ECON 001 Fall 2016　　　　**Name (Print):**　　———————————————
A. Duchene
Midterm 1　　　　　　　　　**Recitation Section:**　———————————————
September 29, 2016
Time Limit: 60 Minutes　　　**Name of TA:**　　———————————————

- This exam contains 9 pages (including this cover page) and 10 questions. Check to see if any pages are missing.

- The exam is scheduled for 1 hour.

- This is a closed-book, closed-note exam, no calculator exam.

- Answer the multiple choice questions by circling the correct answer. Make sure that your answer is clearly circled or it will be marked incorrect.

- Write your answers to the other questions in the spaces provided below them. If you don't have enough space, continue on the back of the page and state clearly that you have done so.

- Do not remove any pages or add any pages. No additional paper is supplied

- Show your work when applicable. Use diagrams where appropriate and label all diagrams carefully.

- You must use a pen instead of a pencil to be eligible for remarking.

- This exam is given under the rules of Penn's Honor system.

My signature certifies that I have complied with the University of Pennsylvania's Code of Academic Integrity in completing this examination.

Please sign here ————————————————— Date —————————————————

Question	Maximum	Grade
MC (Q1-8)	35	
1st SA (Q9)	30	
2nd SA (Q10)	35	
Total	100	

Multiple Choice Questions (best 7 out of 8: 35 points)

1. (5 points) On the New York Stock Exchange, the current price per share for stock of the Boston Celtics, a NBA basketball team, is $8.25. At that price the total quantity of shares demanded is 2,500, while the total quantity supplied for trade is 2,000. It follows that

    A. $8.25 is the equilibrium price per share.

    B. there will be downward pressure on the price of shares of the Boston Celtics.

    C. there is a surplus of shares of the Boston Celtics on the stock exchange.

    D. there is a shortage of shares of the Boston Celtics on the stock exchange.

2. (5 points) An increase in the rent of two bedroom apartments in University City is likely to:

    A. increase the price of living in a dormitory at UPenn.

    B. increase the demand for apartment rentals in University City.

    C. decrease the supply of dormitory rooms at UPenn

    D. shift the demand curve for dormitory rooms to the left.

3. (5 points) Julie, a UPenn freshman, is going to visit her friends at NYU next weekend and is trying to make plans ahead of time. The round-way bus ticket to New York City costs $20 ($10 from Philly to NYC and $10 from NYC to Philly). Once she is in New York, Julie and her friends have three choices. First, they can just stay in the dorm and hang out, which costs Julie nothing and she values it at $15. Second, they can go to a concert, which Julie values at $50.The concert ticket costs $30. Third, they can go out to a restaurant and eat sushi. The sushi Julie likes costs $35 and brings her a benefit of $60. What is the opportunity cost of going to the restaurant?

    A. $45

    B. $50

    C. $55

    D. $65

    E. $75

4. (5 points) We are analyzing the market for hybrid cars after innovations in the production of batteries – an input in the production of hybrid cars. Assume linear market demand and supply for hybrid cars. Which of these following statements must be true?

      i. In the market for hybrid cars, supply increases while demand stays the same.

     ii. The equilibrium price and the equilibrium quantity of hybrid cars increase.

    iii. Demand for hybrid cars is more inelastic at the new equilibrium

    A. Only i.

    B. Only ii.

    C. Only iii.

    D. i and ii.

    E. i and iii.

    F. ii and iii.

    G. i, ii and iii.

5. (5 points) Anne can make 4 pizzas or 6 salads in an hour. Bob can make 10 pizzas or 8 salads in an hour. Which of the following is **incorrect**?

    A. Anne has a comparative advantage in making salads.

    B. Bob has an absolute advantage in making pizza

    C. Anne would give Bob pizzas for salads at a rate of 1 pizza per salad.

    D. Bob could never trade salads for pizzas from Anne.

6. (5 points) Consider a linear Production Possibilities Frontier with food and books. An advance in technology makes it possible to produce 50 percent more of all goods. With these expanded possibilities, people increase the consumption of books and their consumption of food by 50 percent. As a result of these two changes, the opportunity cost of a unit of food _____ and the opportunity cost of a book _____.

