Youngberg

Econ 301

**Homework 01**

Answer all the following on a ***typed, stapled*** (if applicable)separate sheet of paper. Make sure that you justify your answers, use your own words, and show your work. All questions are equally weighted.

1. People often claim that hurricanes are good for the economy they affect because it creates a great deal of economic activity. While citing (and defining) opportunity costs, offer a challenge to this argument.

*Opportunity costs, or the net benefit of the next-best (and therefore forgone) option, illustrates why hurricanes are not good for the economy, especially the local one they devastate. A community that has to spend time/money/resources rebuilding cannot spend those same resources on something else. Instead of adding to their wealth, they must replace it, work extra hard just to return to where they once were.*

1. Suppose, at a price of $10 each, the market demands 3,000 pies. Using the arc price elasticity method calculate elasticity for each of the following price and quantity combinations and indicate if the result is elastic, inelastic, or unit elastic.
   1. P = $5; Q = 7,500

*[(7,500 – 3,000)/((7,500 + 3,000)/2)] / [(5 – 10)/((5 + 10)/2)]*

*(4,500/5,250) / (-5/7.5)*

*-1.286, elastic*

* 1. P = $11; Q = 2,800

*[(2,800 – 3,000)/((2,800 + 3,000)/2)] / [(11 – 10)/((11 + 10)/2)]*

*(-200/2,900) / (1/10.5)*

*-0.724, inelastic*

* 1. P = $8; Q = 3,750

*[(3,750 – 3,000)/((3,750 + 3,000)/2)] / [(8 – 10)/((8 + 10)/2)]*

*(750/3,375) / (-2/9)*

*-1.000, unit-elastic*

* 1. P = $2; Q = 10,000

*[(10,000 – 3,000)/((10,000 + 3,000)/2)] / [(2 – 10)/((2 + 10)/2)]*

*(7,000/6,500) / (-8/6)*

*-0.808, inelastic*

1. Consider the demand for glass. Assume its demand curve is reflected with the equation **Q = 20 – 2P**. Calculate the point price elasticity of demand for glass at the following prices. Indicate if it is elastic, unit elastic, or inelastic at that price.
   1. P = $0.30

*-2\*(0.3/19.4) = -0.6/19.4 = -0.031; inelastic*

* 1. P = $5

*-2\*(5/10) = -1.000; unit-elastic*

* 1. P = $7

*-2\*(7/6) = -14/6 = -2.333; elastic*

* 1. P = $9

*-2\*(9/2) = -18/2 = -9.000; elastic*

1. Consider the supply for wood. Assume its supply curve is reflected with the equation **Q = 1 + 4P + 2P2**. Calculate the point price elasticity of demand for glass at the following prices. Indicate if it is elastic, unit elastic, or inelastic at that price.
   1. P = $0.30

*(4+4(0.3))\*(0.3/(1+4(0.3)+2(0.3)2) = 1.56/2.38 = 0.655; inelastic*

* 1. P = $5

*(4+4(5))\*(5/(1+4(5)+2(5)2) = 120/71 = 1.690; elastic*

* 1. P = $7

*(4+4(7))\*(7/(1+4(7)+2(7)2) = 224/127 = 1.764; elastic*

* 1. P = $9

*(4+4(9))\*(9/(1+4(9)+2(9)2) = 360/199 = 1.809; elastic*

1. As discussed, gun buyback slave redemption programs fail due to the elasticity of supply of guns and slaves. But if the elasticity was different, these programs would be much more successful. Describe a good where a buyback program (where the government, charity, or other public interest group buys something to either reduce how much there is or to use it in a better way) would be very successful. Be sure to justify your answer by describing the elasticity of supply of the good you chose. Note you not only need a good of a particular elasticity of supply, you need a good whose use we wish to alter or reduce (such as fewer guns for crime or reducing the number of slaves that exist).

*Rainforests are often bought by developers and leveled for building farms. Not only is the rainforest destroyed, the leveling process often involves burning the forest down and thus releasing harmful smoke into the atmosphere. It is reasonable to assume that the supply curve is very inelastic—it takes time to grow a forest—so if a group bought rainforest land they would probably be quite successful in reducing the amount of leveled rainforest and atmospheric smoke; the price of rainforest land would steeply rise.*