DO NOT BEGIN WORKING UNTIL YOU ARE TOLD TO DO SO. READ THESE INSTRUCTIONS FIRST.

You have 120 minutes to complete the exam, which consists of 75 multiple-choice questions. Each question is worth the same number of points, so manage your time wisely. Please answer the questions on your scantron sheet with a #2 pencil. Be sure to fill in the scantron sheet carefully and accurately.

How to fill in the scantron sheet:
1. Fill in the bubbles on your sheet with your last name, first name, and middle initial.
2. Fill in the bubbles so we know your student identification number.
3. Fill in the bubbles under "Special Codes" spaces ABC so we know the discussion section number for which you are officially registered. Discussion sections are listed below:
4. Finally, after filling in your section code, please put the exam version in the “Special Codes” spaces. You will end up with a 4-digit “Special Codes” number – a three digit section number followed by a one digit exam version number.

<table>
<thead>
<tr>
<th>Jonathan Hore</th>
<th>John Morrow</th>
<th>Dan Wei</th>
</tr>
</thead>
<tbody>
<tr>
<td>371 R 8:50</td>
<td>357 F 11:00</td>
<td>358 F 12:05</td>
</tr>
<tr>
<td>372 R 12:05</td>
<td>359 F 12:05</td>
<td>363 F 2:25</td>
</tr>
<tr>
<td></td>
<td>361 W 9:55</td>
<td>365 F 3:30</td>
</tr>
<tr>
<td></td>
<td>362 F 2:25</td>
<td>366 M 8:50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Greg Whitten</th>
<th>Jason Wu</th>
</tr>
</thead>
<tbody>
<tr>
<td>356 F 11:00</td>
<td>360 W 9:55</td>
</tr>
<tr>
<td>364 F 3:30</td>
<td>369 M 11:00</td>
</tr>
<tr>
<td>367 M 8:50</td>
<td>370 M 12:05</td>
</tr>
<tr>
<td>368 M 11:00</td>
<td>373 W 8:50</td>
</tr>
</tbody>
</table>

If you have a question during the exam, stay seated and please raise your hand. All scantron sheets must be turned in as you leave the exam. If you finish early and want to leave, please bring your scantron to the front of the room as quietly as possible.

Relax. Stop, take a deep breath, and think carefully before you answer any questions. Good luck!
1. Consumers expect that the price of a gallon of gasoline will rise next week. As a result,
   A) today's supply of gasoline increases.
   B) today's demand for gasoline increases.
   C) the price of a gallon of gasoline falls today.
   D) next week’s supply of gasoline decreases.
   E) None of the above.

Use the following information to answer the next three questions:
Assume Wallace’s Widgets has a monopoly in the widget market in Madison. The market demand curve is \( Q_d = 120 - P \). Wallace’s Widgets faces Total and Marginal Costs given by:
\[
TC = 25 + 60Q + Q^2 \\
MC = 60 + 2Q
\]

2. If Wallace’s Widgets is a single price monopolist, what will profits be?
   A) 1575
   B) 1150
   C) 725
   D) 425
   E) None of the above.

3. What is the deadweight loss associated with this monopoly outcome?
   A) \( \frac{75}{2} \)
   B) \( \frac{50}{2} \)
   C) \( \frac{25}{2} \)
   D) 0
   E) None of the above

4. If Wallace’s Widgets can perfectly price discriminate, how much will be produced?
   A) 0
   B) 15
   C) 20
   D) 25
   E) None of the above.

5. An unusually cold winter
   A) shifts the supply curve of gloves rightward.
   B) shifts the supply curve of gloves leftward.
   C) shifts the demand curve for gloves rightward.
   D) shifts the demand curve for gloves leftward.
   E) None of the above.

6. When your income increases, you buy less popcorn. To you, popcorn is
   A) a normal good.
   B) a luxury good.
   C) a substitution good.
   D) a complementary good.
   E) an inferior good.
Use the following graph to answer the next four questions:

7. Which point(s) on the graph are attainable but not optimal (given the budget constraint) for the consumer?
   A) E and F
   B) A and C
   C) A, B, and D
   D) B, E, and F
   E) None of the above.

