STUDENT'S NAME: ________________________________________________

STUDENT'S SOCIAL SECURITY NUMBER: ____________________________

DAY AND TIME YOUR SECTION MEETS: ____________________________

BEFORE YOU BEGIN PLEASE MAKE SURE THAT YOUR EXAMINATION HAS BEEN DUPLICATED
AND CORRELATED CORRECTLY. THERE SHOULD BE 22 MULTIPLE CHOICE QUESTIONS AND
THREE PROBLEMS. THE EXAM HAS 14 PAGES INCLUDING THIS COVER SHEET.

ANSWER THE MULTIPLE CHOICE PROBLEMS ON THE SCANTRON SHEET. ANSWER THE
PROBLEMS ON THIS EXAMINATION SHEET.

BE SURE TO FILL-IN YOUR NAME (LAST NAME FIRST) AT THE TOP OF THE SCANTRON SHEET.
FILL IN YOUR STUDENT IDENTIFICATION NUMBER UNDER "IDENTIFICATION NUMBER" ON
THE SCANTRON SHEET.

WRITE YOUR TA'S NAME IN THE UPPER-RIGHT HAND CORNER OF YOUR SCANTRON SHEET.

MULTIPLE CHOICE:_____PROB1:_____PROB2:_____PROB3:_____TOTAL:_____

University of Maryland Honor Pledge

The University is committed to Academic Integrity, and has a nationally recognized Honor Code,
administered by the Student Honor Council. In an effort to affirm a community of trust, the Student Honor
Council proposed and the University Senate approved Honor Pledge. The University of Maryland Honor
Pledge reads:

"I pledge on my honor that I have not given or received any unauthorized assistance on this examination (or
assignment)."

Please rewrite the exact wording of the pledge, followed by your signature in the space below:

Pledge: ____________________________________________________________
__________________________________________________________________
__________________________________________________________________

Your Signature: ________________________________________________
NOTE: The proposed grade allotment is only a guide. At times, if an incorrect claim is made, points may also be lost.

Question 1 (25 Points (Not 20)

The market for wine (sold by the case) in Washington, D.C. is perfectly competitive. It can be represented by a strictly upward sloping supply curve. The demand curve may take any of the forms we discussed in class, including the extreme cases. The costs of selling wine include a transportation cost of $2 per case. At a price of $12 per case, no wine is supplied to the market. (In this question, you may assume there are no taxes on wine.)

a) (5 points) In a demand and supply diagram, characterize a competitive equilibrium where the equilibrium quantity is 500 cases per week and the equilibrium price is $120 per case. Be sure to label the diagram clearly including the axes and the equilibrium.

One point each for:
- correctly labeled axes
- correctly labeled demand and supply
- supply intercept above $12 per case
- Correctly determined equilibrium with price at $120
- Correctly determined equilibrium with quantity at 500.
b) (5 points) Provide a different demand and supply diagram that shows the effects of a reduction in the transportation cost to $1 per case. Show the old demand and supply, the new demand and supply (if relevant) and the old competitive equilibrium and new competitive equilibrium in the diagram.

One point each for:
- reproducing previous diagram.
- showing supply curve shifts down (or right)
- showing downward shift was $1.
- new equilibrium price is lower
- new equilibrium quantity is higher.
c) (6 points) Provide a different demand and supply diagram that shows an example where, after a reduction in the transportation cost to $1 per case, the new equilibrium price is the same as the old equilibrium price. Note that the shape of either the demand or supply curves may be different from your answers above. Show clearly the old and new equilibria.

Three points for seeing that the demand curve in this case must be perfectly elastic.
Three points for showing the only effect is an increase in quantity.
Some people added a change in the demand curve as well. While this gave the answer that price did not change, it is not the best answer since it requires adding more information than was provided. I allotted partial credit for this approach (3 out of 6).
d) (5 points) Provide a different demand and supply diagram that shows an example where, after a reduction in the transportation cost to $1 per case, the new equilibrium quantity is the same as the old equilibrium quantity. Note that either the demand or supply curves may be different from your answers above. Show clearly the old and new equilibria.

