SECOND HOURLY EXAMINATION
ECON 200
Spring 2009
Version A

STUDENT'S NAME:_________________________________________________

STUDENT'S IDENTIFICATION NUMBER:___________________________

DAY AND TIME YOUR SECTION MEETS:___________________________________

ENTER THE NUMBER 155577 UNDER "SPECIAL CODES" ON THE SCANTRON SHEET

BEFORE YOU BEGIN PLEASE MAKE SURE THAT YOUR EXAMINATION HAS BEEN DUPLICATED
AND COLLATED CORRECTLY. THERE SHOULD BE 40 MULTIPLE CHOICE QUESTIONS. THE
EXAM HAS 11 PAGES INCLUDING THIS COVER SHEET.

ANSWER ALL THE PROBLEMS ON THE SCANTRON 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.

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:_________________________________________
Multiple Choice
(Each question is worth 2.5 points. Please select THE BEST answer.)

**Figure 1:** This diagram shows the domestic market for oil for a small country that has access to international trade. The world price of oil is $50 per barrel.

1. Refer to Figure 1. If the government has a policy of completely free trade, domestic consumers will purchase a total of ____ million barrels of oil at a price of ____.
   a. 250; $50
   b. 500; $50
   c. 500; $75
   d. 750; $50

2. Refer to Figure 1. How much oil is imported to the country if the government introduces an import tariff of 20 percent ($10 per barrel of oil)?
   a. 150 million barrels
   b. 300 million barrels
   c. 500 million barrels
   d. 650 million barrels

3. Refer to Figure 1. If the government introduces an import tariff of 20 percent ($10 per barrel of oil), what is the deadweight loss due to the tax?
   a. $2.25 billion (B)
   b. $1.0 billion (D+F)
   c. $3.0 billion (E)
   d. $6.25 billion (B+D+E+F)
4. Refer to **Figure 1.** Suppose a war breaks out and a foreign navy prevents the import and export of all oil into this country. In this scenario, the country’s total surplus would be ____ than if the country had completely free trade.
   a. $2.25 billion (B) lower
   b. $3.0 billion (C) higher
   c. $3.0 billion (E) lower
   d. $6.25 billion (B+D+E+F) lower

**Figure 2:** Some observers have noted that the production of honey provides a positive externality. A beekeeper keeps the bees for their honey. A side effect associated with his activity is the pollination of surrounding crops by the bees, assisting nearby farmers. This diagram depicts the market for honey, and this positive externality.

5. Refer to **Figure 2.** At the private market outcome, ___ jars of honey will be produced, and sold at a price of ___.
   a. 400; $7
   b. 400; $10
   c. 500; $7
   d. 500; $10

6. Refer to **Figure 2.** What price and quantity combination best represents the price and quantity of honey production that maximizes total surplus?
   a. 400; $7
   b. 400; $10
   c. 500; $7
   d. 500; $10
7. Refer to Figure 2. Suppose there is a local farmers association that can (i) collect dues and (ii) efficiently bargain with the local beekeeper. The two parties would likely reach an agreement where
   a. the beekeeper pays a fee of $3 per jar of honey to the farmers.
   b. the farmers pay a subsidy to the beekeeper that is less than $3 per jar of honey.
   c. the farmers pay a subsidy to the beekeeper that is equal to $3 per jar of honey.
   d. the farmers pay a subsidy to the beekeeper that is more than $3 per jar of honey.

8. When marginal cost is less than average total cost,
   a. marginal cost must be falling.
   b. average variable cost must be falling.
   c. average total cost must be falling.
   d. average total cost must be rising.

Scenario 1: Suppose Argentina is an exporter of wheat but is a “small country” – it takes the world price of wheat as fixed. The Argentine government is concerned that wheat exports were driving up wheat prices for domestic consumers, so the government imposed a tax on wheat exports.

9. Refer to Scenario 1. How does an export tax affect wheat prices in Argentina?
   a. The domestic wheat prices decrease by the amount of an export tax.
   b. The domestic wheat prices decrease but less than the amount of an export tax.
   c. The domestic wheat prices increase by the amount of an export tax.
   d. No effect on the domestic wheat prices. The domestic wheat prices are the same as the prices before an export tax.