8. Good X is on the X axis and Good Y is on the Y axis. At the consumer’s optimal point, what the marginal utility of X divided by the marginal utility of Y (what is MUx/MUy)?
   A) 4
   B) 2
   C) 1
   D) 1/2
   E) 1/4

9. At which point is utility the highest?
   A) B
   B) C
   C) E
   D) F
   E) Not enough information

10. Good X is on the X axis and Good Y is on the Y axis, and both goods are normal. Suppose that the price of Y drops and the consumer’s new optimal point is E. Which of the following will increase the quantity of Y purchased?
    A) The Income Effect only.
    B) The Substitution Effect only.
    C) Both the Income Effect and Substitution Effect.
    D) None of the above.
    E) Not enough information to answer.
11. Because of increasing marginal cost, most supply curves
   A) are horizontal.
   B) are vertical.
   C) have a negative slope.
   D) have a positive slope.
   E) None of the above.

Consider the game below and answer the following two questions:

<table>
<thead>
<tr>
<th></th>
<th>L</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Firm 1</strong></td>
<td>T</td>
<td>Firm 1: 1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Firm 2: 0</td>
</tr>
<tr>
<td><strong>Firm 2</strong></td>
<td>B</td>
<td>Firm 1: -1,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Firm 2: 1</td>
</tr>
</tbody>
</table>

12. Which is true of the above game:
   A) T is a dominant strategy for Firm 1.
   B) B is a dominant strategy for Firm 1.
   C) L is a dominant strategy for Firm 2.
   D) R is a dominant strategy for Firm 2.
   E) None of the above are true.

13. What is the Nash Equilibrium in the above game?
   A) TL
   B) TR
   C) BL
   D) BR
   E) There is no Nash Equilibrium in pure strategies

14. If the quantity demanded exceeds the quantity supplied, then there is
   A) a shortage and the price is below the equilibrium price.
   B) a shortage and the price is above the equilibrium price.
   C) a surplus and the price is below the equilibrium price.
   D) a surplus and the price is above the equilibrium price.
   E) None of the above.

15. Budget lines are drawn on a diagram with the
   A) price of the good on the vertical axis and its quantity on the horizontal axis.
   B) price of one good on the vertical axis and the price of another good on the horizontal axis.
   C) quantity of the good on the vertical axis and its price on the horizontal axis.
   D) quantity of one good on the vertical axis and the quantity of another good on the horizontal axis.
   E) none of the above.
16. The price elasticity of demand measures
   A) how often the price of a good changes.
   B) whether a good is normal or inferior.
   C) the slope of a budget curve.
   D) how sensitive the quantity demanded is to changes in demand.
   **E) the responsiveness of the quantity demanded to changes in price.**

<table>
<thead>
<tr>
<th>South Park Episodes</th>
<th>Family Guy Episodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q</td>
<td>Total Utility</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td>2</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>300</td>
</tr>
<tr>
<td>4</td>
<td>400</td>
</tr>
<tr>
<td>5</td>
<td>500</td>
</tr>
</tbody>
</table>

17. If the price for each Family Guy episode (think of it as a DVD) is $20, and the price of each South Park episode is $2, then
   A) Jason should spend half of his income on each of the DVDs.
   B) We won’t know the proportion of the two DVDs Jason will buy unless we know his income.
   **C) Jason will spend all of his income on Family Guy DVDs.**
   D) Jason will spend all of his income on Southpark DVDs.
   E) None of the above are true.

18. The figure above shows Dan’s demand for CDs. The market price for a CD is $15. Which statement is true?
   A) When Dan buys 6 CDs, she receives no consumer surplus.
   B) When Dan buys 6 CDs, she receives a total of $15 of consumer surplus.
   C) When Dan buys 6 CDs, she receives a total of $20 of consumer surplus.
   D) When Dan buys 6 CDs, she receives a total of $35 of consumer surplus.
   **E) When Dan buys 6 CDs, she receives a total of $45 of consumer surplus.**
19. A 20 percent increase in the quantity of pizza demanded results from a 10 percent decline in its price. The price elasticity of demand for pizza is
   A) 0.5.
   B) 2.0.
   C) 10.0.
   D) 20.0.
   E) None of the above.

