Discussion Section 3

ECN 1A Spring 2012

4/24/12

Question 1

1. *Suppose Roger's demand curve for movie tickets has a constant slope of -1. Suppose further that at a price of $12, he will not buy any tickets. By comparing the price elasticity in the $2 to $4 price range with the elasticity in the $8 to $10 range, you can conclude that the elasticity is*

a) greater in the $8 to $10 range when the price rises but greater in the $2 to $4 range when the price falls.

b) the same in both price ranges.

c) greater in the $8 to $10 range.

d) greater in the $2 to $4 range.

Elasticity

- What is the elasticity of demand/supply?
  - It is a units free measure of the responsiveness of quantity demanded/supplied to changes in price
  - When price increases or decreases by 1%, the elasticity tells us by how much quantity demanded/supplied will increase or decrease.

Elasticities continued

- Key things to remember:
  - It is a positive number because we take the absolute value!
  - The formula for the elasticity between two points on a demand curve:

$$\left|\frac{\%\Delta Q}{\%\Delta P}\right| = \left|\frac{Q_1 - Q_2 \,/\, .5(Q_1 + Q_2)}{P_1 - P_2 \,/\, .5(P_1 + P_2)}\right|$$

Demand curve elasticity

- As we move along the demand curve, elasticity is falling i.e. each point is becoming more and more inelastic.
- Midpoint elasticity
- Perfectly inelastic demand
- Perfectly elastic demand

What elasticity is not!

- It is NOT the slope of the demand/supply curve!!

- It does not use the percentage change we are used to (new-old divided by old), but rather percentage change from the average (new – old divided by the average)

Why the weird formula?

- We need to have a symmetric elasticity, such that going from $5 to $10 will yield the same change in quantity as going from $10 to $5.
  - If we use the normal percentage change definition (new – old divided by old), this is not possible.
  - Hence we need to divide by the average.

Question 2

*2. A **leftward** movement **along the demand curve** for cones (a complement to ice cream) might be caused by*

a) an increase in the price of the milk used to make ice cream.

b) an increase in average household income.

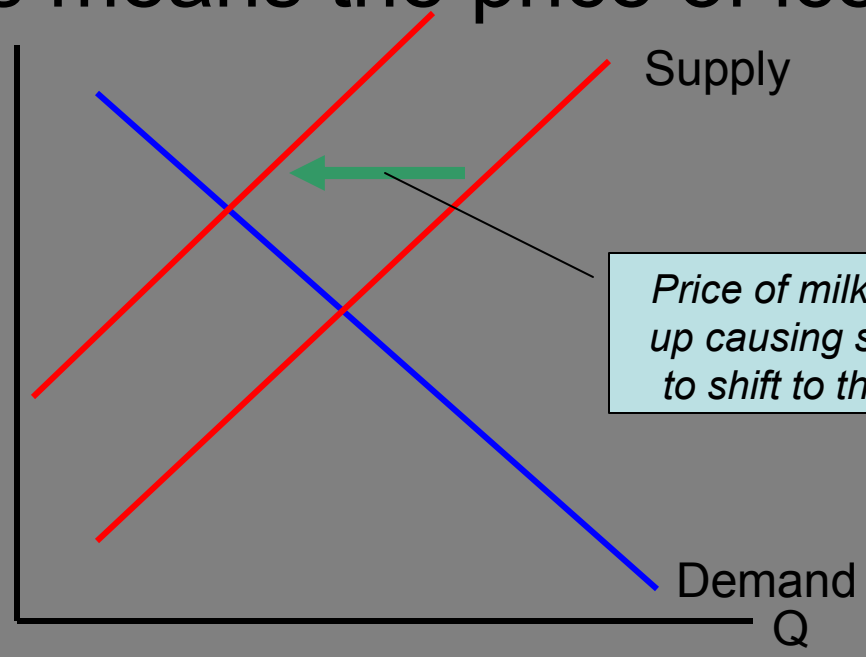
c) an increase in the temperatures causing people to desire more ice cream.

d) none of the above

a) an increase in the price of the milk used to make ice cream

If the price of milk used to make ice cream increases, then the supply of ice cream will decrease. This means the price of ice cream will rise.

Supply and Demand graph for the ice cream market!



Price of milk goes up causing supply to shift to the left

Now we know what happens in the ice cream market, what happens to the cone market?

