

Midterm 1
60 minutes
Econ 1101: Principles of Microeconomics
October 7, 2013

Exam Form A

Name _____ Student ID number _____

Signature _____

Teaching Assistant _____ Recitation # _____

The answer form (the bubble sheet) **and** this question form will both be collected at the end of the exam. Fill in the information above and then on the answer form, please write the following information

- **name,**
- **student ID number,**
- **recitation number,**
- **Form A** (see the bottom part of the answer sheet for this bubble.)

Fill in the corresponding bubbles. Sign your name on the answer form.

You will be awarded 2 bonus points for filling the correct name, ID, and form number on the answer form.

There are 33 multiple choice questions. Each question has a single answer. Select the **best** answer for each question and fill in the corresponding bubble on the answer sheet.

Use a **Number 2** pencil to fill in your answer.

You are not permitted to use calculators or to open books or notes.

For questions 1-3, consider the market for coffee, which is currently at equilibrium, and where P^{coffee} and Q^{coffee} denote the price and quantity of coffee in the market, respectively. If the change given in each problem is the only change that happened (all other things are held constant), what will be the effect on the equilibrium?

1. The price of sweeteners, complementary goods to coffee, decrease in price
 - a. P^{coffee} increases, Q^{coffee} increases
 - b. P^{coffee} increases, Q^{coffee} decreases
 - c. P^{coffee} decreases, Q^{coffee} increases
 - d. P^{coffee} decreases, Q^{coffee} decreases
 - e. None of the above

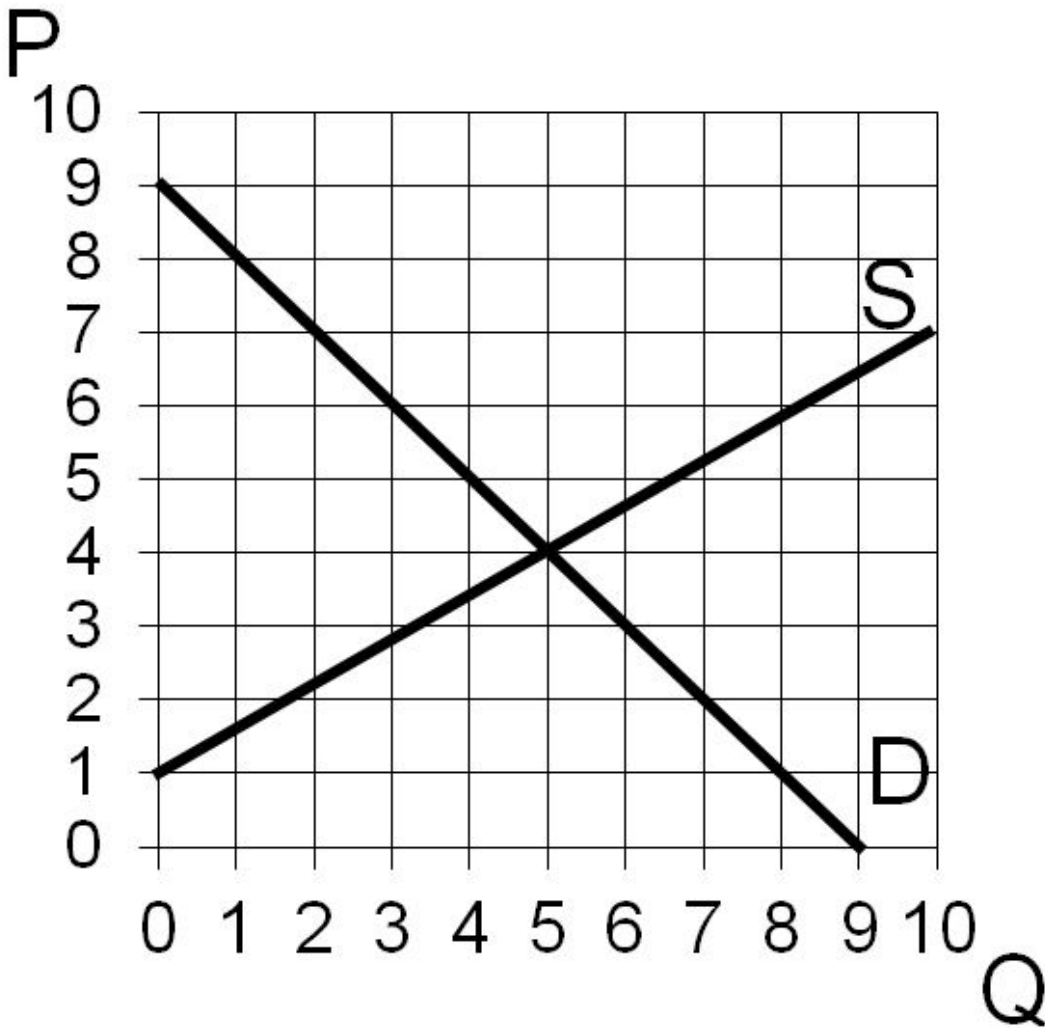
2. The economy experiences an overall decrease in income. (Suppose that coffee is an inferior good)
 - a. P^{coffee} increases, Q^{coffee} increases
 - b. P^{coffee} increases, Q^{coffee} decreases
 - c. P^{coffee} decreases, Q^{coffee} increases
 - d. P^{coffee} decreases, Q^{coffee} decreases
 - e. None of the above