<table>
<thead>
<tr>
<th>Price</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>2000</td>
</tr>
<tr>
<td>7</td>
<td>4000</td>
</tr>
<tr>
<td>6</td>
<td>6000</td>
</tr>
<tr>
<td>5</td>
<td>8000</td>
</tr>
<tr>
<td>4</td>
<td>10000</td>
</tr>
</tbody>
</table>

20. Consider the demand for Nilla Cookies in the table above. The price elasticity between 2000 and 4000 units, using the midpoint method, is
   A) 5
   B) 3.5
   C) 2
   D) 0.5
   E) 0.25

21. Demand is perfectly inelastic when
   A) shifts in the supply curve results in no change in price.
   B) the good in question has perfect substitutes.
   C) shifts of the supply curve results in no change in quantity demanded.
   D) shifts of the supply curve results in no change in the total revenue from sales.
   E) None of the above.

22. Suppose a profit-maximizing firm in Perfect Competition has a fixed cost of $4, the following variable cost schedule, and the market price increases from $7 to $9. How much will short-run profit increase by?

<table>
<thead>
<tr>
<th>Q</th>
<th>VC</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
</tr>
<tr>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td>6</td>
<td>41</td>
</tr>
</tbody>
</table>
   A) 11
   B) 8
   C) 3
   D) 0
   E) None of the above.
23. Suppose a consumer spends all of her income on Xbox 360 games and Caffeine pills. If the marginal utility per dollar spent is equal for both goods, then

A) total utility is maximized.
B) a consumer could not be better off even with greater income.
C) marginal utility is maximized.
D) the proportion of income spent on each good must be equal.
E) the consumer is behaving sub-optimally.

24. If the cross elasticity of demand between goods A and B is negative,
A) the demands for A and B are both price elastic.
B) the demands for A and B are both price inelastic.
C) A and B are complements.
D) A and B are substitutes.
E) None of the above are true.

25. The income elasticity of demand is the percentage change in
A) the price divided by the percentage change in income.
B) the quantity demanded divided by the percentage change in income.
C) income divided by the percentage change in quantity demanded.
D) income divided by the percentage change in price.
E) None of the above.

Use the table below to answer the following two questions.

<table>
<thead>
<tr>
<th>Total Production Possibilities (million pounds per year):</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td>Ireland</td>
</tr>
<tr>
<td>New Zealand</td>
</tr>
</tbody>
</table>

26. The opportunity cost of wool in terms of butter is:
A) 4 in Ireland and 1.25 in New Zealand
B) 0.25 in Ireland and 1.25 in New Zealand
C) 0.25 in Ireland and 0.8 in New Zealand
D) 4 in Ireland and 0.8 in New Zealand
E) None of the above.

27. We can say that:
A) Ireland has the comparative advantage in Wool, New Zealand has the comparative advantage in Butter.
B) New Zealand has the comparative advantage in Wool, Ireland has the comparative advantage in Butter.
C) Ireland has the comparative advantage in both goods.
D) New Zealand has the comparative advantage in both goods.
E) Neither country has a comparative advantage in any good.
28. The budget line
   A) identifies affordable bundles.
   B) identifies preferred bundles.
   C) identifies the maximum utility which can be achieved from consumption.
   D) identifies the satisfaction received from consumption.
   E) All of the above are true.

29. According to the static labor supply model studied in class, as a worker’s wage decreases, the worker may decide (assuming leisure is a normal good):
   A) to work less hours and consume more goods.
   B) to work more hours.
   C) to work less hours.
   D) not to alter the numbers of hours worked.
   E) B, C, and D are all possible.

30. Judy spends her monthly dining-out budget of $1000 on either steak or lobster dinners. Using the above figure, what is the price of a lobster dinner?
   A) $10
   B) $50
   C) $100
   D) $200
   E) Not enough information.