Three points for seeing that the demand curve in this case must be perfectly inelastic. Two points for showing the only effect is a decrease in price. Some people added a change in the demand curve as well. While this gave the answer that price did not change, it is not the best answer since it requires adding more information than was provided. I allotted partial credit for this approach (4 out of 5).
e) (4 points) Provide a different demand and supply diagram that shows an example where, after a reduction in the transportation cost to $1 per case, in the new equilibrium, the total expenditure by consumers on wine is the same as before. Be sure to clearly mark what is special about the curves in this case that leads to this result.

Three points for seeing that the demand curve in this case must have unit elasticity.
One point for showing the effect is an increase in quantity and a fall in price.
Question 2 (16 points)

In this question, you may assume that mystery books and eyeglasses are complements, books and movies are substitutes and that paper is a significant input in the production of mystery books.

a) (4 points) Draw a supply and demand diagram for the market for mystery books. Be sure to label the curves, the competitive equilibrium and the axes.

One point for: Correctly labeled axes
Correctly labeled curves
Equilibrium price
Equilibrium quantity
(4 points) Suppose the price of eyeglasses falls. Show the effects of this change in the market for books. You should include your old demand and supply curves in this diagram. Now, in less than 25 words, describe what would happen to equilibrium price and quantity if, at the same time, the price of movies also rose.

One point for:  Outward shift of demand curve and no change of supply
New equilibrium price (Higher)
New equilibrium quantity (higher)
Rise in movie price leads to a further outward shift of demand curve showing higher P and Q.

![Diagram showing the effects of a decrease in the price of eyeglasses and an increase in the price of movies on the market for books. The original demand curve (D) shifts to the right (D') as the price of movies increases, resulting in a new equilibrium price (P'e') and quantity (Q'e').]
c) (3 points) Suppose that there was no change to the price of eyeglasses or movies but that the price of paper went up. Show the effects of this change to your market analyses in part a) above. You should include your old demand and supply curves in this diagram.

One point for:  Inward shift of supply curve and NO change of demand
New equilibrium price (Higher)
New equilibrium quantity (lower)
d) (5 points) Now show the effects of BOTH a fall in the price of eyeglasses and a rise in the price of paper. You should include your old demand and supply curves in this diagram. In words, describe how the new equilibrium compares to the equilibrium in part a). Provide a complete comparison.

One point for: Inward shift of supply curve.
Outward shift in demand
New equilibrium price (Higher)

Two points: for arguing indeterminate change in quantity (could be higher or lower).
Question 3 (14 points)

In a single (large) demand and supply diagram for the automotive gasoline market, show the effects of a reduction in a per gallon tax for gasoline from $1.50 to $1.00. In your diagram or below it, provide answers to these questions (or if the answer can not be determined, explain why).

i) (4 points) Show the old price paid by consumers and the new price paid in your diagram and answer the following: If you added $0.50 to the new price paid by consumers would it be more than, equal to or less than the old price paid by consumers?

*One point for:* showing either the demand curve shifts up or the supply curve shifts down.

*Equilibrium price is lower and quantity is higher*

*Two points for:* arguing that the new equilibrium price plus $0.50 is strictly higher than the old price. (If they used a perfectly elastic supply or demand curve and showed they were the same, then they get one point.)

ii) (3 points) Show the old consumer surplus and the new consumer surplus. Which is higher?

*One point for:* Old CS=a.

New CS=a+b+h.

*Showing New CS > Old CS.*

iii) (4 points) Show the old total surplus and the new total surplus. Which is higher and by how much?

*One point for:* Old TS=a+b+c+d+e.

New TS= a+b+c+d+e+h+g+f.

*Showing New TS > Old TS.*

*Correctly showing change in DWL (gone down by h+g+f).*

iv) (3 points) Show the old tax revenue and the new tax revenue. Which is higher?

*One point for:* Old TR=b+c+d,

New TR=g.

*arguing either could be higher. (g could be bigger or smaller than b+d)*
Multiple Choice
(Each question is worth 2.3 points. Please select THE BEST answer.)

1. a
2. d
3. a
4. b
5. b
6. d
7. c
8. a
9. a
10. d
11. c
12. a
13. b
14. c
15. a
16. b
17. c
18. b
19. c
20. d
21. b
22. a