    A. decreases, decreases.

    B. increases, decreases.

    C. decreases, increases.

    D. does not change, does not change.

    E. cannot be determined, cannot be determined.

7. (5 points) A $20 per-unit tax on iPods raises the equilibrium price paid by consumers by $4. Which of the following is true?

    i.   The supply of iPods is more elastic than the demand for iPods

    ii.   The supply of iPods shifted upward by $4.

    iii.   The demand for iPods shifted downward by $4

    A. Only i.

    B. Only ii.

    C. Only iii.

    D. i and ii.

    E. i and iii

    F. None of them is true

8. (5 points) Zena and Angela both work at Spread Bagelry. In one day Zena can make 10 chickpeas or 15 bagels, while Angela can make 20 chickpeas or 10 bagels. Angela and Zena decide to engage in trade, at an exchange rate that gives them equal positions in trade. After trade, what is the most *chickpeas* that Angela can possibly consume? What is the most *bagels* that Angela can possibly consume?

    A. 30 Chickpeas, 15 Bagels

    B. 20 Chickpeas, 5 Bagels

    C. 20 Chickpeas, 15 Bagels

    D. 30 Chickpeas, 25 Bagels
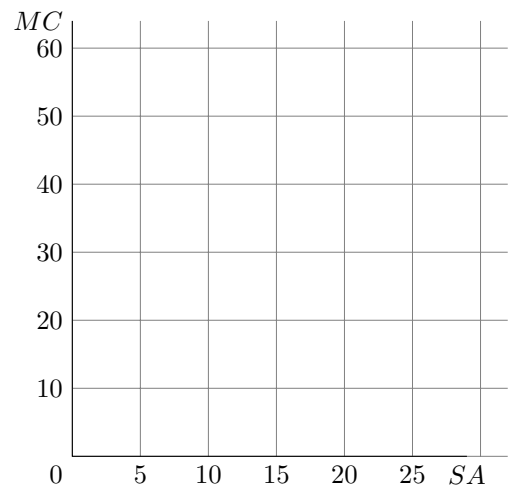
Short Answer Questions
65 points total

9. James and George are two Econ 1 TAs tasked with grading the first midterm. James can grade 60 multiple choice questions or 20 short answer questions in a day, while George can grade 10 multiple choice questions and 10 short answer questions in a day.

(a) Assuming that James and George grade at a constant opportunity cost, draw each TA's individual Production Possibilities Frontiers in the graphs below (with SA questions on the X-axis), indicating all points.
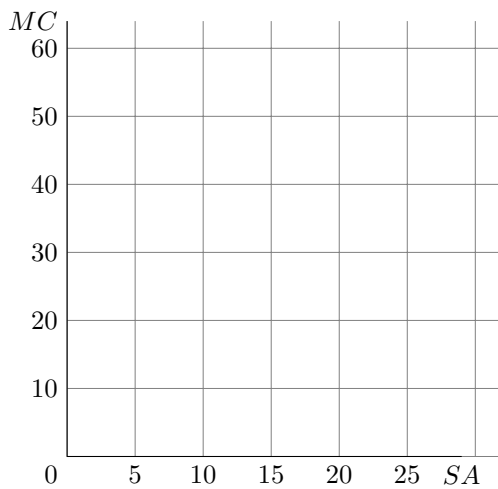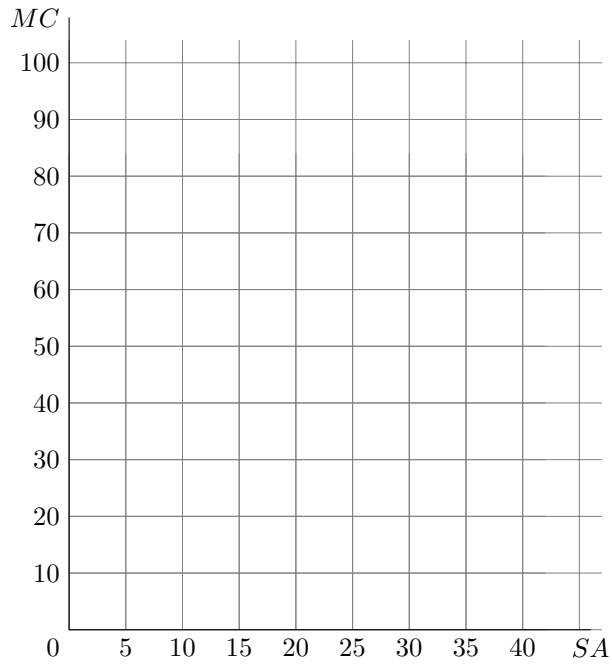
James' PPF