- Price of ice cream goes up
- Ice cream is a complement to cones
- So when the price of a complement goes up then the demand for cones will:

GO DOWN!!!

What about b and c?

b) an increase in average household income.

c) an increase in the temperatures causing people to desire more ice cream.

Can you work through these on your own?

(if yes, reward yourself with a chocolate, if not then keep at it!)

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Question 3

3. In a free market, 2000 patients each purchase an operation to receive an artificial heart at a price of $500,000 per operation. Without the artificial heart, each patient would die. The government decides that this price is too high and imposes a maximum price of $200,000. All else equal

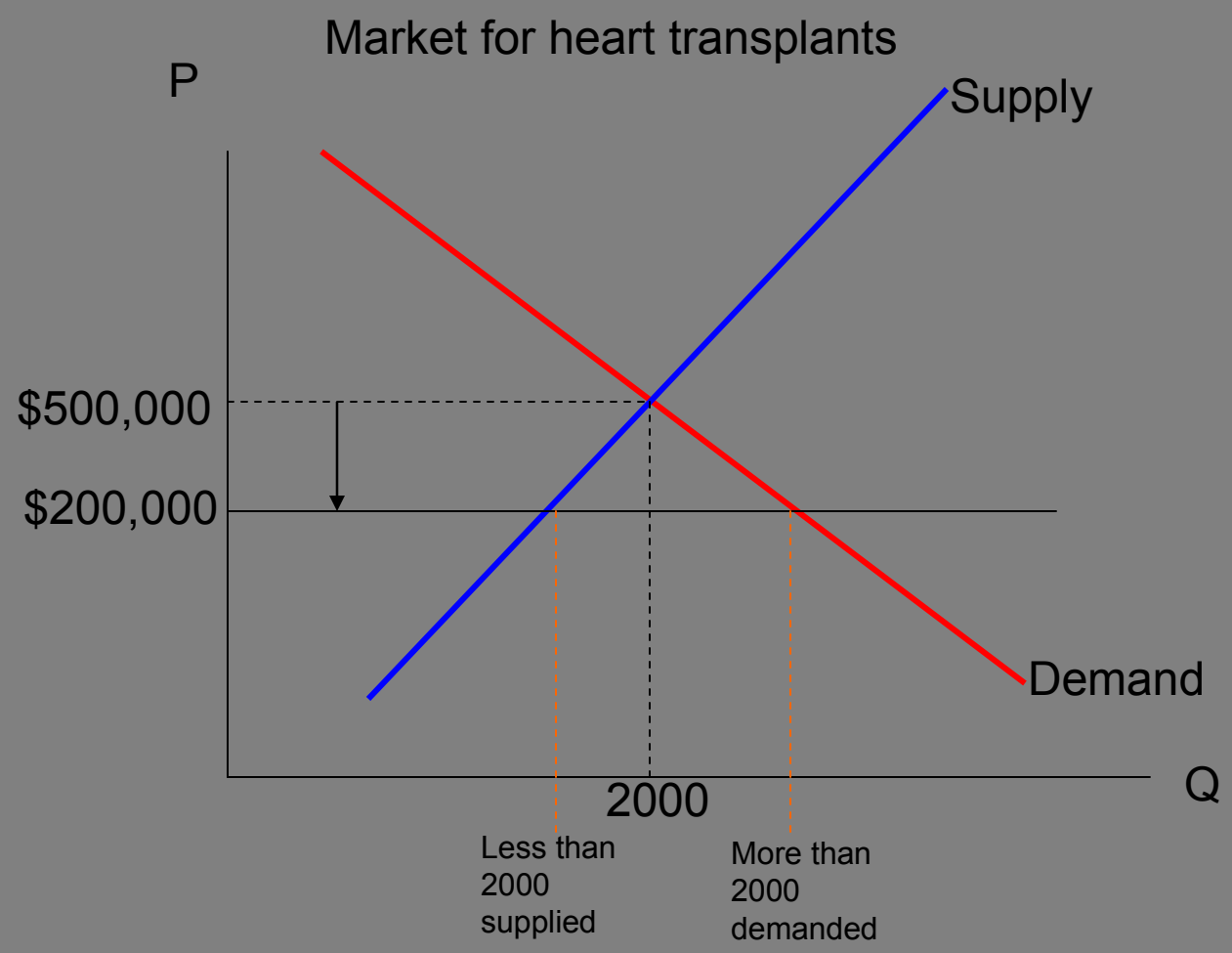
a) fewer patients will now die only if the demand curve is perfectly inelastic

b) fewer patients will now die because more people can afford the operation

c) more patients will now die only if the demand curve is perfectly inelastic

d) more patients will now die, unless the supply curve is perfectly inelastic

When in doubt, draw a graph!



