Economics 1
Quiz 2
May 7, 2008

Each correct answer is worth 5 points. Answers left blank are worth 2 points. Wrong answers are worth 0 points.

**True-False Questions:** Fill in Bubble A for True, Bubble B for False.

1. If the supply curve crosses the demand curve at a single point, then when the market for that good is in competitive equilibrium, everybody who buys a unit of the good pays the same price.

2. If trades are arranged between buyers and sellers so that each buyer who makes a trade has a higher buyer value than the seller cost of the person with whom he or she trades, the outcome of these trades must be efficient.

3. If the demand curve is a downward sloping straight line, then demand is more elastic at lower prices than at higher prices along this line.

4. If demanders are paid a subsidy of $10 for each unit that they purchase, the demand curve is shifted vertically upwards by $10.

5. The supply curve for a good is as follows. At prices below $10, none will be supplied. At any price above $10, exactly 10,000 units will be supplied. With no sales tax, the competitive equilibrium price of the good is $50. If a sales tax of $25 per unit is collected from buyers of this good, in the competitive equilibrium with the sales tax, demanders’ profits will be the same as they were without the sales tax.

**Multiple Choice Questions**
6. This year natural gas prices increased sharply in California. Also, more natural gas was sold in the state than in previous years. This suggests that:

(a) the theory of supply and demand does not apply to necessities like natural gas, since if it did, demand would decrease when the price goes up.
(b) the supply curve for natural gas is vertical.
(c) the demand curve for natural gas has shifted up and the supply curve for natural gas is upward sloping.
(d) the supply curve for natural gas has shifted to the right.
(e) the supply curve for natural gas has shifted to the left.

7. Suppose that an oil cartel succeeded in reducing the supply of crude oil by 5% and suppose that the price elasticity of demand for crude oil is $-0.10$. What will happen to the equilibrium price of crude oil?

(a) It will fall by 5%.
(b) It will rise by 5%.
(c) It will rise by 20%.
(d) It will rise by 50%.
(e) It will rise by 30%.

8. The shrimp harvest was unusually good this year. The demand curve did not shift from last year, but because of the abundant harvest, the price fell from $100 per sack to $85 per sack. The price elasticity of demand for shrimp is $-1.40$. What happened to the total revenue of fishermen? Choose the closest answer.

(a) It decreased by about 6%.
(b) It decreased by about 12%.
(c) It decreased by about 48%.
(d) It increased by about 6%.
(e) It increased by about 36%.
9. Boomtown is a growing community bounded by mountains and the sea. The remaining undeveloped land in town has been subdivided into 1,000 residential lots which will be offered for sale. The demand curve for residential lots in Boomtown is described by the formula \( P = 900,000 - 250Q \) where \( P \) is the price and \( Q \) is the number of lots sold. The market for these lots is competitive and sellers will try to get the highest price they can for them. These lots are of no value for any use other than residential housing. If there are no taxes on the sale of a lot, what will be the competitive price per lot?

(a) $495,000  
(b) $900,000  
(c) $10,000  
(d) $650,000  
(e) $3,600

10. If the city council of Boomtown imposes a sales tax of $40,000 per lot which is collected from the buyers when they purchase a lot, what will be the effect of the tax on the equilibrium price that SELLERS receive from buyers for residential lots in Boomtown?

(a) The tax will have no effect on the price that buyers pay to sellers.  
(b) The tax will cause the price that buyers pay to sellers to decrease by $20,000  
(c) The tax will cause the price that buyers pay to sellers to decrease by $40,000.  
(d) The tax will cause the price that buyers pay to sellers to decrease by more than $20,000 but less than $40,000.  
(e) The tax will cause the price that buyers pay to sellers to increase, but not by as much as $40,000.

11. The excess burden due to the tax imposed on buyers of residential lots in Boomtown is equal to

(a) the total revenue collected by the tax.  
(b) twice the total revenue collected by the tax.  
(c) more than twice the total revenue collected by the tax.  
(d) more than zero, but less than the total revenue collected by the tax.  
(e) zero.
12. In "Gasoline Tax Follies," Paul Krugman argues that a reduction in the gasoline tax would
   (a) decrease the price of gasoline because the supply of gasoline is elastic.
   (b) decrease the price of gasoline because the demand for gasoline is inelastic.
   (c) increase the price of gasoline because the demand for gasoline is inelastic.
   (d) have little effect on the price of gasoline because the supply of gasoline is inelastic.
   (e) have little effect on the price of gasoline because the demand for gasoline is inelastic.

13. There are 50 vacant lots in Paradise, Idaho. The owner of each lot is willing to sell that lot if he or she receives a price of at least $10,000. There are 200 retirees from California who would like to buy a lot in Paradise on which they could build their retirement homes. Seventy-five of those retirees are willing to pay $15,000 for a lot, and 125 of those retirees are willing to pay $7,500 for a lot. If the town of Paradise imposes a tax of $1,000 on each person who buys a lot, how will the tax affect the competitive equilibrium price that sellers receive for lots in Paradise?
   (a) The price will not change.
   (b) The price will increase by $1,000.
   (c) The price will decrease by $1,000.
   (d) The price will increase by $500.
   (e) The price will decrease by $500.

14. In the farmers' apple market, there are 30 buyers of apples, and 20 sellers of apples. Each buyer can buy at most one bushel of apples, and each seller can sell at most one bushel of apples. Fifteen buyers have a buyer value of $40 for a bushel of apples, and 15 have a buyer value of $30 for a bushel. Ten sellers have a seller cost of $10 for a bushel of apples, and ten sellers have a seller cost of $20 for a bushel of apples. In this market, what is the excess burden of a tax of $15 per bushel levied on sellers of apples?
   (a) $50
   (b) $0
   (c) $75
   (d) $100
   (e) $125
15. Jane owns a lake cabin in Minnesota, which she can rent out when she isn't occupying it herself. Whether she rents it out or uses it herself, she pays utility bills of $20 per month. If she rents it out, she also has to pay $50 a month to have it cleaned and repaired. Jane can rent her cabin for $500 a month. What is her opportunity cost of occupying the cabin herself instead of renting it out?