George's PPF

(b) Who has a comparative advantage in grading multiple choice questions? Who has a comparative advantage in grading short answer questions? Please explain.

(c) Suppose James and George decide to grade the exam together. Draw the TAs' joint PPF. Be sure to label all points.

MC

100	
90	
80	
70	
60	
50	
40	
30	
20	
10	

0   5   10   15   20   25   30   35   40 SA

James' and George's joint PPF

(d) What is the most efficient way for the two TAs to grade 5 short answer questions together? How many questions of each type will each TA grade?

(e) Mike, another TA, offers to help James and George. He can grade 30 multiple choice questions or 10 short answer questions in a day at a constant opportunity cost. On the graph below, draw the joint PPF of all three graders. Be sure to label all points.

MC

100
90
80
70
60
50
40
30
20
10

0   5   10   15   20   25   30   35   40 SA
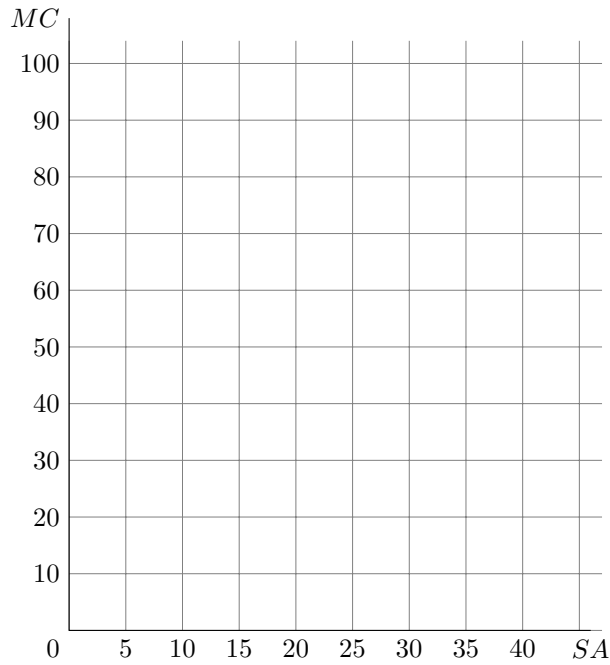
James', George's and Mike's joint PPF

(f) What is the most efficient way for the three TAs to grade 5 short answer questions together? How many questions of each type will each TA grade?