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Question 4

4. The price of skis (a normal good) will definitely increase if

a) the price of ski boots increases and wages at ski-making factories increase

b) people have more leisure time to go skiing and the cost of the material used to produce skis decreases

c) the price of lift-tickets decreases and there is an improvement in the technology for making skis

d) the cost of the material used to produce skis increases and average incomes increase

Question 5

5. A $10 per unit tax on CD players raises the equilibrium price paid by consumers by $5. Before the tax, 5000 units were sold each year. The annual revenue from the tax is expected to be

a) We Cant Determine.

b) $50,000.

c) less than $50,000.

d) more than $50,000.

Question 6

6. Suppose that Chipotle decreases the price of burritos, and discovers that total revenues have increased. We could conclude that the demand for burritos was

a) perfectly inelastic

b) relatively inelastic

c) unit elastic

d) relatively elastic

Total Revenue and elasticity

- Demand elastic – price cut → increase revenue
- Demand inelastic – price cut→decrease revenue

Short question

For these questions, use a supply and demand diagram to illustrate the effect of each of the following on the market for oranges. Assume that this market is currently in equilibrium. Clearly state whether the new equilibrium price and quantity are higher, lower or indeterminate compared to the original equilibrium. Briefly explain your answer and state any assumptions you make.

1. There is a massive freeze across the state of Florida.
2. A new pesticide increases the yield of oranges on every tree.
3. The FDA reports vitamin C is more beneficial than previously thought.
4. A cranberry shortage drives up the price of cranberry juice.
5. 1 and 3 above occur simultaneously.
6. 2 and 4 above occur simultaneously.

Answers

1. Supply shifts to the left causing an increase in the price and a decrease in the quantity.

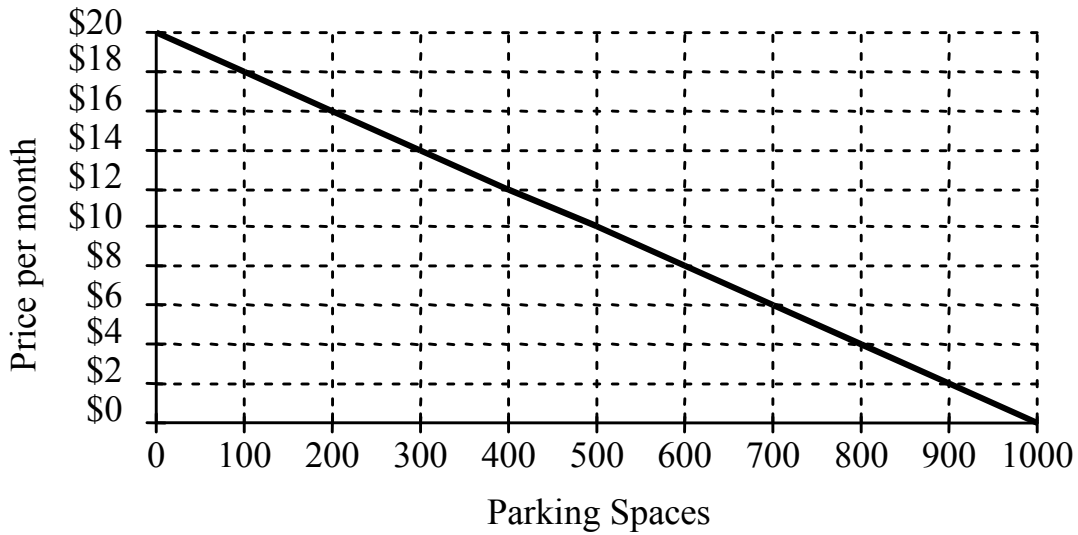
2. Supply shifts to the right causing a decrease in the price and an increase in the quantity.

