

Supply and Demand: Unit II

Essential Questions:

How is the price of a thing determined?

How does the market system work to divide up scarce resources?

Is a market system's way of dividing things up fair--what, if anything, should be done to make things more fair?

According to Adam Smith (1723-90):

- free markets best promote the social _____
- markets are naturally self-_____

In a completely free market, _____ does NOT set prices. Prices change based on changing _____ and _____. In the Wheat Market Game, Sellers = _____ and Buyers = _____.

Supply and Demand analysis is the Heart and Soul of free market economics. It is the key to the study of _____, how an _____ would act.

DEMAND—The _____

vacation condo on Maui

The Law of Demand: _____

- As _____ goes UP, _____ goes DOWN.

Demand Curve

Demand is Dynamic (_____)

There are 2 types of Demand Changes:

1) Change in _____ demanded

OR

2) Change in _____

Change in Quantity Demanded

- Only _____ changes lead to _____ changes; movement along the demand curve

Change in Demand

A Change in DEMAND leads to a _____ in the Demand Curve (new demand curve)

A shift occurs whenever a _____ of Demand changes

Determinants of Demand (TIPSE)

T	I	P	S	E

Examples: Income rises, Substitute price decreases

Changes in Demand (not Quantity Demanded!)

Please determine whether demand will increase or decrease based on each event listed below. Then, identify specifically which element of TIPSE has been affected. Finally, sketch a graph of the demand curve shift.

Beef Product Market

Situation	Increase or Decrease in Demand?	Which element of TIPSE has been affected?	Sketch graph of Demand curve shift
1. Mad cow disease strikes Europe, American consumers are fearful of the domestic implications			
2. The price of chicken decreases			
3. Due to a contracting economy, the income of households drops for the 3 rd straight month			
4. Health and fitness experts recommend an increase in Beef products in American's diets			
5. The number of people in the U.S. has increased by 3 million compared to last year.			
6. Oprah Winfrey announces on her television show that she is not going to eat beef anymore.			
7. The price of hamburger buns and charcoal decreases as we head into spring BBQ season.			
8. The Beef Council starts a large advertising campaign to promote beef consumption.			

SUPPLY--

- As _____ goes UP _____ goes UP

Supply Curve

Supply Changes

There are also 2 types of Supply changes:

- 1) Change in _____ supplied **OR** change in _____

Change in Quantity Supplied—When price changes, quantity supplied changes (movement along the existing supply curve)

A Change in Supply leads to a _____ in the Supply Curve (new supply curve)

A shift occurs whenever a Determinant of Supply changes (TIN)

T	I	N

Examples: Price of oil increases, purchase of new computers

Reasons for Changes in Supply

Please determine whether supply will increase or decrease based on each event listed below. Then, identify specifically which element of TIN has been affected. Finally, sketch a graph of the supply curve shift.

Total Supply of Cars in the United States (including all foreign and domestically produced automobiles)

Situation	Increase or Decrease in Supply?	Which element of TIN has been affected?	Sketch graph of Supply curve shift
1. The cost of steel rises			
2. Chrysler Motor Company declares bankruptcy and shuts down production			
3. New technological advances in Detroit auto plants increases efficiency			
4. United Auto Workers Union workers agree to take a pay cut			
5. The U.S. government imposes strict new quotas (limits) on the number of imported cars allowed into the U.S.			
6. Robots have been installed on a number of car assembly lines.			
7. The economy is faced with oil and electricity shortages.			

Market Equilibrium: Demand = Supply

SUPPLY & DEMAND: Finding Market Equilibrium

1. Plot the following **demand schedule** on a graph below
2. Plot the following **supply schedule** on a graph below
3. Label the Demand Curve **D₁** and the Supply Curve **S₁**
4. Label the **Equilibrium** point where they cross **E₁**
5. In the short run, what will happen if Amoeba Music Store charges \$11 per CD
6. In the short run, what will happen if Amoeba Music Store charges \$7 per CD

Supply and Demand Schedule for CDs:

Price	Qty Demanded	Qty Supplied
\$3.00	7	1
\$7.00	6	2
\$11.00	5	3
\$13.00	4	4
\$15.00	3	5
\$17.00	2	6
\$19.00	1	7