3. Two things happen: 1) A technology is developed that makes the harvesting of coffee beans twice as efficient and 2) the temperature falls, causing more people to buy coffee
 - a. P^{coffee} increases, Q^{coffee} ambiguous
 - b. P^{coffee} decreases, Q^{coffee} ambiguous
 - c. Q^{coffee} increases, P^{coffee} ambiguous
 - d. Q^{coffee} decreases, P^{coffee} ambiguous
 - e. None of the above

4. Someone made the observation that when income increases by 31%, the quantity demanded of spam increases by 32%. If this is indeed true, this means that:
 - a. The demand for spam is inelastic
 - b. The demand for spam is unit elastic
 - c. The demand for spam is elastic
 - d. Spam is a normal good
 - e. Spam is an inferior good

5. Suppose that widgets are a normal good and that when income goes up, the quantity demanded of widgets stayed the same and the price of widgets increased. Which of the following statements about the widget market **could** be true?
 - a. The demand for widgets is unit elastic, and the supply for widgets is perfectly inelastic
 - b. The demand and supply for widgets are both perfectly elastic
 - c. The demand and supply for widgets are both perfectly inelastic
 - d. The demand for widgets is perfectly inelastic, and the supply for widget is perfectly elastic
 - e. None of the above

Refer to the diagram below for questions 6-13.



Suppose that the market is currently unregulated and in equilibrium.

6. What is consumer surplus in this market?
 - a. 7.5
 - b. 9
 - c. 12.5
 - d. 18
 - e. 25

7. What is producer surplus in the market?
 - a. 7.5
 - b. 9
 - c. 12.5
 - d. 18
 - e. 25

Suppose now a tax of \$8 is imposed in the market.

8. What is consumer surplus in the market?
 - a. 0
 - b. 2.5
 - c. 3
 - d. 3.5
 - e. 5

9. What is the government revenue in the market?
 - a. 0
 - b. 8
 - c. 16
 - d. 24
 - e. 32

10. What is the change in total surplus from the free market to the market with an \$8 tax? In other words, what is the deadweight loss in the taxed market?
 - a. 0
 - b. 4
 - c. 16
 - d. 20
 - e. 25

Suppose now, instead of the \$8 tax described above, a price floor of \$7 is imposed on the free market.

11. What is consumer surplus in this market?
 - a. 0
 - b. 2
 - c. 4
 - d. 8
 - e. Not enough information

12. What is producer surplus in this market?
 - a. 0
 - b. 1
 - c. 11
 - d. 30
 - e. Not enough information

13. **True or False:** The advantage of having a \$7 price floor instead of an \$8 tax is that there will always be less deadweight loss, and hence less inefficiency in the market with the price floor.
 - a. True
 - b. False