31. Diminishing marginal utility means that
   A) beyond a certain point, total utility decreases as income rises.
   B) the total utility from one hamburger exceeds the total utility from two hamburgers.
   C) the price of two hamburgers is twice the price of one.
   D) Ralph will enjoy his second hamburger more than the first.
   E) Ralph will enjoy his second hamburger less than the first.
32. To maximize total utility, a consumer equates
   A) the total utility from each good.
   B) the marginal utility from each good.
   C) the marginal utility per dollar spent on each good.
   D) the total utility per dollar spent on each good.
   E) None of the above.

Use the following information to answer the next two questions:
Let the weekly demand for and supply of sandwiches in the “Daisy Room” be given by the following
equations:
   \[ Q^{D} = 24 - P \]
   \[ Q^{S} = 3P \]
\( Q^{D} \) and \( Q^{S} \) are the quantity demanded and supplied of sandwiches and \( P \) is the price of a sandwich.

33. The equilibrium price of a sandwich, \( P^{*} \) is ___, and the equilibrium quantity of sandwiches, \( Q^{*} \) is ___:
   A) \( P^{*} = 4; Q^{*} = 20 \).
   B) \( P^{*} = 6; Q^{*} = 18 \).
   C) \( P^{*} = 4; Q^{*} = 12 \).
   D) \( P^{*} = 6; Q^{*} = 12 \).
   E) None of the above.

34. Suppose the government decides to help sandwich consumers by putting a price ceiling on
   sandwiches of $5 per dozen. The new quantity of sandwiches consumed per week in the “Daisy Room”
   is ___. The deadweight loss of the price ceiling is ___.
   A) 20; 20/3.
   B) 12; 72
   C) 19; 2/3.
   D) 15; 6.
   E) 12; 0.

35. Suppose Family Guy DVDs and South Park DVDs are substitutes. An increase in the price of South
   Park DVDs will
   A) Increase the demand for Family Guy DVDs.
   B) Increase the quantity demanded for Family Guy DVDs.
   C) Decrease the demand for Family Guy DVDs.
   D) Decrease the quantity demanded for Family Guy DVDs.
   E) Not affect the demand for Family Guy DVDs.

36. The magnitude of the slope of the budget line is determined by
   A) the marginal rate of substitution.
   B) the level of income.
   C) the consumer’s preferences for the goods.
   D) the supply curve for the good.
   E) relative prices.

37. Long run equilibrium under monopolistic competition requires that
   A) the demand curve intersect the average cost curve.
   B) the demand curve be tangent to the average cost curve.
   C) price be equal to marginal cost.
   D) price be less than marginal cost.
   E) quantity produced be at the point where average cost is at a minimum.
38. George’s graph of his budget line has apples per week on the vertical axis and loaves of bread per week on the horizontal. A fall in the price of an apple shifts the
A) horizontal intercept leftward.
B) horizontal intercept rightward.
C) vertical intercept downward.
D) vertical intercept upward.
E) both B and D are true.

Use the following graph to answer the next two questions:

39. Consider the monopolistically competitive firm whose demand curve and cost structure are illustrated above. Which of the following statements is correct in the short run?
A) the firm will produce 100 units and suffer a loss of $400 per week.
B) the firm will produce 100 units and suffer a loss of $300 per week.
C) the firm will produce 100 units and suffer a loss of $1,000 per week.
D) the firm will produce 100 units and suffer a loss of $100 per week.
E) the firm will produce zero units, since it will shut down.

40. Consider the typical monopolistically competitive firm whose demand curve and cost structure is illustrated above. Which of the following statements is correct in the long run?
A) some firms will exit the market, and the demand curves facing any remaining firms will shift rightward.
B) some firms will exit the market, and the demand curves facing any remaining firms will shift leftward.
C) some firms will enter the market, and the demand curves facing each remaining firm will shift rightward.
D) some firms will enter the market, and the demand curves facing each remaining firm will shift leftward.
E) some firms will enter the market, but the demand curves facing each remaining firm will not change.
Use the following information to answer the following two questions:

Let the demand and supply of the market for Macintosh computers be described by the following demand and supply equations:

\[
\begin{align*}
D: \quad P &= 30 - Q \\
S: \quad P &= 2Q
\end{align*}
\]

41. Suppose that Apple president Steve Jobs believes that Macs are under-priced. He wants to impose a minimum price that the retailers can sell at. Which of the following minimum prices will be ineffective?