Supply and Demand: Putting it all Together

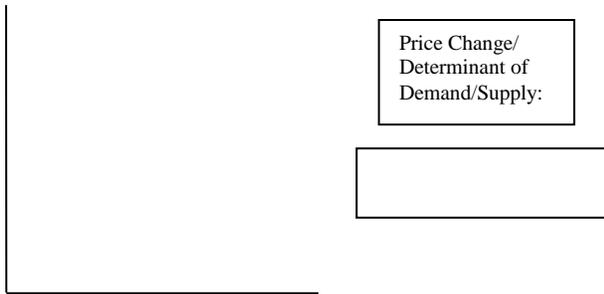
Directions: On a separate piece of paper, follow the instructions listed below. Understand that we are solving these problems in the *SHORT RUN*. What is the immediate effect of a change in economic circumstances?

- 1) Draw the initial Supply and Demand Curves. Label them S_1 and D_1 respectively. Label Equilibrium E_1
- 2) Label the Equilibrium Price and Quantity [based on information provided]
- NEXT:
- 3) Determine what changes with the introduction of problem A:
- 4) Determine if you have a change in demand (supply) or a change in quantity demanded (supplied)?
- 5) If there is a change in demand or supply, state the exact *determinants of Supply or Demand* that caused either curve to shift (TIPSE or TIN)
- 6) Label any new supply/demand curves S_2 or D_2 respectively.
- 7) What is the new *equilibrium*? Label this point E_2 . Is the new price higher or lower? Explain why...

Problems:

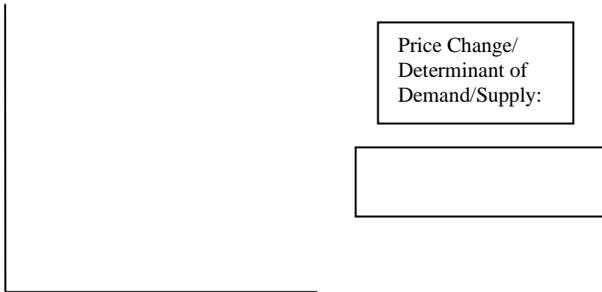
1) Market for Porsche 911's: **Market Equilibrium** $P = \$80,000$ Qty: 10,000

A. Germany's Autoworkers demand and receive higher pay and less work hours.



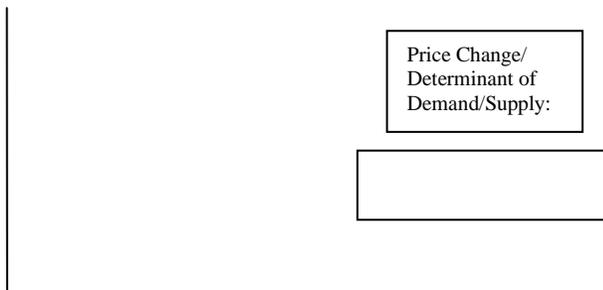
2) Market for IN/Out Burgers: **Market Equilibrium** $P = \$2.00$ Qty: 1,000 per day, per store

A. Chicken suddenly becomes much more popular relative to beef



3) Market for Ahi Tuna: **Market Equilibrium** $P: \$14.00$ lb Qty: 10,000 lbs

A. New technology increases fishing harvest methods for Tuna



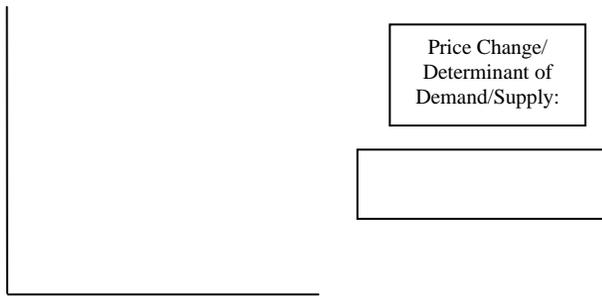
4) Market for Golden State Warriors Tickets: **Market Equilibrium** P=\$45.00 Qty: 12,000 per game