14. Why is the First Welfare Theorem such an amazing result for competitive markets where there are no externalities?
- It proves that whenever markets are controlled by a “visible hand,” such as a government, the greatest efficiency will be achieved
 - It proves that the free market is in fact not efficient, as any allocation where there is at least some government intervention is more efficient
 - It proves that supply does not need to equal demand in equilibrium
 - It proves that the most efficient allocation is indeed the one where everyone gets the same amount of surplus – in other words, efficient equals equitable
 - It proves that having a free market results in the same total surplus as having someone allocate consumption and production to get the greatest total surplus
15. Suppose that cheesecake is a luxury good and imagine your income increases. Which statement is the most accurate?
- your total spending on cheesecake goes down
 - you buy less cheesecake
 - you buy more cheesecake
 - the share of income you spend on cheesecake decreases
 - the share of income you spend on cheesecake increases
16. When trying to calculate accurately the price elasticity of demand for corn between the months of June and July, which of the following must **not** be true?
- Income between June and July is the same
 - The price of wheat is the same between June and July
 - The price of corn is the same between June and July
 - The number of buyers for corn is the same between June and July
 - The preferences of buyers are the same between June and July
17. Consider two markets, the market for flowers and the market for cookies. Suppose the equilibrium price of flowers is \$12 and the equilibrium price for cookies is \$3. If the government places a \$6 price ceiling on both markets:
- There will be a shortage of flowers and cookies
 - There will be a surplus of flowers and cookies
 - There will be a shortage of flowers only
 - There will be a shortage of cookies only
 - There will be a surplus of cookies only
18. In the U.S., on average 1.3 gallons of gasoline is consumed per person, per day, while in Norway average consumption is .3 gallons. Factors that contribute to this difference in demand include:
- Public transit is a substitute for using gasoline to drive a car and public transit access is better in Norway
 - Gas prices are substantially higher in Norway
 - Per capita income is significantly lower in Norway
 - All of the above
 - Both a. and b. are true

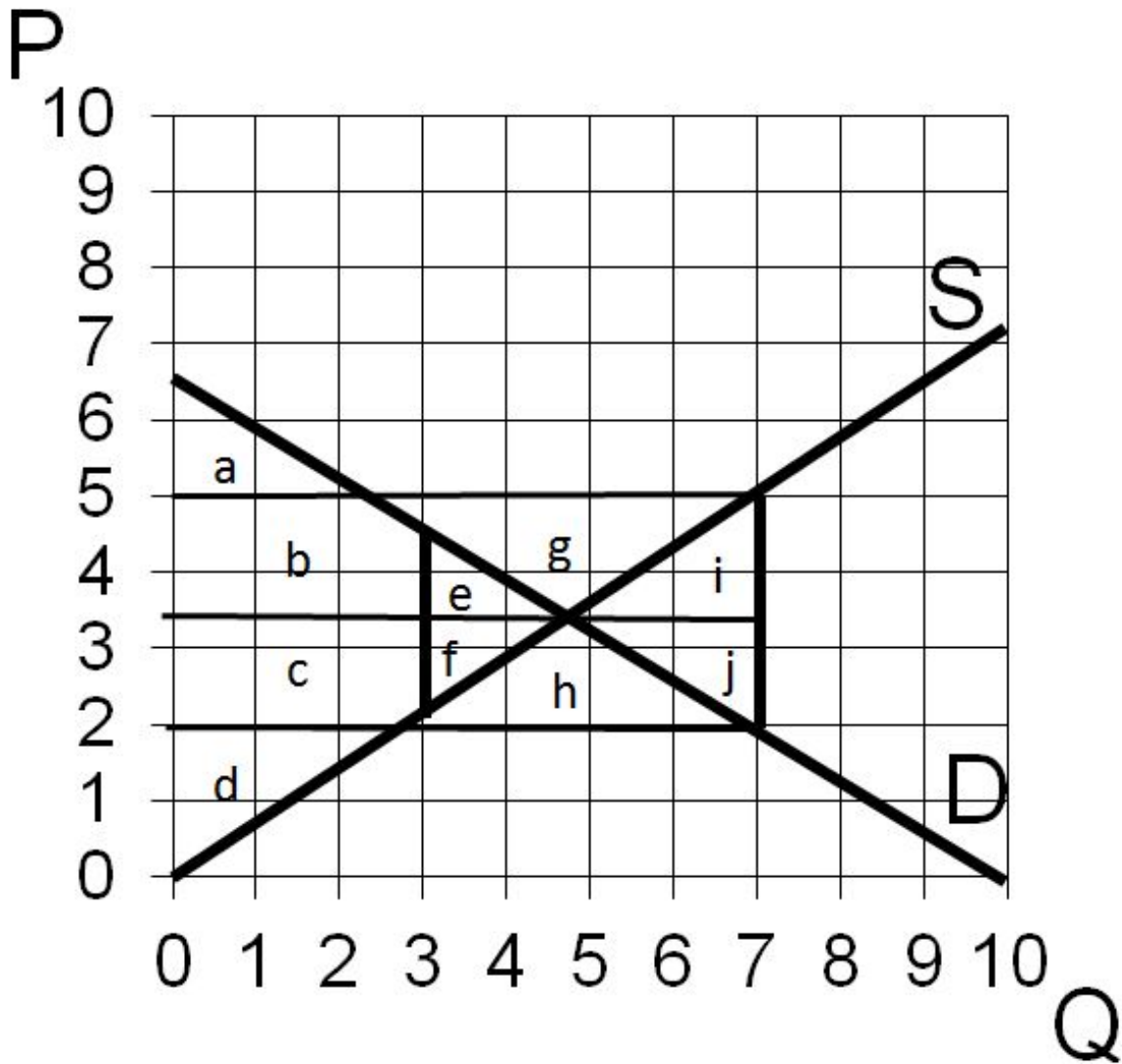
Use the following table to answer questions 19-20

