

FORMAT: All assignments must follow the format as noted:

All assignments should include the following:

- Title page with the assignment number and your name
- Questions placed in the correct order
- Show your work on the assignment and not just a single answer.
- Paper size of 8 X 11, stapled (I don't carry a stapler)
- Neatly written or typed. Messy assignments will not be accepted.

QUESTION 1

A per-unit tax on the seller and a price support program have a similar effect on a market because

- a. both raise the amount of the good exchanged in the market
- b. both raise the price at which the good sells
- c. both leave excess supply that needs to be purchased by the government
- d. both result in the cost of production exceeding the value the consumer gets from the good
- e. both increase consumer's surplus and decrease producer's surplus

Please select your answer. Explain your answer and use a well labelled graph as part of your answer.

QUESTION 2

Assume that initially the market demand curve is $QD = 1200 - 4P$ and market supply curve is $QS = 2P$. Then, suppose the government imposes a per-unit tax (an excise tax) of six dollars per unit produced on each firm in the industry.

- (a) What is the equilibrium price and equilibrium quantity before the imposition of the tax?
- (b) What is the consumer's surplus and producer's surplus at the initial equilibrium price?
- (c) Suppose a government bureaucrat sets the price at \$210. What is the loss of consumer's surplus at that price?
- (d) What is the equilibrium price and equilibrium quantity after the imposition of the tax?
- (e) What is the loss of consumer's surplus because of this tax imposition?
- (f) What is the deadweight loss because of this tax imposition?

QUESTION 3

Assume that the market demand curve for oats is $QD = 30 - 0.5P$ and the market supply curve of oats is $QS = -15 + P$.

- (a) What is the equilibrium price and equilibrium quantity?
- (b) Suppose the government decides to have a "price support program" with a price floor set at $PF = 40$. What is the excess supply in this market? What is the cost of this program to the government?
- (c) Suppose, instead, the government decides to have a "government subsidy program" with a guaranteed (or target) price of $PT = 35$. What is the price to consumers? What is the subsidy per unit the government must pay? What is the cost to the government for this program?

QUESTION 4

If there is a negative production externality in the market for good X, then

- a. good X should never be produced.
- b. good X will be underproduced in the market.
- c. good X will be overproduced in the market.
- d. the government should give a subsidy to the producers of good X.
- e. the government should subsidize the consumers of good X.

Select your answer, give reasons for your answer and use a well labelled graph.

QUESTION 5

Consider the demand in the cabbage market

Price	Quantity Demanded
1	9
2	8
3	7
4	6
5	5
6	4
7	3
8	2
9	1
10	0

- i) Compute the price elasticity when the price changes from \$6 to \$5 (use the arc elasticity formula). What is the change in total revenue from this price change?
- ii) Compute the price elasticity when the price changes from \$4 to \$5 (use the arc elasticity formula). What is the change in total revenue from this price change?
- iii) Using the terms normal good and inferior good, explain why KLW, an aspiring vegetarian, might expect to consume less cabbage and more organic red peppers after graduating from college.
- iv) Using the terms complement good and substitute good and your knowledge of these concepts, explain KLW's (an aspiring cook) purchase patterns.

QUESTION 6

Consider the following two markets with different demand functions but similar supply functions

$$Q_D^1 = 10 - P$$

$$Q_D^2 = 30 - 5P$$

$$Q_S = P$$

Now suppose that government levies a tax of \$1.2 per unit on consumers.

- i) Find the equilibrium price and quantity before and after the tax in both markets.
- ii) Which market has higher tax revenue? Explain?
- iii) Compare tax incidence for consumers and producers in the two markets.

QUESTION 7

Which of the following statements is true?

- a. When supply is relatively inelastic, the deadweight loss from an excise tax is relatively large.
- b. When demand is relatively elastic, the deadweight loss from an excise tax is relatively large.
- c. When supply is more elastic than demand, the tax incidence falls more heavily on producers than on consumers.
- d. When demand is more elastic than supply, the tax incidence falls more heavily on consumers than on producers.

Please select your answer. Explain your answer and use a well labelled graph as part of your answer.

QUESTION 8

Suppose demand for cigarettes in Vancouver is given by $Q_d=20-P$ while supply is given by $Q_s=0.25P$.

- Find the equilibrium quantity and price.
- Consider the same cigarette market and now suppose that a city decides to impose an excise tax of \$5/pack on cigarette producers.
- Write down the new supply equation as $P =$ rather than $Q_s=$.
- Find the equilibrium quantity and price after the tax.
- What would be the net price received by the cigarette producers? Paid by consumers?
- Find the consumer surplus & producer surplus before and after the tax, graphically and algebraically.
- Find the taxes paid by consumers (consumer tax incidence) and taxes paid by producers (producer tax incidence).
- Compute the tax revenue collected by a city of Vancouver, graphically and algebraically.
- Find the deadweight loss of this tax policy,
- Suppose the smokers in Vancouver were more addicted to cigarettes, so their demand (assume this demand curve still passes through the equilibrium point you found in (a)), is less responsive to the price change. Would the consumers pay a higher or lower share of the total taxes collected? Illustrate with a new diagram.
- What if the smokers are less addicted? Would the consumers pay a higher or lower share of the total taxes collected? Illustrate with a new diagram.
- Using a well labelled graph, show the implications of the tax.

QUESTION 9

Suppose demand for cigarettes in Vancouver is given by $Q_d=9-P$ while supply is given by $Q_s=0.5P$.

- Find the equilibrium quantity and price.
- Suppose that the city has decided to impose a price floor of \$7. How many cigarettes are traded in the market now? And will there be a shortage or a surplus?
- Using a well labelled graph, show the implications of a part a and then the price floor.

QUESTION 10

Suppose that market demand for Canuck jerseys is given by $Q^D = -2P + 140$ and market supply of the shirts is given by $Q^S = P - 10$.

- Find the equilibrium price and quantity in this market.
- Suppose the City of Vancouver obtains evidence that students who wear Canuck jerseys perform worse on their final exams. The government would like to reduce the number of shirts exchanged to improve final exam performance.
 - If the government wishes to create a price floor to accomplish its objective, what is the minimum price it would have to set to make sure no shirts are bought by consumers?
 - Say the City sets a price of \$55 for the shirts. What is the excess quantity supplied in this case? Give a general expression for excess quantity supplied in this market. (hint: $Q^S - Q^D$, where $P >$ equilibrium price found in part a)
- Suppose now that market demand for Canuck jerseys has changed to $Q^D = -2P + 170$. Give a possible explanation for the change. What do you expect to happen to the equilibrium price (relative to that of part a)? What do you expect to happen to the equilibrium quantity (relative to that of part a)? Find the new equilibrium to verify your answers.