A. Warriors sign the top 3 players in the NBA



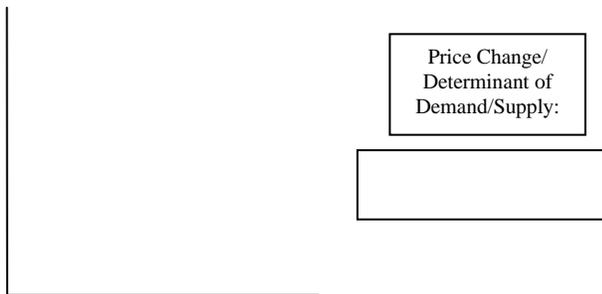
5) Market for Pepsi: **Market Equilibrium** P:\$1.00 Qty 10,000 cases per day

A. Pepsi raises its price to \$1.50 per can.



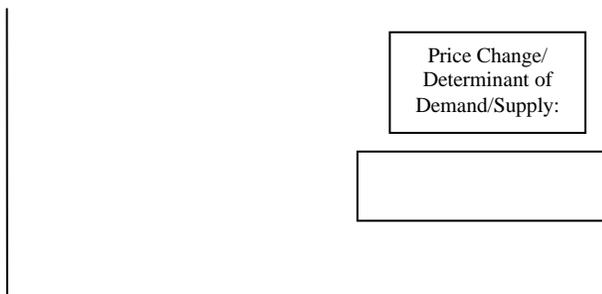
6) Market for Tennis Shoes: **Market Equilibrium** P=\$100 Qty 20,000 pairs

A. Two new competitors enter the tennis shoes market



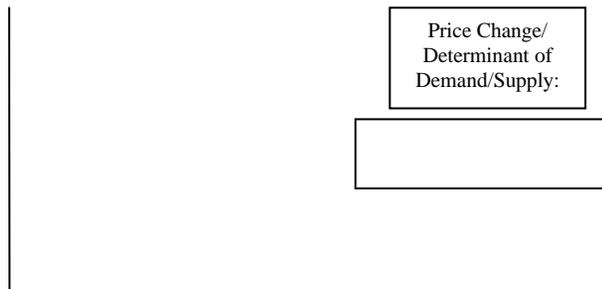
7) Market for Ski Passes at Squaw Valley: **Market Equilibrium** P=\$52.00 Qty=15,000 per day

A. Squaw valley gets rain, conditions called "worst in years"



8) Market for Disneyland tickets **Market Equilibrium** P=\$50.00 Qty=100,000 per month

A. Airlines slash travel fares for families to vacation in California.



Elasticity of Demand: How price sensitive is demand?

Slope of a Demand Curve

- What does slope indicate about the demand for a certain product?
- Do all demand curves have the same slope?

The slope of a demand curve indicates the _____. If the price of a good increases 20%, then how much does _____?

Elastic Goods: Elastic goods have demand which is very _____ to price changes. A % Change in Price leads to a _____.

Elastic Demand Curve

Inelastic Goods

Inelastic goods are _____ to price changes. A % change in price leads to a _____.

Inelastic Demand Curve

Elasticity depends on the following factors:

- 1) the number of _____
- 2) whether the good is considered _____
- 3) _____ spent on a good
- 4) _____

Elastic goods	Inelastic goods
<ul style="list-style-type: none"> • • • • 	<ul style="list-style-type: none"> • • • •

Why would a business **CARE about elasticity**?: Cha-ching! Because it effects the amount of Total Revenue (\$\$\$) the company makes. **Key formula: Price X Quantity = Total Revenue**

Elasticity _____.

Total Revenue & Inelastic Demand

Total Revenue & Elastic Demand

Total Revenue – Total Expenses = Profit

Summary—What you need to know about elasticity

More elastic demand curves are _____

Elastic means Quantity Demanded is _____

When you raise the Price of an elastic good, then _____

When you raise the Price of an inelastic good, then _____

Elastic versus Inelastic Goods

1) On the 2 separate graphs below draw one **elastic** and one **inelastic** demand curve.

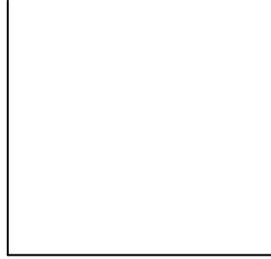
a) Draw an initial point P_1 and Q_1 on each graph.

b) Next add a higher price of P_2 and Q_2 on each graph

Elastic Demand Curve



Inelastic Demand Curve



2) What is the definition of an **elastic** good?

Provide a few real real world examples

3) What is the definition of an **inelastic** good?