Reservation Prices and Costs in Econland for a Widget

Name of D Person	Reservation price for one widget (dollars)	Cost to make one widget (dollars)	Name of S Person
D1	9	1	S1
D2	8	2	S2
D3	7	3	S3
D4	6	4	S4
D5	5	5	S5
D6	4	6	S6
D7	3	7	S7
D8	2	8	S8
D9	1	9	S9
D10	0	10	S10

19. The allocation where D1, D2, D3, D5, D6 consume and S1, S2, S3, S4, S5 sell is not Pareto efficient because
- D1 could give his widget to D7, and both D1 and D7 are better off
 - D6 could sell his widget to D4 for \$5, and both D4 and D6 would be better off
 - We need every consumer (D1, D2, ..., D10) to buy and every seller (S1, S2, ..., S10) to sell
 - D6 should not get to consume before D7
 - there will be a shortage of widgets
20. The allocation where D1, D2, D3, D4, D5, D6, D7, and D8 consume and S1, S2, S3, S4, S5, S6, S7, and S8 sell is not Pareto efficient because
- S7 would be better off if he gave \$5 to D7 instead of producing a widget and selling it to D7. D7 will also be better off.
 - S4 would be better off if he gave \$5 to D4 instead of producing a widget and selling it to D4. D4 will also be better off.
 - We need every consumer (D1, D2, ..., D10) to buy and every seller (S1, S2, ..., S10) to sell
 - D9 and S9 should also get to buy and sell
 - S3 would be better off if he gave \$5 to D3 instead of producing a widget and selling it to D3. D3 will also be better off.
21. The answer to this question is (a). Please fill in the (a) bubble on your bubble sheet. This is to help us keep track of what exam form you are using.
- THIS IS THE ANSWER!** Fill in (a) as the answer for this question on your bubble sheet!

Refer to the diagram below to answer questions 22-25.



22. Suppose that there is a \$3 subsidy in the market depicted above. Which area represents consumer surplus?

- a. a
- b. a+b+e
- c. a+b+c+e+f+g+h
- d. a+b+c+e+f+h
- e. a+b

23. Which area represents producer surplus?

- a. d
- b. c+d
- c. c+d+f
- d. b+c+d+e+f
- e. b+c+d+e+f+g

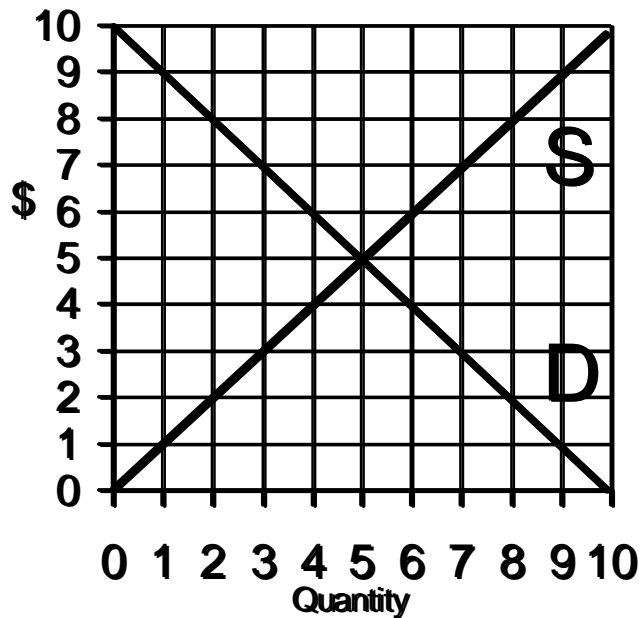
24. Which area represents the government revenue?