A) $18  
B) $21  
C) $24  
D) $27  
E) $30

42. Suppose the minimum price was set at $25. What is the new consumer surplus?

A) $50  
B) $25  
C) $12.50  
D) $0  
E) None of the above.

<table>
<thead>
<tr>
<th>Price (cents per brownie)</th>
<th>Quantity demanded (per day)</th>
<th>Quantity supplied (per day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1,800</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>1,600</td>
<td>100</td>
</tr>
<tr>
<td>20</td>
<td>1,400</td>
<td>200</td>
</tr>
<tr>
<td>30</td>
<td>1,200</td>
<td>300</td>
</tr>
<tr>
<td>40</td>
<td>1,000</td>
<td>400</td>
</tr>
<tr>
<td>50</td>
<td>800</td>
<td>500</td>
</tr>
<tr>
<td>60</td>
<td>600</td>
<td>600</td>
</tr>
<tr>
<td>70</td>
<td>400</td>
<td>700</td>
</tr>
<tr>
<td>80</td>
<td>200</td>
<td>800</td>
</tr>
<tr>
<td>90</td>
<td>0</td>
<td>900</td>
</tr>
</tbody>
</table>

43. In the above table, when 200 brownies are supplied,

A) marginal benefit is greater than marginal cost, and resource use is efficient.  
B) marginal benefit is greater than marginal cost, and there is a deadweight loss.  
C) marginal benefit equals marginal cost, and resource use is efficient.  
D) marginal benefit is less than marginal cost, and there is a deadweight loss.  
E) None of the above are true.

44. Explicit costs are ____ and implicit costs are ____.

A) paid in money; paid in interest costs.  
B) paid in money; incurred when a firm gives up an alternate action.  
C) not measurable; measurable.  
D) used to maximize profits; used to minimize costs.  
E) none of the above.
45. Technological efficiency occurs when the firm produces a given output

A) by using the least amount of inputs.
B) by using the maximum amount of inputs.
C) at the least cost.
D) at the greatest cost.
E) both A and C are true.

<table>
<thead>
<tr>
<th>Quantity of Candy (per day)</th>
<th>Total utility (units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>8</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>10</td>
<td>20</td>
</tr>
</tbody>
</table>

46. The table above gives Carl’s total utility from Candy. Carl’s marginal utility from the 8th Candy is ____ units.

A) 10
B) 12
C) 17
D) 5
E) 6

47. A snowplow will generate a net income of $2,000 per year for its owner. After 8 years, the plow will break down and have zero value. Assuming an interest rate of 10%, the maximum amount of money anyone would pay for the plow is

A) less than $2,000
B) $2,000
C) between $2,000 and $16,000
D) $16,000
E) more than $16,000

48. Suppose the demand for widgets is given by \( P = 100 - Q \). Then the demand is unit elastic at the point

A) \( Q = 0 \)
B) \( Q = 100 \)
C) \( Q = 30 \)
D) \( Q = 40 \)
E) \( Q = 50 \)

49. When the competitive market is using its resources efficiently, the

A) total amount of consumer surplus is maximized.
B) total amount of producer surplus is maximized.
C) sum of the total amount of consumer surplus plus the total amount of producer surplus are maximized.
D) sum of the total amount of consumer surplus plus the total amount of producer surplus equals zero.
E) None of the above are true.
50. Suppose that Coldstone and Babcock are the only producers of ice cream, which consumers consider perfect substitutes. Coldstone and Babcock can each choose to sell their ice cream at a low price or a high price. Their payoffs are as follows. (The first number in each cell is Babcock’s payoff; the second number is Coldstone’s.)

<table>
<thead>
<tr>
<th>Babcock</th>
<th>Coldstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low price</td>
<td>B 40, C 40</td>
</tr>
<tr>
<td>High price</td>
<td>B 0, C 80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Babcock</th>
<th>Coldstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low price</td>
<td>B 80, C 0</td>
</tr>
<tr>
<td>High price</td>
<td>B 60, C 60</td>
</tr>
</tbody>
</table>

Now suppose Babcock advertises to differentiate its ice cream from Coldstone ice cream. If Babcock decides to advertise, the new payoff matrix (not counting advertising costs) will be as follows.

