Homework 2

ECON 101

Summer I 2016

Name: _____

ONYEN: _____

PID: _____

This homework is due on **May 23** by **1PM**. Show work for all questions that require it (including multiple choice questions), attaching extra sheets as necessary. Multiple choice answers should be bubbled in on a scantron. For the short answer section, write legibly and make sure to box final answers. The total number of points available on this assignment is **100**.

Multiple Choice [2 pts each]

1. The ability of firms to enter and exit a market over time means that, in the long run,
   (a) the demand curve is more elastic.
   (b) the supply curve is more elastic.
   (c) the demand curve is less elastic.
   (d) the supply curve is less elastic.

2. Suppose we are studying the market for Jello and news came out that eating Jello is detrimental to one's health. Given this, we can say that we could
   (a) calculate both the price elasticity of demand for Jello and the price elasticity of supply.
   (b) calculate the price elasticity of supply for Jello, but not the price elasticity of demand.
   (c) calculate the price elasticity of demand for Jello, but not the price elasticity of supply.
   (d) not calculate either the price elasticity of demand for Jello or the price elasticity of supply.

3. Suppose that the price of cotton increases. In the market for oversized t-shirts, the total revenue received by sellers will _____if the _____.
   (a) increase; demand curve is inelastic
   (b) decrease; supply curve is inelastic
   (c) increase; demand curve is elastic
   (d) increase; supply curve is elastic

4. The minimum wage in Los Angeles was recently increased from \$9/hour to \$15/hour. This increase in the minimum wage will cause employment to fall by 10% if _____and results in a(n) _____in total wage payments.
    (a) labor supply is inelastic; increase
    (b) labor demand is inelastic; increase
    (c) labor demand is elastic; decrease
    (d) labor supply is elastic; decrease

5. Suppose the price of beans rises from \$10 to \$12. As a result, the quantity demanded of porridge falls by 10%. What is the cross-price elasticity between the two goods?
    (a) 1.818
    (b) -1.818
    (c) .55
    (d) $-.55$

6. For which pairs of goods is the cross-price elasticity most likely to be negative?
    (a) pens and pencils
    (b) car tires and coffee
    (c) peanut butter and jelly
    (d) new textbooks and used textbooks

7. If the absolute value of the price elasticity of demand is .5, then when the price of good X rises by 20%
    (a) the quantity demanded of good X rises by 40%.
    (b) the quantity demanded of good X rises by 10%.
    (c) the quantity demanded of good X falls by 10%.
    (d) the quantity demanded of good X falls by 40%.

8. If the price elasticity of supply is .8, and prices increased by 5%, then quantity supplied would
    (a) increase by 4%.
    (b) decrease by 4%.
    (c) increase by 6.25%.
    (d) decrease by 6.25%.

9. In a market with a binding price ceiling, an increase in the ceiling will _____the quantity supplied, _____, the quantity demanded, and reduce the _____.
    (a) increase; decrease; surplus
    (b) decrease; increase; surplus
    (c) increase; decrease; shortage
    (d) decrease; increase; shortage

10. Marianne pays Natalie \$50 to mow her lawn every week. When the government levies a mowing tax of \$10 on Natalie, she raises her price to \$60. Marianne continues to hire her at the higher price. What is the change in producer surplus, consumer surplus, and deadweight loss?

    (a) $\$0, \$0, \$10$

    (b) $\$0, -\$10, \$0$

    (c) $+\$10, -\$10, +\$10$

    (d) $+\$10, -\$10, \$0$

11. Suppose a per unit tax of \$.50 is imposed on buyers of Pepsi. As a result, the price buyers end up paying is \$1.25 for each can. Moreover, the amount Pepsi-Cola receives for every can of Pepsi sold decreases by \$.15. Given this, we can say that _____bear most of the tax burden and the equilibrium price of Pepsi before the tax was imposed was _____.