Provide one or two real world examples

4) List 3 factors which cause a good to have **inelastic demand**

5) Write out the formula for **total revenue**:

TOTAL REVENUE = _____

6) Write out the formula for Profit:

PROFIT = _____

7) If a producer raises prices on a product with **elastic demand**: Then percentage (%) price increase will be _____ (GREATER/LESS) than the percentage (%) quantity demanded decrease. **Total Revenue** will _____.

8) If a producer raises prices on a product with **inelastic demand**: Then percentage (%) price increase will be _____ (GREATER/LESS) than the percentage (%) quantity demanded decrease. **Total Revenue** will _____.

9) Which are true of elastic goods

- a) They have many substitutes
- b) They have few substitutes
- c) They are needed urgently
- d) Both B & C are true

10) If a producer increase prices on elastic goods you would expect

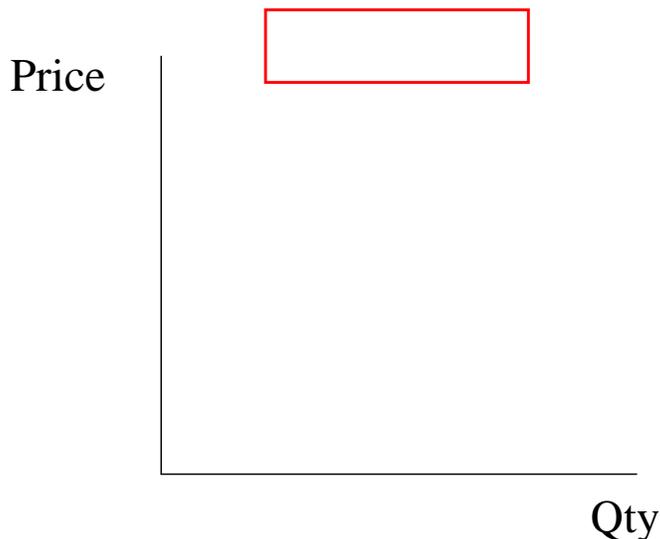
- a) Quantity sold to decline more on a percentage basis than the increase in price
- b) Quantity sold to decline less on a percentage basis than the increase in price
- c) Total Revenue to rise
- d) All listed are true
- e) Only B & C are true

11) If a producer increases prices on his product which exhibits inelastic demand, you would expect:

- a) Quantity sold to decline
- b) Price to increase a larger percentage than Quantity Demanded falls
- c) Total Revenue to rise
- d) All listed are true
- e) Only B & C are true

12) Sample Problem:

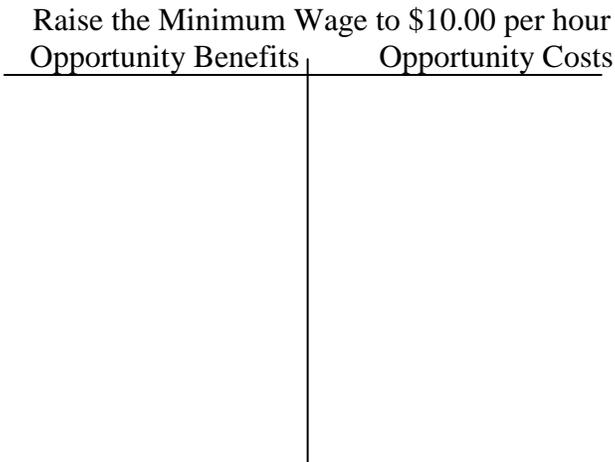
- Draw a Demand Curve for a good that is a necessity and has few *substitutes* (draw the right slope of the Demand curve)]
- Draw a normal supply curve
- Now assume the number of sellers declines in the industry (shift either the demand curve or supply curve)
- What is the effect on price change versus quantity demanded?



Price Floors & Ceilings: Government Price Controls in a Free Market?