(a) $500
(b) $450
(c) $480
(d) $430
(e) $550
Each correct answer is worth 5 points. Answers left blank are worth 2 points. Wrong answers are worth 0 points.

**True-False Questions:** Fill in Bubble A for True, Bubble B for False.

1. If the supply curve crosses the demand curve at a single point, then when the market for that good is in competitive equilibrium, everybody who buys a unit of the good pays the same price.

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4. If trades are arranged between buyers and sellers so that each buyer who makes a trade has a higher buyer value than the seller cost of the person with whom he or she trades, the outcome of these trades must be efficient.

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(d) the supply curve for natural gas has shifted to the right.
(e) the supply curve for natural gas has shifted to the left.

7. Suppose that an oil cartel succeeded in reducing the supply of crude oil by 5% and suppose that the price elasticity of demand for crude oil is $-0.10$. What will happen to the equilibrium price of crude oil?

(a) It will rise by 20%.
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(d) It will rise by 50%.
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(b) It decreased by about 48%.
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9. Boomtown is a growing community bounded by mountains and the sea. The remaining undeveloped land in town has been subdivided into 1,000 residential lots which will be offered for sale. The demand curve for residential lots in Boomtown is described by the formula \( P = 900,000 - 250Q \) where \( P \) is the price and \( Q \) is the number of lots sold. The market for these lots is competitive and sellers will try to get the highest price they can for them. These lots are of no value for any use other than residential housing. If there are no taxes on the sale of a lot, what will be the competitive price per lot?

   (a) $650,000
   (b) $10,000
   (c) $900,000
   (d) $495,000
   (e) $3,600

10. If the city council of Boomtown imposes a sales tax of $40,000 per lot which is collected from the buyers when they purchase a lot, what will be the effect of the tax on the equilibrium price that SELLERS receive from buyers for residential lots in Boomtown?

   (a) The tax will have no effect on the price that buyers pay to sellers.
   (b) The tax will cause the price that buyers pay to sellers to decrease by more than $20,000 but less than $40,000.
   (c) The tax will cause the price that buyers pay to sellers to decrease by $20,000
   (d) The tax will cause the price that buyers pay to sellers to decrease by $40,000.
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11. The excess burden due to the tax imposed on buyers of residential lots in Boomtown is equal to

   (a) more than zero, but less than the total revenue collected by the tax.
   (b) twice the total revenue collected by the tax.
   (c) more than twice the total revenue collected by the tax.
   (d) the total revenue collected by the tax.
   (e) zero.
12. In the farmers' apple market, there are 30 buyers of apples, and 20 sellers of apples. Each buyer can buy at most one bushel of apples, and each seller can sell at most one bushel of apples. Fifteen buyers have a buyer value of $40 for a bushel of apples, and 15 have a buyer value of $30 for a bushel. Ten sellers have a seller cost of $10 for a bushel of apples, and ten sellers have a seller cost of $20 for a bushel of apples. In this market, what is the excess burden of a tax of $15 per bushel levied on sellers of apples?

(a) $50  
(b) $0  
(c) $100  
(d) $75  
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13. Jane owns a lake cabin in Minnesota, which she can rent out when she isn’t occupying it herself. Whether she rents it out or uses it herself, she pays utility bills of $20 per month. If she rents it out, she also has to pay $50 a month to have it cleaned and repaired. Jane can rent her cabin for $500 a month. What is her opportunity cost of occupying the cabin herself instead of renting it out?

(a) $430  
(b) $500  
(c) $480  
(d) $450  
(e) $550

14. There are 50 vacant lots in Paradise, Idaho. The owner of each lot is willing to sell that lot if he or she receives a price of at least $10,000. There are 200 retirees from California who would like to buy a lot in Paradise on which they could build their retirement homes. Seventy-five of those retirees are willing to pay $15,000 for a lot, and 125 of those retirees are willing to pay $7,500 for a lot. If the town of Paradise imposes a tax of $1,000 on each person who buys a lot, how will the tax affect the competitive equilibrium price that sellers receive for lots in Paradise?

(a) The price will increase by $1,000.  
(b) The price will decrease by $1,000.  
(c) The price will not change.  
(d) The price will increase by $500.  
(e) The price will decrease by $500.
15. In "Gasoline Tax Follies," Paul Krugman argues that a reduction in the gasoline tax would
(a) increase the price of gasoline because the demand for gasoline is inelastic.
(b) have little effect on the price of gasoline because the supply of gasoline is inelastic.
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(d) decrease the price of gasoline because the supply of gasoline is elastic.
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**True-False Questions:** Fill in Bubble A for True, Bubble B for False.

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10. If the city council of Boomtown imposes a sales tax of $40,000 per lot which is collected from the buyers when they purchase a lot, what will be the effect of the tax on the equilibrium price that SELLERS receive from buyers for residential lots in Boomtown?

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    who would like to buy a lot in Paradise on which they could build their retirement homes.
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    ten sellers have a seller cost of $20 for a bushel of apples. In this market, what is the excess
    burden of a tax of $15 per bushel levied on sellers of apples?
    (a) $0
    (b) $75
    (c) $50
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    (e) $125
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(a) twice the total revenue collected by the tax.  
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(a) $100
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