    (a) sellers; \$.75

    (b) buyers; \$.90

    (c) sellers; \$.90

    (d) buyers; \$.75

12. Consider Figure 1.

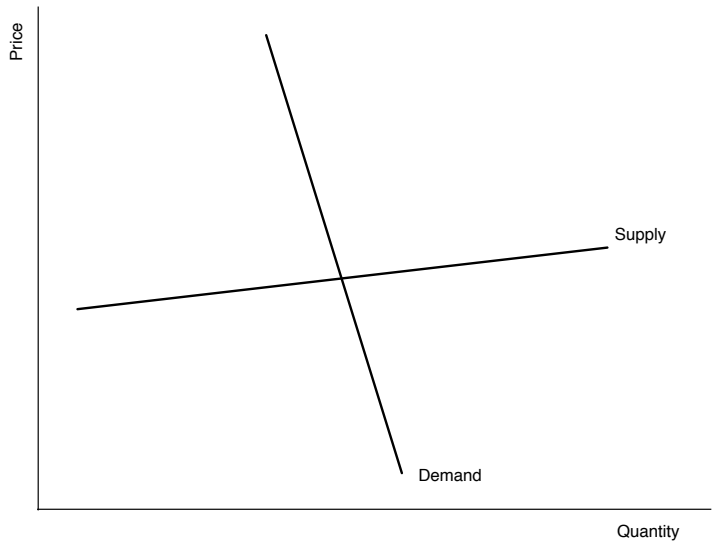

Figure 1: Market for Coke

If the government imposes a \$5 per unit tax on sellers in this market,

(a) the burden of the tax will be split evenly between buyers and sellers in the market.

(b) the burden of the tax will be greater for sellers than for buyers in the market.

(c) the burden of the tax will be greater for buyers than for sellers in the market.

(d) the split of the tax burden cannot be determined from this information.

Refer to Figure 2 for questions 13 and 14.

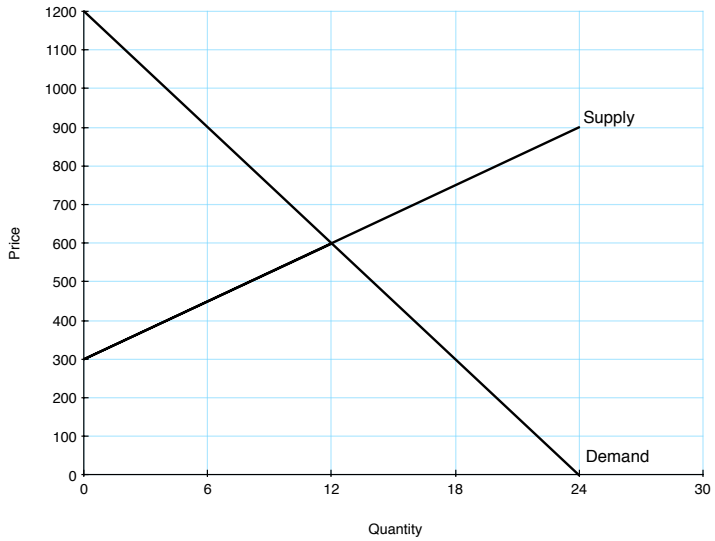

Figure 2: Market for Surface Tablets

13. If the government imposes a price floor of \$900, then consumer surplus would _____by _____.
    (a) increase; \$900
    (b) decrease; \$2700
    (c) increase; \$2700
    (d) decrease; \$900

14. As a result of this price floor, the total revenue earned by firms _____because _____.
    (a) increased; supply is inelastic
    (b) decreased; demand is inelastic
    (c) increased; demand is inelastic
    (d) decreased; demand is elastic

15. A tax of \$4 is imposed by the government. Use Table 1 to answer the question below.

Table 1: Unit Taxes

	Price with no tax	Price with \$4/unit tax on sellers
Price paid by buyers	\$55	?
Price received by sellers	\$55	\$53.50

Because of this tax, buyers are paying _____ per unit and sellers are receiving _____per unit.