10. Refer to Scenario 1. What happens to total welfare in Argentina when the export tax is imposed?
    a. Total welfare increases.
    b. Total welfare decreases.
    c. The effect on total welfare is ambiguous: total welfare can either increase or decrease.
    d. Total welfare is unchanged.
Table 1: The numbers in table below reveal the maximum willingness to pay for a ticket to Chicago Cubs vs. St. Louis Cardinal’s baseball game at Wrigley Field.

<table>
<thead>
<tr>
<th>Buyer</th>
<th>Willingness to Pay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jennifer</td>
<td>$10</td>
</tr>
<tr>
<td>Bryce</td>
<td>$15</td>
</tr>
<tr>
<td>Dan</td>
<td>$20</td>
</tr>
<tr>
<td>David</td>
<td>$25</td>
</tr>
<tr>
<td>Ken</td>
<td>$50</td>
</tr>
<tr>
<td>Lisa</td>
<td>$60</td>
</tr>
</tbody>
</table>

11. Refer to Table 1. If tickets sell for $19 each, then how many tickets would be sold in the market?
   a. 6
   b. 3
   c. 4
   d. 2

12. Refer to Table 1. If tickets sell for $20 each, then what is the total consumer surplus in the market?
   a. $5
   b. $30
   c. $40
   d. $75

Table 2: There are three firms. The government wants to reduce pollution to 90 units in total, so each firm is given 30 pollution permits. The table lists the per-unit cost of reducing pollution for each firm. The associated per-unit cost applies no matter how many units it reduces (so for Firm A, for example, it costs $30 to reduce one unit, $60 to reduce two units, etc.).

<table>
<thead>
<tr>
<th>Firm</th>
<th>Initial Pollution Level</th>
<th>Cost of Reducing Pollution by 1 Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>70 units</td>
<td>$30</td>
</tr>
<tr>
<td>B</td>
<td>50 units</td>
<td>$20</td>
</tr>
<tr>
<td>C</td>
<td>40 units</td>
<td>$10</td>
</tr>
</tbody>
</table>

13. Refer to Table 2. If the permits could not be traded, what is the total cost of pollution reduction?
   a. $2,100
   b. $1,800
   c. $1,700
   d. $1,400
14. Refer to Table 2. If the permits are tradable, who sells permits and how many do they sell?
   a. Firm C sells 20 units.
   b. Firm C sells 30 units.
   c. Firm C sells 15 units, and firm B sells 15 units.
   d. Firm C sells 30 units, and firm B sells 10 units.

15. Refer to Table 2. If the permits are tradable, what is the total social cost of pollution reduction?
   a. $1,250
   b. $1,100
   c. $1,000
   d. $900

Table 3: The following table shows the private value, private cost, and social value for a market with a positive externality.

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Private Value</th>
<th>Private Cost</th>
<th>Social Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>27</td>
<td>6</td>
<td>34</td>
</tr>
<tr>
<td>2</td>
<td>24</td>
<td>10</td>
<td>31</td>
</tr>
<tr>
<td>3</td>
<td>21</td>
<td>14</td>
<td>28</td>
</tr>
<tr>
<td>4</td>
<td>18</td>
<td>18</td>
<td>25</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
<td>22</td>
<td>22</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>26</td>
<td>19</td>
</tr>
</tbody>
</table>

16. Refer to Table 3. How large would a subsidy need to be in this market to move the market from the equilibrium level of output to the socially-optimal level of output?
   a. $3
   b. $5
   c. $7
   d. $9

17. Suppose that as a business manager, you learn that, at your current production level, your marginal cost is $30 per unit and your average total cost is $25 per unit. If you decide to increase production somewhat
   a. your average total cost will fall and your average variable cost will fall.
   b. your average total cost will rise and your average variable cost will rise.
   c. your average total cost will fall and your average variable cost may rise or fall.
   d. you can infer nothing about what will happen to average total or variable costs.