- a. $-(b+c+e+f+g+h+i+j)$
- b. $-(b+c)$
- c. $b+c$
- d. $b+c+e+f+g+h+i+j$
- e. $-(c+f+h+j)$

25. Which area represents the dead weight loss?

- a. $e+f$
- b. h
- c. i
- d. $i+j$
- e. j

Refer to the diagram below to answer questions 26 and 27



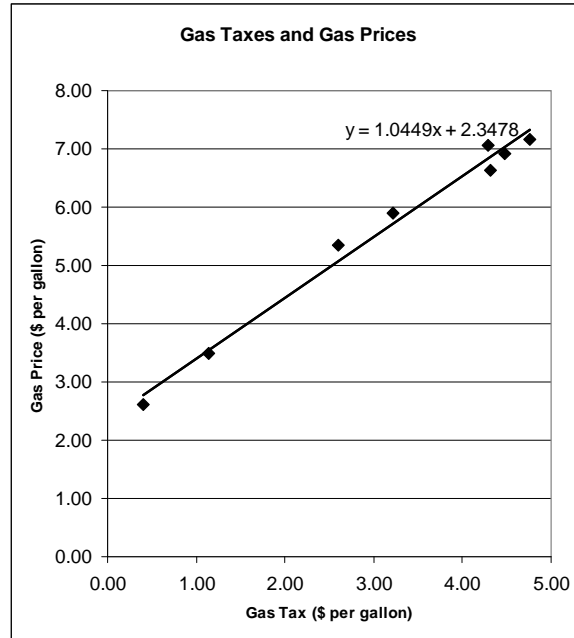
26. Suppose a quota of 1 unit is placed in the market above. What would be the value of a single quota?

- a. \$2
- b. \$4
- c. \$6
- d. \$8
- e. \$10

27. **True or False:** A 1 unit quota is more efficient than a \$8 tax, since there is a much lower area of deadweight loss associated with a 1 unit quota.

- a. True
- b. False

28. When there is a binding price ceiling in the market, and rationing is **not** perfectly efficient, which of the following principles for Pareto efficiency is/are violated?
- (1) The consumers that value consumption highest consumes first
 - (2) The producers with the lowest costs sells first
 - (3) Quantity in the market should be where the marginal reservation price equals the marginal cost
- a. (1) and (3)
 - b. (2) and (3)
 - c. (1), (2), and (3)
 - d. (1) only
 - e. (3) only
29. Suppose that demand is perfectly elastic and supply is perfectly inelastic in the market for widgets. If a subsidy is imposed in the market, _____ get the entire benefit of the subsidy and _____ surplus does not change.
- a. Consumers, consumer
 - b. Consumers, producer
 - c. Producers, producer
 - d. Producers, consumer
 - e. Neither consumers nor producers, both surpluses do not change
30. What was the observed relationship between price and demand for the electricity market in the United Kingdom?
- a. When demand is low, price is high
 - b. When demand is high, price is high
 - c. The relationship between demand and price depends on the hour of the day
 - d. The relationship between demand and price depends on the producers of electricity
31. **True or False:** If the government uses tax revenue from the market for widgets to fund a subsidy given in the market for smidgets, then there will be no deadweight loss in either markets because the inefficiency of the subsidy will cancel out the inefficiency of the tax
- a. True
 - b. False
32. Suppose there is a price ceiling in the market for widgets. Which of the following statements is true about having an unregulated resale market?
- a. There will likely be less deadweight loss in the market than when resales are not allowed
 - b. The total surplus will likely be the same as when resales are not allowed
 - c. There will likely be more deadweight loss in the market than when resales are not allowed
 - d. Producers will benefit more from having a resale market



33. The above figure plots average retail gasoline prices and gas tax rates in dollars per gallon for eight countries. Consider the following two statements and then choose the best answer.

- (1) It is evidence that consumers, not producers, bear the primary burden of gas taxes.
- (2) It is consistent with what economic theory predicts will happen to the price consumers pay when a country imposes a tax and the supply of gasoline to the country is perfectly elastic.

- a) Only (1) is true.
- b) Only (2) is true.
- c) (1) and (2) are both true.
- d) (1) and (2) are both false.