(a) $4 less; $4 more

(b) $2 more; $2 less

(c) $2.50 more; $1.50 less

(d) $4 more; $4 less

16. David's cat causes Carlos to sneeze. David values his cat's companionship at $400 a year. Carlos has to pay for tissues and allergy medication due to the cat that cost him $500 a year. According to the Coase Theorem,

    (a) David should pay Carlos $400 so he may keep his cat.

    (b) David should pay Carlos $500 for his tissues and medication.

    (c) Carlos should pay David $410 to give away his cat.

    (d) None of the above.

17. If the production of a good yields a positive externality, then the social benefit curve lies _____the demand curve, and the socially optimal quantity is _____the market equilibrium quantity.

    (a) above; greater

    (b) above; less

    (c) below; greater

    (d) below; less

18. The market equilibrium is not efficient when the consumption of a good creates external costs, which cause social costs to be

    (a) less than the private cost.

    (b) greater than the private cost.

    (c) less than the total cost.

    (d) greater than the total cost.

19. In the absence of intervention, negative externalities lead markets to produce

    (a) efficient output levels, and positive externalities lead markets to produce greater than efficient output levels.

    (b) smaller than efficient output levels, and positive externalities lead markets to produce greater than efficient output levels.

    (c) greater than efficient output levels, and positive externalities lead markets to produce smaller than efficient output levels.

    (d) greater than efficient output levels, and positive externalities lead markets to produce efficient output levels.

20. In order to eliminate the deadweight losses associated with a negative market externality, the government should impose a per unit tax _____.

    (a) equal to the total external cost

    (b) less than the total external cost

    (c) greater than the per unit external cost.

    (d) equal to the per unit external cost.

    (e) None of the above.

21. Which of following is an example of a common resource?

    (a) Residential housing

    (b) National defense

    (c) Restaurant meals

    (d) Fish in the ocean

22. A neighborhood street is considering purchasing and installing doggy clean up stations in order to keep their lawns clean. Table 2 shows the willingness to pay of each family for each additional station.

Table 2: Willingness to Pay for Doggy Stations

Stations	Weiners Family	George Family	Heron Family
1st station	\$500	\$600	\$400
2nd station	400	450	300
3rd station	300	350	150
4th station	150	200	50
5th station	100	150	0

    If each doggy station costs \$500, how many stations should the street install in order to maximize total surplus?

    (a) 2 stations

    (b) 0 stations

    (c) 3 stations

    (d) 1 stations

    (e) $>$ 3 stations

23. Public goods are

    (a) efficiently provided by market forces.

    (b) underprovided in the absence of government.

    (c) overused in the absence of government.

    (d) a type of natural monopoly.

24. Which of the following examples demonstrates the free rider problem?
    (a) Josh downloads the podcast *Serial*, but never contributes to NPR, its producer.
    (b) Liz Lemon is upset that she and Jack Donaghy pay the same amount at the toll booth, even though she only uses the road for 5 miles, while he uses it for 25 miles.
    (c) Due to a lack of clearly defined property rights, ocean creatures tend to be overfished.
    (d) Kristina, Jane, and Andrea rent three movies and enforce that the costs are split evenly, even though Jane is only willing to pay her share for two movies.

25. AJ opens a lemonade stand for two hours. He spends $10 for ingredients and sells $60 worth of lemonade. In those same two hours, he could have cleaned his neighbor's pool for $40. AJ has an accounting profit of _____and an economic profit of _____.
    (a) $50; $10
    (b) $90; $50
    (c) $10; $50
    (d) $50; $90

26. A firm is producing 100 units with an average total cost of $25 and a marginal cost of $15. If it were to increase production to 101 units, which of the following must occur?
    (a) Marginal cost would decrease.
    (b) Marginal cost would increase.
    (c) Average total cost would decrease.
    (d) Average total cost would increase.

27. Bluth's Bananas currently employs 5 workers and produces 1,000 frozen bananas a day. In preparation for the busy summer season, the firm is debating whether they should hire 5 more workers. If they do, they project they could produce 1,500 frozen bananas a day. Given this, the marginal product of labor per worker from these additional workers would be
    (a) 1,500.
    (b) 500.
    (c) 150.
    (d) 100.