18. If a competitive firm is (i) selling 1,000 units of its product at a price of $9 per unit and (ii) earning a positive profit, then
   a. its total cost is less than $9,000.
   b. its marginal revenue is less than $9.
   c. its average revenue is greater than $9.
   d. the firm cannot be a competitive firm since competitive firms can only earn zero profit.
19. Suppose a profit-maximizing firm in a competitive market produces rubber bands. When the market price for rubber bands falls below the minimum of its average total cost, but still lies above the minimum of average variable cost, in the short run the firm will
   a. experience losses but will continue to produce rubber bands.
   b. shut down.
   c. earn both economic and accounting profits.
   d. raise the price of its product.

20. Both private goods and natural monopolies are
   a. rival in consumption.
   b. non-rival in consumption.
   c. excludable.
   d. non-excludable.

21. At the local park there is a playground for children to use. While anyone is allowed to use the playground, it is often very busy, reducing the enjoyment of many of the children who use it. The playground is a
   a. private good.
   b. natural monopoly.
   c. common resource.
   d. public good.

22. Without government intervention, public goods tend to be
   a. over-produced and common resources tend to be over-consumed.
   b. over-produced and common resources tend to be under-consumed.
   c. under-produced and common resources tend to be over-consumed.
   d. under-produced and common resources tend to be under-consumed.

23. The free-rider problem exists with
   a. apples.
   b. knowledge.
   c. cable TV service.
   d. congested toll roads.
Table 4: Consider a small town with only three families, the Jones family, the Harris family, and the Wong family. The town does not currently have any streetlights so it is very dark at night. The three families are considering putting in streetlights on Main Street and are trying to determine how many lights to install. The table shows each family’s willingness to pay for each streetlight.

<table>
<thead>
<tr>
<th>Number of Streetlights</th>
<th>The Jones Family</th>
<th>The Harris Family</th>
<th>The Wong Family</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$180</td>
<td>$250</td>
<td>$220</td>
</tr>
<tr>
<td>2</td>
<td>140</td>
<td>200</td>
<td>210</td>
</tr>
<tr>
<td>3</td>
<td>90</td>
<td>140</td>
<td>180</td>
</tr>
<tr>
<td>4</td>
<td>30</td>
<td>70</td>
<td>130</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
<td>35</td>
<td>60</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
<td>20</td>
</tr>
</tbody>
</table>

24. Refer to Table 4. Suppose the cost to install each streetlight is $400. How many streetlights should the town install to maximize total surplus from the streetlights?
   a. 1 streetlight
   b. 2 streetlights
   c. 3 streetlights
   d. 4 streetlights

25. Refer to Table 4. Suppose the cost to install each streetlight is $200. How many streetlights should the town install to maximize total surplus from the streetlights?
   a. 1 streetlight
   b. 2 streetlights
   c. 3 streetlights
   d. 4 streetlights

26. Refer to Table 4. Suppose the cost to install each streetlight is $200 and the families have agreed to split the cost of installing the streetlights equally. To maximize their own surplus, how many streetlights would the Jones’s like the town to install?
   a. 0 streetlight
   b. 1 streetlights
   c. 2 streetlights
   d. 3 streetlights
27. Jennifer has just completed her junior year in college. Her current cumulative grade point average (GPA) is 3.5 out of a 4.0 scale. Jennifer is hoping that by the time she graduates, she can raise her cumulative GPA to a 3.7. Which of the following statements is correct?  
   a. If Jennifer earns between a 3.5 and a 3.7 GPA in her senior year, she will be able to raise her cumulative GPA to a 3.7.
   b. If Jennifer earns a 3.7 GPA in her senior year, she will be able to raise her cumulative GPA to a 3.7.
   c. Jennifer must earn above a 3.7 GPA in her senior year in order to raise her cumulative GPA to a 3.7.
   d. Either (b.) or (c.) could be correct.