Price Floor: _____ price set by government that is _____ market equilibrium; nothing will be sold below the given price

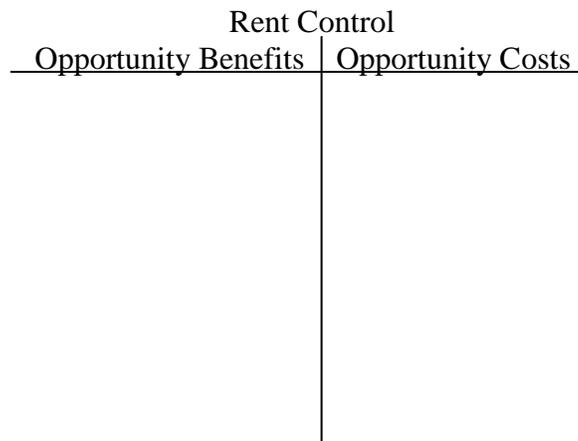
Example: The Minimum Wage



Minimum Wage Graph Analysis

Price Ceiling: _____ price set by government that is _____ equilibrium price; nothing can legally be sold above this price

Example: Rent Control

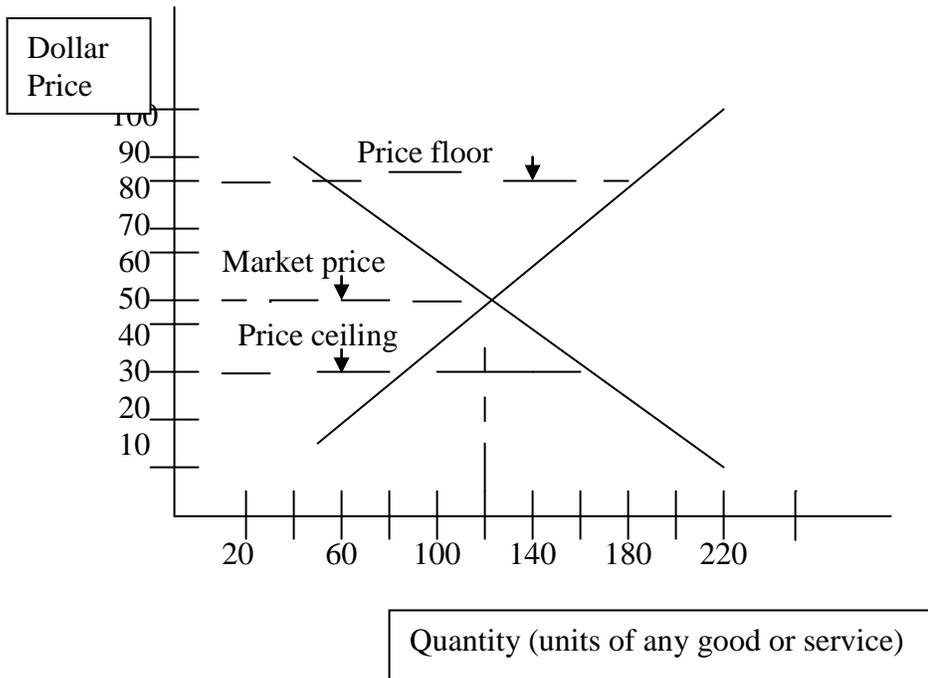


Rent Control Graph Analysis

Summary

- Price floors above the market equilibrium cause a _____ of supply (too much supply)
- Price ceilings below the market equilibrium cause a _____ of supply (too little supply)

Price Floors and Ceilings Practice



1. What is the market price of the product/service in the above market?

2. What quantity is demanded and what quantity is supplied at the market price?

Quantity demanded _____
Quantity supplied _____

3. What quantity is demanded and what quantity is supplied if the government passes a law requiring the price to be \$30?

Quantity demanded _____
Quantity supplied _____

4. What quantity would be demanded and what quantity would be supplied if the government passes a law requiring the price to be \$80?