10. The local government has decided to impose a per-unit tax on flour producers. As shown in the figure below, before the tax, the market price is P_1 and the market quantity is Q_1.
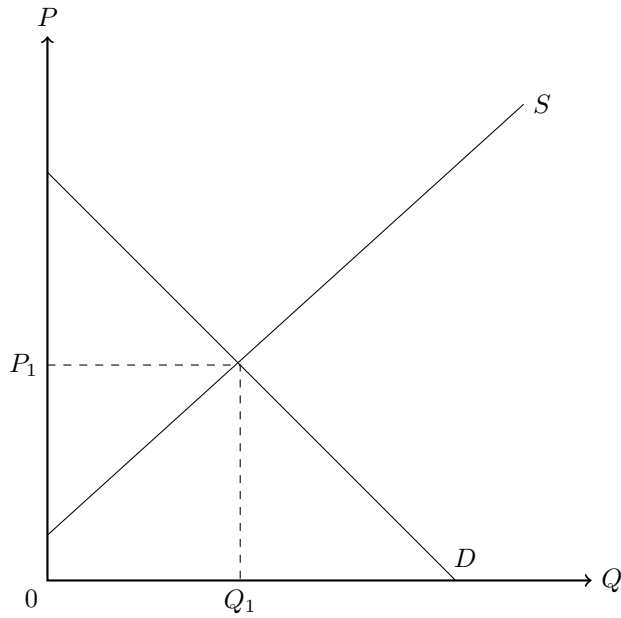
(a) Before the tax, is the market outcome efficient? Please explain.

(b) Suppose the market equilibrium is (P_2, Q_2) after the tax is levied. Clearly label this equilibrium in the figure above. Compare Q_2 with Q_1 and explain.

(c) On the figure below, show graphically the consumer surplus (CS), the producer surplus (PS), the tax revenue of the local government (TR) and the deadweight loss (DWL) due to the tax.
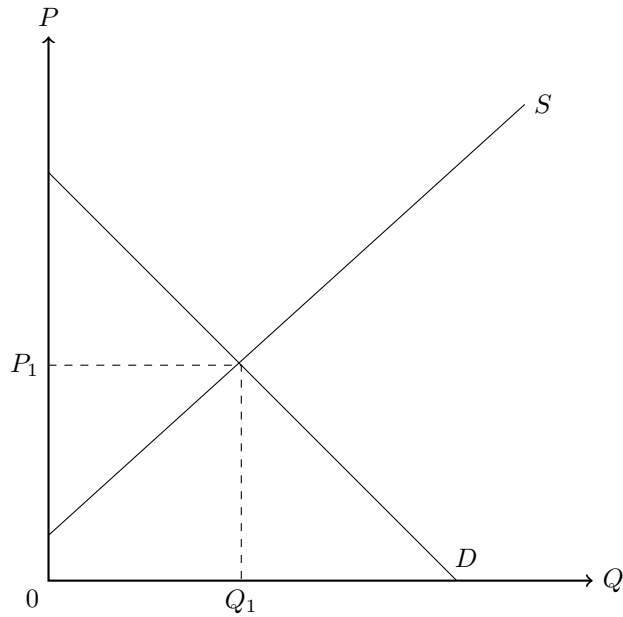

(d) What is the impact of the tax on CS, PS and total surplus (TS)? Please explain.

(e) What would be your answer to part (d) if the tax was levied on buyers? Please explain.

(f) What needs to change in this market so that the tax falls entirely on buyers?

(g) Flour is the main input in the production of bread. The figure below depicts the local market of bread. Assume there is no government intervention in the market for bread. On the graph, show the impact of the flour tax on the market for bread.
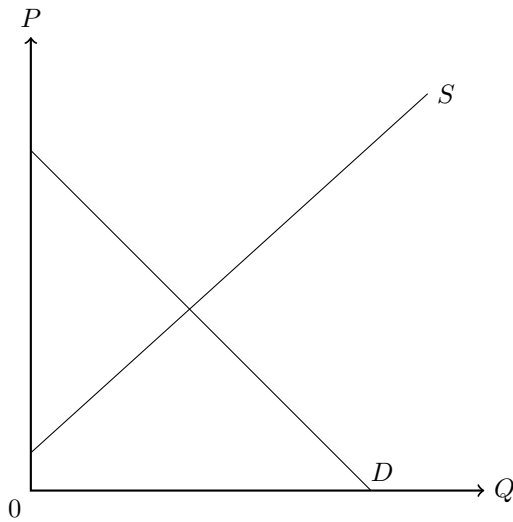
(h) How does the flour tax affect the total surplus in the market for bread? Please explain.