3. Demand shifts to the right causing the price and the quantity to increase.

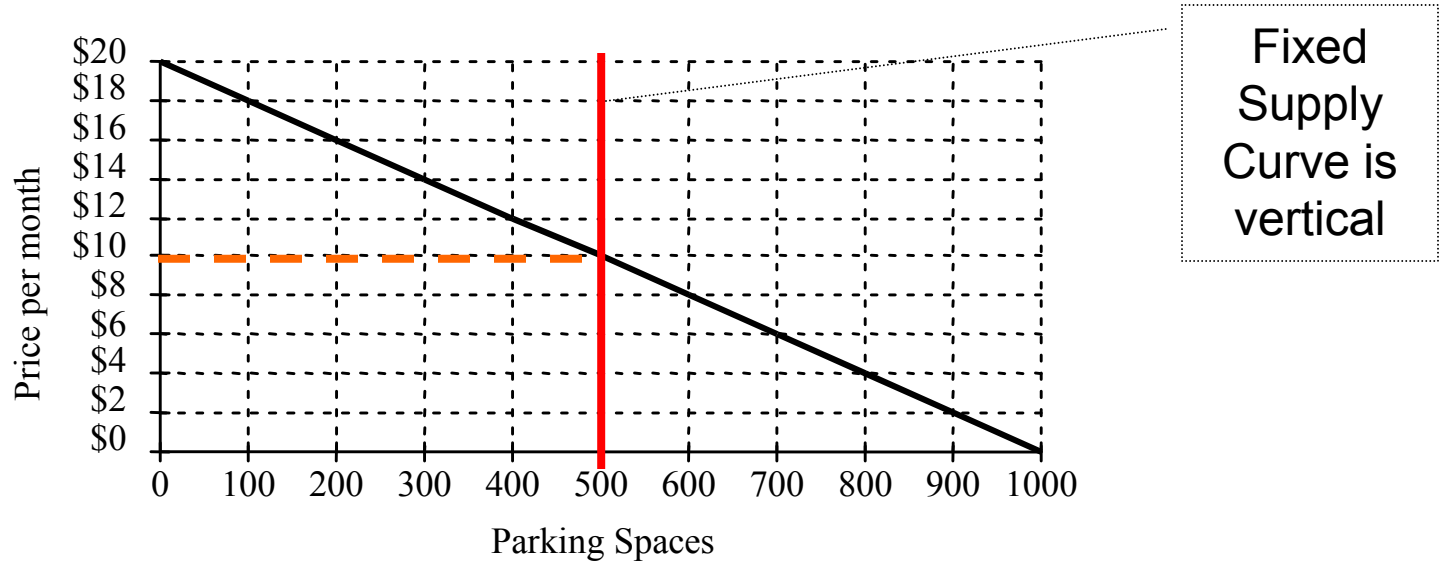
4. Assuming cranberry juice and orange juice are substitutes, an increase in the price of cranberries will cause an increase in demand for oranges. Demand shifts to the right causing the price and the quantity of oranges to increase.

5. Price rises while the change in quantity is indeterminate.

6. Quantity rises while the change in price is indeterminate.



a) Suppose that at a price of $10 per month, the market is in equilibrium, given the fixed number of parking spaces. What is this fixed number of spaces? Draw in the supply curve that reflects this fixed number of spaces. Briefly explain your answer.