Quantity demanded _____
Quantity supplied _____

5. An example of a price ceiling is

- a. rent control b. minimum wage c. both a and b d. neither a nor b

6. A price ceiling will result in _____ of supply when it is _____ market equilibrium.

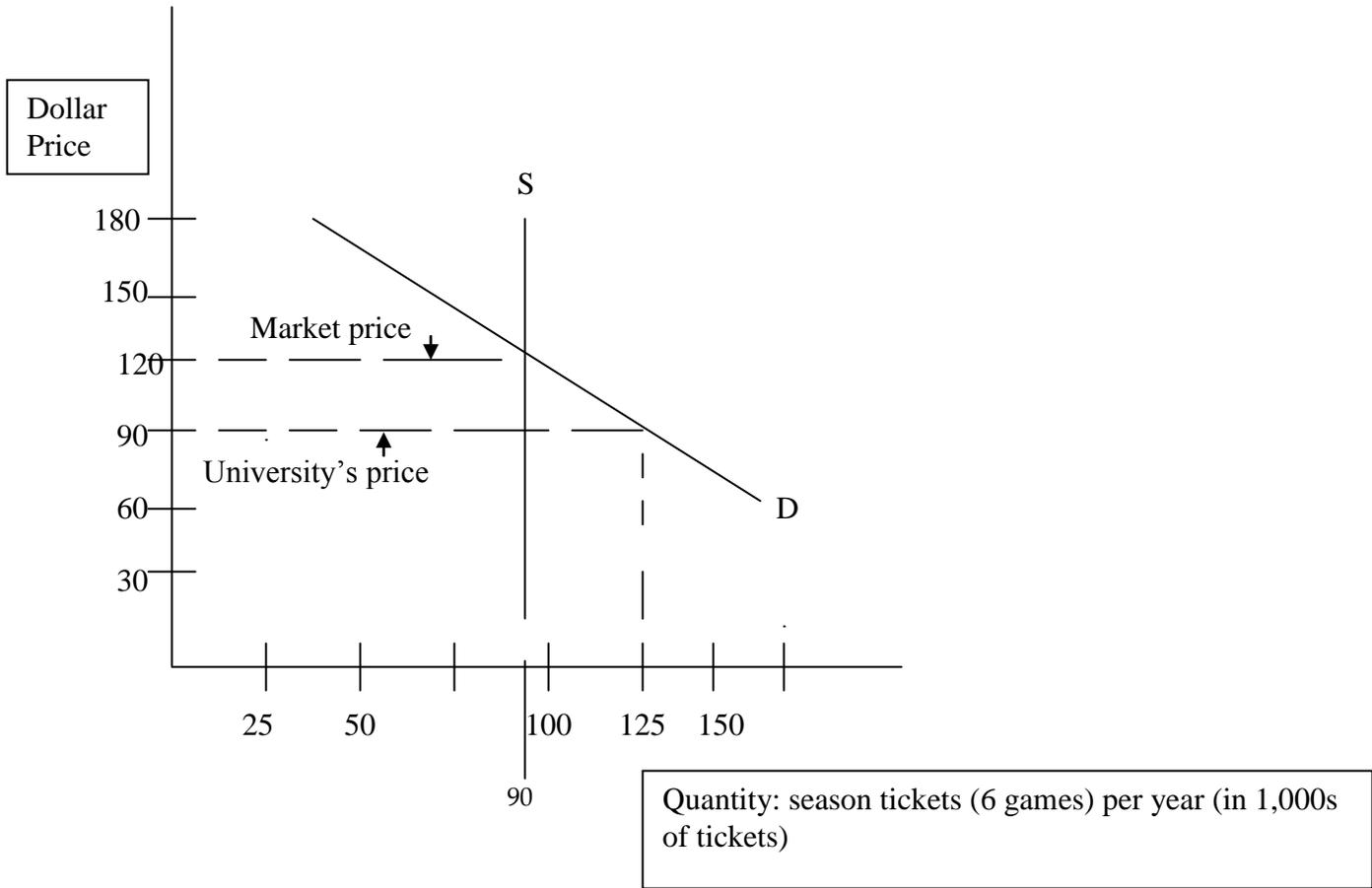
- a. surplus, above b. surplus, below c. shortage, above d. shortage, below

7. A price floor is only noticeable in the marketplace when

- a. It is set below equilibrium price b. It is set at equilibrium price c. It is set above equilibrium price

Big Football University

Assume the university has set the price of a season ticket to \$90. It will take action against people who it discovers reselling tickets at a higher price, that is, it will try to prevent “black market” or “scalper” sales (sales above \$90).



1. Answer these questions on the basis of the information in the graph:
 - a. Why is the supply curve a vertical line? _____
 - b. How many tickets are available at the university's price? _____
 - c. How many tickets do football fans wish to buy at the university's price? _____
 - d. What is the problem with respect to quantity supplied and quantity demanded? _____
 - e. Does the graph illustrate a price floor or a price ceiling? _____

2. Come up with two means of eliminating the shortage of tickets in order to prevent “black marketing” or “scalping” and evaluate each of your possible solutions by filling out the following chart:

	Solution #1: _____ _____	Solution #2: _____ _____
Who benefits from the solution?		
Who is adversely affected by the solution?		