Chapter 5 Samples Exam Problems with Answers

1. The difference between the willingness to pay for a good and the amount that is paid to get it is known as
   a. consumer expenditure
   b. producer surplus
   c. consumer surplus
   d. total surplus

2. Priscilla is willing to pay $65 for a new pair of shoes. Pandora is willing to pay $50 for the same shoes. The shoes have a price of $45. What is the total consumer surplus for Priscilla and Pandora?
   a. $15
   b. $20
   c. $25
   d. $115

3. A decrease in the price of a good would
   a. increase total surplus
   b. decrease producer surplus
   c. decrease consumer surplus
   d. increase demand for the good

4. What happens to the amount of consumer surplus and producer surplus when the supply of scarves declines (shifts left)?
   a. Producer surplus declines and consumer surplus is unchanged.
   b. Consumer surplus declines and producer surplus is unchanged.
   c. Consumer surplus declines and producer surplus declines.
   d. Consumer surplus is unchanged and producer surplus is unchanged.

5. Total surplus is maximized when
   a. the government taxes most goods and services.
   b. very few consumers and producers exist within a market.
   c. The government imposes price controls.
   d. The market reaches its equilibrium price and quantity.

6. Which of the following statements is concerned with efficiency rather than equity?
   a. It is not fair to tax the income earned by the wealthy at higher rates than the poor.
   b. Our income tax system should be more progressive than it is now.
   c. The best type of income tax is a flat tax because it treats everyone the same.
   d. Taxes cause distortions in markets and reduce total surplus.

7. “When a good is divided up, it is important that none of the good go to waste.” This statement emphasizes
   a. fairness
   b. the zero-surplus principle
   c. efficiency
   d. equity

8. A tax on apples would cause consumers to suffer because
   a. Consumer surplus would increase
   b. The price of apples would increase, and fewer apples would be produced
   c. Revenues for apple growers would decrease
   d. the government would collect revenue from the tax

9. In most cases, taxes reduce economic efficiency because
   a. They lower prices for consumers and cause firms to suffer.
   b. they increase firm’s profits at the expense of consumers.
   c. the government often spends tax revenues on programs that some voters don’t like.
   d. they reduce consumer surplus and producer surplus.

10. After a tax is imposed, the price paid by consumers _____ and the price received by producers _____.
   a. increases, increases
   b. increases, decreases
   c. decreases, decreases
   d. decreases, increases

11. When a tax is imposed on some good, the lost consumer surplus and producer surplus both typically end up as
   a. additional revenues for firms.
   b. lower prices for consumers.
   c. increased total surplus.
   d. tax revenue and deadweight loss.

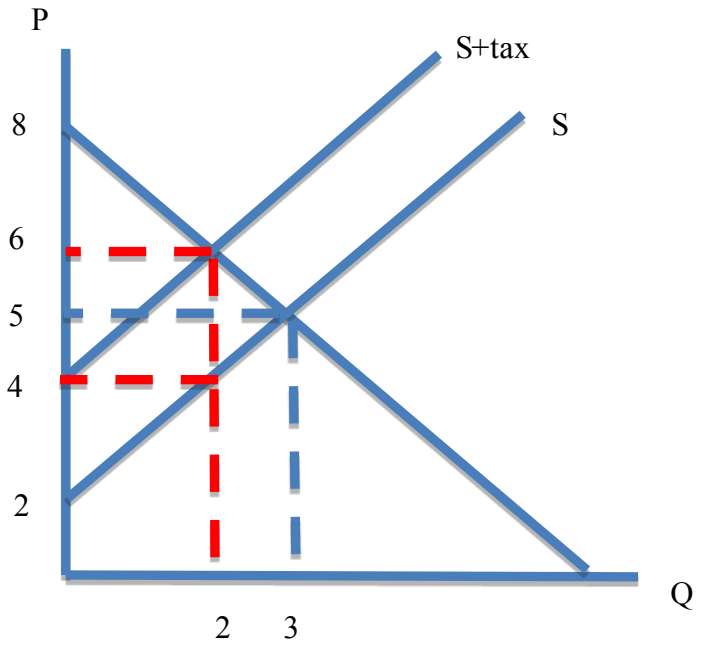
12. Deadweight loss is defined as
   a. the cost to society created by distortions in the market.
   b. how much revenue a tax generates.
   c. the benefit of additional government spending.
   d. who pays a tax out of pocket.

13. All taxes create some deadweight loss, unless
   a. the tax is very small
   b. the tax is paid by consumers, not producers.
   c. either supply or demand is perfectly inelastic.
   d. the tax is very large.

14. Suppose the weekly demand for a certain good, in thousands of units, is given by the equation P=8-Q and the weekly supply of the good, in thousands of units, is given by the equation P=2+Q, where P is the price in dollars.

a. Calculate the total economic surplus generated at the market equilibrium.

See diagram below (may not be to scale). The market quantity is given by the solution to 8-Q=2+Q, which implies that Q*=3 and P*=5. Thus, consumer surplus is (3,000*$3)/2=$4,500, and producer surplus is also (3,000*$3)/2=$4,500, so total surplus=$9,000.



b. Suppose a per unit tax of $2, to be collected from sellers, is imposed on this market. Calculate the loss in economic surplus (TS = CS + PS) experienced by participants in this market because of this tax.

See diagram above. With the tax, the market quantity is given by the solution to 8-Q=4+Q, which implies that $Q^{*T}=2$ and $P^{*T}=6$. This means that consumer surplus= (2,000*$2)/2=$2,000, and producer surplus is (2,000*$2)/2=2,000. So total surplus=4,000. This implies the tax led to a $5,000 loss in surplus.

c. How much revenue will be generated by this tax each week?

