9	8	7	6	5	4	3
QD-M (in thousands)	14	16	18	20	22	24	26	28
QS (in thousands)	29	26	23	20	17	14	11	8
QD-F (in thousands)	0	2	5	8	11	14	17	20

where QD-M is the quantity of boomerangs demanded by males, QS is the quantity of boomerangs supplied by Australian companies and the "ogap" is the local currency.

- 1) On a single graph plot the demand curve of only Pago-Pago males, the aggregate demand curve and the supply curve for boomerangs. What is the aggregate equilibrium price and quantity?
- 2) Consider each of the following circumstances and predict their separate impacts on one or both of these two curves. If a curve shifts, indicate the direction of the shift
  - a) the income of Pago-Pagoans declines after a typhoon hits the island.
  - b) the Australians win the Olympic boomerang champions.
  - c) the price of Frisbees increases
  - d) the Pago-Pago government reduces tariffs on imported clothing
  - e) the Australian boomerang manufacturers decide to add a money-back guarantee on their product (if you don't like your boomerang, you may send, back).
  - f) a new type of vinyl discovered which has the same aerodynamic properties as the mahogany traditionally used in boomerangs but costs twice as much as mahogany.
  - g) a new type of plastic is invented which has the same aerodynamic properties as mahogany traditionally used in boomerangs but costs half as much as mahogany.
  - h) the wage rates paid to boomerang workers rise.

## Graphing Paper

Question \_\_\_\_\_



## Graphing Paper

Question \_\_\_\_\_