28. Which of the following is not true?  
   a. The Coase theorem proposes that, if private parties can bargain without cost over the allocation of resources, they can solve the problem of externalities on their own.
   b. Governments can use various policies to remedy the inefficiencies caused by externalities.
   c. If an activity yields negative externalities, such as pollution, the socially optimal quantity in a market is more than the equilibrium quantity.
   d. When there is a subsidy, the amount received by sellers when a good is sold exceeds the price paid by buyers.

29. Which of the following statements is not correct?  
   a. The marginal cost of the fifth unit of output equals the total cost of five units minus the total cost of four units.
   b. The total variable cost of seven units equals the average variable cost of seven units times seven.
   c. If marginal cost is rising, then average variable cost must be rising.
   d. The marginal cost of the fifth unit of output equals the total variable cost of five units minus the total variable cost of four units.

30. The long-run average total cost curve is always  
   a. no higher than the short-run average total cost curve, but not necessarily horizontal.
   b. horizontal.
   c. falling as output increases.
   d. rising as output increases.

31. Because the goods offered for sale in a competitive market are largely the same  
   a. there will be few sellers in the market.
   b. there will be few buyers in the market.
   c. only a few buyers will have market power.
   d. sellers will have little reason to charge less than the going market price.
32. Tony is a wheat farmer, but he also spends part of his day teaching guitar lessons. Due to the popularity of his local country western band, Farmer Tony has more students requesting lessons than he has time for if he is to also maintain his farming business. Farmer Tony charges $25 an hour for his guitar lessons. One spring day, he spends 10 hours in his fields planting $130 worth of seeds on his farm. There are no other costs to consider. He expects that the seeds he planted will yield $300 worth of wheat. Tony's economic profit equals
   a. -130 dollars.
   b. -80 dollars.
   c. 130 dollars.
   d. 170 dollars.

33. Suppose the supply curve (though possibly not the demand curve) is the same in the long run as in the short run. The burden of a tax on consumers can be expected to be
   a. higher in the short run than in the long run.
   b. lower in the short run than in the long run.
   c. the same in the short run as in the long run.
   d. either higher or lower in the short run than in the long run..

**Table 5: Measures of Costs for ABC Inc. Widget Factory**

<table>
<thead>
<tr>
<th>Quantity of Widgets</th>
<th>Variable Costs</th>
<th>Total Costs</th>
<th>Fixed Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>$10</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>$1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>$3</td>
<td>$13</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>$6</td>
<td>$16</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>$10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>$25</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>$21</td>
<td></td>
<td>$10</td>
</tr>
</tbody>
</table>

34. Refer to **Table 5**. What is the marginal cost of producing the first widget?
   a. $1.00
   b. $10.00
   c. $11.00
   d. It can't be determined from the information given.

35. Refer to **Table 5**. What is the variable cost of producing the fifth widget?
   a. $1.00
   b. $15.00
   c. $11.00
   d. $20.00.
36. If a firm experiences constant returns to scale at all output levels, then its long-run average
total cost curve would
   a. slope downward.
   b. be horizontal.
   c. slope upward.
   d. slope downward for low output levels and upward for high output levels.

37. When the price of a good is higher than the equilibrium price,
   a. a shortage will exist.
   b. buyers desire to purchase more than is produced.
   c. sellers desire to produce and sell more than buyers wish to purchase.
   d. quantity demanded exceeds quantity supplied.

38. The supply of a good will be more elastic, the
   a. more the good is considered a luxury.
   b. broader is the definition of the market for the good.
   c. larger the number of close substitutes for the good.
   d. longer the time period being considered.

39. A price ceiling that is not binding will
   a. cause excess supply in the market.
   b. cause a shortage in the market.
   c. cause the market to be less efficient than it would be without the price ceiling.
   d. have no effect on the market price.

40. Kevin quit his $65,000 a year corporate lawyer job to open up his own law practice. In
    Kevin's first year in business his total revenue equaled $150,000. Kevin's explicit cost during
    the year totaled $85,000. Using the information from Kevin's first year in business, what is
    his economic profit?
    a. $0
    b. $20,000
    c. $65,000
    d. $85,000