With the tax, 2,000 units are sold, and the per-unit tax is $2, so tax revenue =$4,000.

d. If the tax revenue is returned to participants in this market (for example, in the form of direct cash transfers from the government), what will be their net reduction in total economic surplus?

The net reduction would be $5000-$4000 = $1,000, which is also the deadweight loss of the tax. You could also get this result by taking ½ ($2 x 1000).

15. Suppose the daily demand for hotel rooms in San Diego is given by Qd=11,000-20P, and the daily supply of hotel rooms is given by Qs=20P-1000, where P is the price per night of a hotel room.

a. Sketch the supply curve and the demand curve for hotel rooms in San Diego. For each curve, be sure to label the x-intercept and y-intercept.

Answer: Remember you can draw the demand and supply curves by putting P=0 and Q=0 into each equation to find the vertical and horizontal intercepts.

b. In the absence of any kind of government intervention, what's the equilibrium price and quantity of hotel rooms in San Diego? Show your work.

Answer: Prices must adjust to equate Qs and Qd. That is: 11,000-20P*=20P*-1000, so P*=300. Plugging this back into the equation for either supply or demand, we see that Q*=5000.

c. Calculate consumer surplus. Show your work.

Answer: CS=(550-300)×5000/2=$625,000 per day

d. Now suppose the government imposes a tax on consumers of $50 per night on each hotel room. What will be the new equilibrium price and quantity of hotel rooms? Show your work.

Answer: After taxes Qd=11,000-20(P+50) or Qd=10,000-20P. Setting Qd=Qs, we have that 10,000-20P=20-1,000 or 11,000=40P or Pt=$275. Plugging this into either the supply curve or the after-tax demand curve, we have that Qt=4500.

e. How much will consumers pay for a hotel room after taxes?

Answer: After taxes, consumers will pay $325 per night (=$275+$50).

f. What's the DWL as a result of the tax? Show your work.

Answer: DWL=($325-$275)×500/2=$12,500 per day.

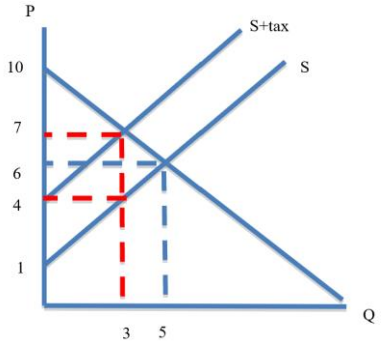
g. Generally speaking, do you think the burden of hotel taxes will fall primarily on tourists who come to stay in the hotels or on hotel owners? Explain.

Answer: The demand for hotel rooms is generally thought to be relatively elastic whereas the supply of hotel rooms is generally thought to be relatively inelastic. In this case, the burden of the tax will fall primarily on the owners of hotels. [Other answers could also be correct depending on your assumptions about the elasticity of supply and demand.]

16. Marcus paid $35 to buy a potato cannon, a cylinder that shoots potatoes hundreds of feet. He was willing to pay $45. When Marcus's friend Starling learns that Marcus bought a potato cannon, he asks Marcus if he will sell it for $55, and Marcus agrees. Starling is thrilled, because he would have paid Marcus up to $80 for the cannon. Marcus is also delighted. Determine the consumer surplus from the original purchase and the additional surplus generated by the resale of the cannon.

Answer: The consumer surplus from the original purchase is equal to Marcus's willingness to pay ($45.00) minus the price that he actually paid ($35): $45.00 - $35 = $10.00. Marcus valued the cannon at $45.00, so that should be his willingness to sell. The producer surplus from selling the cannon to his friend is the amount that Marcus receives for the cannon ($55) minus the amount he values the cannon ($45.00): $55 - $45.00 = $10.00. Starling's consumer surplus is his willingness to pay ($80.00) minus the amount he actually pays ($55): $80.00 - $55 = $25.00. Therefore, the additional total surplus generated by the resale is Marcus's producer surplus ($10.00) + Starling's consumer surplus ($25.00): $10.00 + $25.00 = $35.00.

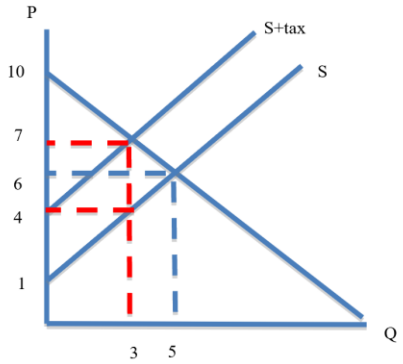
17. Using the graph determine amount that CS decreased after the tax.



A) 9.0
B) 5.5
C) 4.5
D) 3.0

E) 1.0

18. Using the graph determine what is the incidence that producers pay?



A) 4%
B) 2%
C) 1%
D) 66.7%
E) 3%

19. Bob and Theodore order a large cheese pizza. Bob eats 5 slices and Theodore eats 3 slices. There are no slices left over. This outcome is _____ and _____.

A) inefficient and equitable.
B) inefficient and inequitable.
C) efficient and equitable.
D) efficient and inequitable.

20. A tax on which of these goods/services will create the *least* deadweight loss?

A) burritos
B) Pepsi
C) dynamite sushi rolls
D) getting cavities filled at the dentist

21. Ann is willing to pay $28 to buy a kite. Bevo is willing to sell a kite for $12. They agree on a price of $19. What is the total surplus from this transaction?

A) $ 7
B) $12
C) $16
D) $19
E) $40