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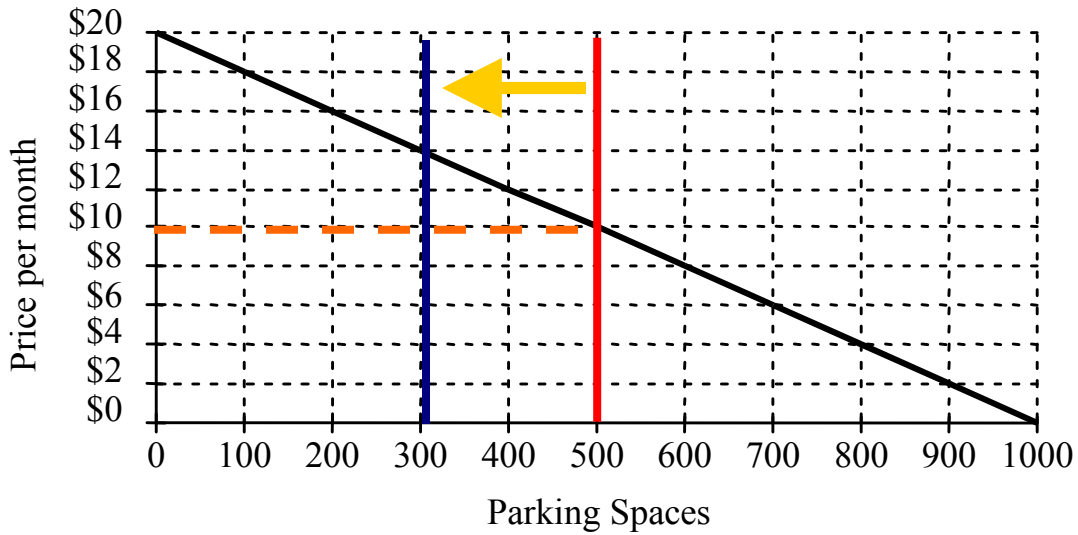
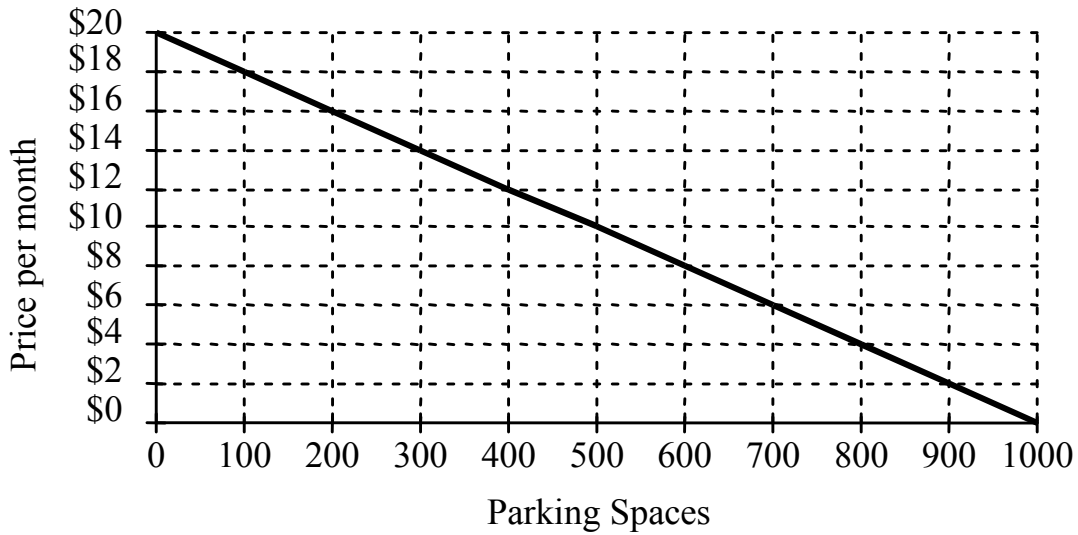


b) Suppose that due to the construction of new dorms there are 200 fewer parking spaces than before. Draw in the new supply curve. Briefly explain why even though you've paid $10 for a parking sticker, you have to arrive really early to get a parking space.



c) Briefly explain what UC Davis would need to do to ensure that everyone who is willing to buy a parking sticker can get a parking spot. You should assume that adding more spaces is impossible.

For the exam

- PPF
- Attainable vs unattainable
- Production efficient vs inefficient
- Allocative efficiency vs. inefficiency
- Opportunity Cost: highest valued alternative you give up
- Increasing opportunity cost – bowed out ppf
- PPF and marginal cost
- Supply curve = marginal cost, under competitive market
- Marginal benefit and demand cuve
- Decreasing marginal benefit
- Gains from trade
- Comparative and absolute advantage

For the exam cont.

- DEMAND
  - Demand vs. quantity demanded
  - Law of demand
  - Substitution vs. income effect
  - Substitutes vs. complements
  - Demand Shifters
  - Normal vs. inferior goods
- SUPPLY
  - Supply vs. quantity supplied
  - Law of supply
  - Supply Shifters
- MARKET EQUILIBRIUM

For the exam cont.

- ELASTICITIES
  - What is it?
  - Formula and how to calculate
  - ELASTICITY IS NOT THE SLOPE
  - Perfectly elastic and inelastic demand and supply curves
  - Elasticity changes at each point on demand/supply curve

For the exam

- Consumer surplus
- Producer surplus
- Efficiency
- Deadweight loss
- Price ceiling
- Price floors