Name: **Key**

Econ 163

**Exam 01**

* There are 110 possible points on this exam. The test is out of 100.
* You have one hour to complete this exam, but you should be able to complete it in less than that
* Please turn off all cell phones and other electronic equipment.
* You are allowed a calculator for the exam. This calculator cannot be capable of storing equations. This calculator cannot double as a cell phone.
* Be sure to read all instructions and questions carefully.
* Remember to show all your work.
* Recall basic logic. “Water is wet” is a true statement. “Water is wet and leopards have stripes” is a false statement.
* *Please print clearly and neatly.*

**Part I: Multiple Choice.** *Choose the best answer to the following.* 5 points each.

1. The Broken Window Fallacy concerns the tendency for people to:
	1. Break windows
	2. **Ignore opportunity cost**
	3. Refuse to trade
	4. B & C
	5. None of the above

*By applauding the metaphorical breaking of windows, people ignore that resources spent on replacing them could have been used to get something else while maintaining the enjoyment of the window.*

1. Which of the following does ***not*** influence the price elastic of demand?
	1. Proportion of budget
	2. Time
	3. Importance
	4. A & B
	5. **None of the above**

*All of these are factors, though A and C are similar.*

1. Fred the baker lowers his price on bread which causes his revenues to increase. What does this suggest about the elasticity of demand of his bread?
	1. **It is elastic because quantity demanded increase disproportionately more.**
	2. It is inelastic because bread is a relatively small part of a person’s budget.
	3. It is elastic because there are many substitutes for Fred’s bread.
	4. A & C
2. None of the above

*While C is true, that is not related to changes in revenue. A is related.*

1. Which of the following most likely has a perfectly inelastic supply curve?
	1. Seeds for fruit trees
	2. Health insurance
	3. **Prehistoric cave paintings**
	4. *Star Wars* movies
	5. None of the above

*By definition of the thing, no more can be made.*

1. US Highway 12 is part of a crucial two-lane artery from the seaports in Washington State to the tar sands in Canada. Extracting oil from the tar sands requires very large equipment: transporting it takes up both lanes of US 12. In August of 2010, Idaho granted ConocoPhilips a road permit which allowed it to transport four oil processing units. Without this permit, ConocoPhilips would have to move those units a much longer distance to get to their destination. If no permits for US 12 were allowed, how would that affect the elasticity of which curve in the market for oil?
2. The supply curve would become more elastic
3. **The supply curve would become less elastic**
4. The demand curve would become more elastic
5. A & C
6. None of the above

*Without the permit, the number of substitutes for inputs decreases. It would take more time to move things as well. With so much less flexibility, this makes the supply curve less elastic (or more inelastic).*

1. In the market for backpacks, suppose 100 backpacks are sold at $40 each. Then a fall in wages results in the price of backpacks selling for $20 each with 500 backpacks sold. Using the midpoint method (AKA arc elasticity), what is the absolute value of the elasticity of demand for backpacks?
	1. 0.125
	2. 0.50
	3. **2.00**
	4. 8.00
	5. None of the above

*This is just applying the formula we covered in class:*

*((100-500)/((100+500)/2)) / ((40-20)/((40+20)/2)) = (-400/300) / (20/30) = -2, or 2.00.*

1. Suppose Ben is hired for 6 hours at $20 an hour. If he increases his hourly wage by $10 and he is hired for 4 hours, what is the price elasticity of demand for his services?
2. -1.67
3. -0.60
4. **-1.00**
5. -1.50
6. None of the above

*[-2/5] / [10/25] = -1.00*

1. Suppose Carlos makes pies based on the following supply curve: Q = (1+P)2. At P=2, what is Carlos’s elasticity of supply?
2. 0.67
3. 0.75
4. 1.56
5. 2.40
6. **None of the above**

*If P=2, then Q=(1+2)2 = 9. The derivative is 2(1+P) (1) = 2+2P, or 6 at P=2. Thus the elasticity is 6x(2/9) or 1.333.*

1. Consider Canada’s PPF using both timber and oil. After the development of technology which allows oil extraction from Canada’s vast tar sands, how does the PPF change?
2. The PFF changes on both axes.
3. The PFF changes on one axis.
4. Making the same amount of oil, Canada can produce more timber.
5. **B & C**
6. None of the above

*If oil is along the X axis, the PPF will expand along that axis, flattening it while keeping the timber maximum constant. With the exception of one point (when Canada makes only timber), this could allow Canada to keep oil production constant while expanding its timber production.*

1. Suppose the demand curve for diamonds is very elastic and the supply curve is very inelastic. If the government establishes a $100 tax on diamonds, who pays most of that tax? Intuitively, what is a possible reason why this is so?
2. Suppliers, because suppliers can import fewer diamonds.
3. Demanders, because they can buy emeralds instead.
4. Demanders, because suppliers have a lot of time to adapt.
5. B & C
6. **None of the above**

*The more elastic curve will pay less of the tax because they will be more responsive to change. (B) would be correct if it had suppliers rather than demanders. (A) would be correct but it indicated a reason why the supply would be more elastic, not less.*

**Part II: True/False.** *Answer true or false, and justify your answer.* 10 points each.

1. Price controls and quotas always create deadweight loss.

*False. A price ceiling set above equilibrium, a price floor set below equilibrium, a maximum quota set above equilibrium, and a minimum quota set below equilibrium do not create deadweight loss.*

1. As tariffs increase, domestic producer surplus ***always*** increases and government revenue ***sometimes*** increases.

*False. While government revenue might decrease or increase—similar to the Laffer Curve—domestic producer surplus won’t always increase. If tariffs are so high that nothing is imported and then the tariff goes up more, domestic producer surplus won’t increase—it’ll stay the same.*

1. A tax on a market with very inelastic supply and demand curves will cause a greater drop in quantity exchanged than the same tax on a market with very elastic supply and demand curves.

*True. You can see this by graphing but the intuition is that since very sensitive producers and consumers will react more strongly to a tax than the price-insensitive market participants, you’ll see a greater drop in quantity changed.*

**Part III: Short Answer.** *Answer the following.* 15 points each.

1. Consider the following supply and demand curves:

$$Q\_{D}=100-8P$$

$$Q\_{S}=10+2P$$

Suppose the government creates a subsidy equal to 5. Determine the new quantity exchanged, the deadweight loss, the new price consumers pay and producers receive, and the cost of the subsidy.

*First we note where equilibrium price and quantity is.*

$$100-8P=10+2P$$

$$10P=90$$

$$P^{\*}=9;Q^{\*}=10+2\left(9\right)=28$$

*Now let’s set PD = PS – 5.*

$$100-8(P\_{S}-5)=10+2P\_{S}$$

$$100-8P\_{S}+40=10+2P\_{S}$$

$$130=10P\_{S}$$

$$13=P\_{S}$$

$$8=P\_{D}$$

$$10+2\left(13\right)=36=Q\_{G}$$

$$DWL=\left(36-28\right)\left(5\right)\left(0.5\right)=20$$

1. Using the diagram below, indicate the effects of a tariff. Be sure to indicate changes in producer surplus, government revenue, transfers to domestic inputs, and deadweight loss.

P

SD

D

Q

QD\*

PD\*

SD+T

DWL

Government Revenue

Transfer to Domestic Producers

Transfer to Domestic Inputs

QD+T

PD+T