28. Shell Tires has fixed costs of $300,000 per year. Last year, it produced 10,000 tires with an average variable cost of $80. What were the firm's average total costs for last year?
    (a) $80
    (b) $90
    (c) $100
    (d) $110

29. Keystone Fireworks has fixed costs of $100 and the marginal costs outlined in Table 3.

Table 3: Marginal Costs for Keystone

Quantity	Marginal Cost
1	$2
2	$4
3	$6
4	$8
5	$10
6	$12

What is the average variable cost of producing the fifth unit?

(a) $2
(b) $6
(c) $10
(d) $30

30. A firm currently produces 1,000 units of output with an average variable cost of $5.10. The firm has fixed costs of $5,000. If the firm were to produce 1,001 units, its total variable costs would be $5,400. What is the marginal cost to the firm of producing 1,001 units?

(a) $5,400
(b) $300
(c) $5,100
(d) $400

Short Answer

1. Consider public policy aimed at smoking.
   (a) Studies indicate the price elasticity of demand for cigarettes is about 0.4. If a pack of smokes currently costs $2 and the government wants to reduce smoking by 20%, by how much should it increase the price (in percentage terms)? **[4 pts]**
   (b) If the government permanently increases the price of cigarettes, will the policy have a larger effect on smoking one year from now or five years from now? Draw a graph to support your answer. **[4 pts]**
   (c) Studies also find that teens have a higher price elasticity of demand than do adults. Why might this be true? **[2 pts]**
2. Let's return to our study of the minimum wage.
   (a) Suppose the minimum wage is above the market equilibrium wage in the market for unskilled labor. Draw a supply-and-demand diagram showing the market wage, the number of workers that are employed, and the number of workers who are unemployed. Also show the total wage payments to unskilled workers. **Hint:** We did this in class. **[4 pts]**
   (b) What would be the effect of an increase in the minimum wage on employment? Does this change depend on the elasticity of demand, supply, both, or neither? Use a graph to support your answer. **[4 pts]**

(c) What would be the effect of an increase in the minimum wage on unemployment? Does this change depend on the elasticity of demand, supply, both, or neither? Use a graph to support your answer. **[4 pts]**

(d) Now consider the effect of an increase in the minimum wage on wage payments. What would happen to total wage payments if the demand for unskilled labor was inelastic? How does the elasticity of labor supply impact wage payments? **Hint:** Total wage payments are equivalent to the notion of total revenue in other markets we have studied. **[2 pts]**

3. The many identical residents of Salisbury love drinking Cheerwine. Each resident has a certain willingness to pay for each can they consume as shown in Table 4.

Table 4: WTP for Cheerwine

Can	WTP
1st can	\$5
2nd can	\$4
3rd can	\$3
4th can	\$2
5th can	\$1
>5 cans	\$0

(a) The cost of producing Cheerwine is \$1.50. The competitive suppliers sell at this price and have a perfectly elastic supply curve. How many cans will each person consume? What is the total surplus per person in this market? **[4 pts]**

(b) Producing Cheerwine creates pollution. Each can has an external cost of \$1. Taking this additional cost into account, what is the total surplus per person? **[4 pts]**

(c) Mayor Woodson imposes a \$1 tax on Cheerwine. What is the consumption per person now? Calculate consumer surplus, the external cost, government revenue, and total surplus per person. **[4 pts]**

4. Your roommate's food truck sells delicious burritos every Friday night. He tells you a story that as he closed up shop last weekend, an inebriated patron yelled at him to make him one for \$10.00. Your roommate had already sold 200 burritos that night, but usually has to sell them for \$4.00 due to market conditions. He tells you that he obviously sold him the burrito for \$10.00. If he faces the cost schedule detailed in Table 5, was this the right decision? Explain why or why not. **[4 pts]**

Table 5: Burrito Costs

Quantity	ATC
199	\$1.99
200	\$2.00
201	\$2.05

5. What topics or questions gave you the most trouble on this homework assignment or the class material it encompassed?