<table>
<thead>
<tr>
<th>Babcock</th>
<th>Coldstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low price</td>
<td>B 50, C 30</td>
</tr>
<tr>
<td>High price</td>
<td>B 90, C 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Babcock</th>
<th>Coldstone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low price</td>
<td>B 60, C 60</td>
</tr>
<tr>
<td>High price</td>
<td>B 100, C 40</td>
</tr>
</tbody>
</table>

How much is Babcock willing to spend on advertising?
A) 10
B) 20
C) 25
D) 30
E) Not enough information to know.

51. Which of the following will lead to a change in the shape of your indifference curves between chocolate and magazines?
A) a change in the price of chocolate.
B) a change in the price of magazines.
C) a change in your income
D) a change in your preferences for either of the two goods.
E) A, B and C

52. The long run is a time frame in which
A) the quantities of some inputs are fixed and the quantities of other inputs can be varied.
B) the quantities of all inputs can be varied.
C) the quantities of all inputs are fixed.
D) all costs are sunk costs.
E) None of the above are true.

53. Let Jason’s demand equation for fried rice be \( P = 20 - 2Q \). If Jason’s income increases, which of the following equations will most likely be Jason’s demand for fried rice after the income increase?
A) \( P = 10 - 2Q \)
B) \( P = 10 - 3Q \)
C) \( P = 30 - 2Q \)
D) \( P = 20 - 3Q \)
E) \( P = 20 - 2Q \)
54. Under ____ there are many firms selling identical products.
   
   A) perfect competition.  
   B) monopolistic competition.  
   C) oligopoly.  
   D) monopoly.  
   E) All of the above.

55. The accompanying table shows the demand schedule for crude oil. For simplicity, assume that the cost of producing crude oil is zero—the marginal cost of crude oil equals zero. Suppose the crude oil industry is a duopoly and the two firms collude to share the market equally, and neither firm cheats. BP and Shell own the two firms. In this case, the price of crude oil will be _____. BP will produce _____ barrels, Shell will produce _____ barrels, and both BP and Shell will earn economic profits equal to _____.

   A) $100; 25; 25; $5,000  
   B) $100; 25; 25; $2,500  
   C) $120; 20; 20; $2,400  
   D) $80; 30; 30; $2,400  
   E) None of the above.

56. If the federal government initiated a program through which individuals could receive a tax break for acquiring additional training in selected fields, the
   
   A) supply curve for labor in those fields would shift to the left.  
   B) demand curve for labor in those fields would shift to the left.  
   C) demand for the product produced in those fields would shift to the left.  
   D) quantity of labor supplied would rise in response to wages.  
   E) supply curve for labor in those fields would shift to the right.

57. Consider the market for Nilla cookies. An increase in the price of flour, an input in the production of Nilla cookies, will
   
   A) Increase the quantity supplied.  
   B) Decrease the quantity demanded.  
   C) Decrease the supply.  
   D) Increase the supply.  
   E) Both B and C.
58. Heidi quit her job as a chef making $40,000 per year to start her own restaurant. The first year, Heidi’s restaurant earned $100,000 in revenue. Heidi pays $50,000 per year in wages to the waitresses and hostess, $20,000 per year to buy food, etc. What is Heidi’s economic profit for the year?
   A) $80,000
   B) $50,000
   C) $30,000
   D) $0
   E) –$10,000

Use the following information to answer the next two questions.
Say a firm in a Perfectly Competitive market has the following Total Cost: \(TC = 16 + 2q + q^2\). This implies that \(MC = 2 + 2q\).

59. If the short run market price is $12, how much profit will each firm make?
   A) $60
   B) $51
   C) $18
   D) $9
   E) 0

60. In the long run equilibrium, how much will this firm produce?
   A) 36
   B) 16/3
   C) 4
   D) 3
   E) There is not enough information to answer the question.

61. Consider the market for bananas. The original equilibrium quantity of bananas is 300. The government then imposes a tax on banana suppliers. At the new equilibrium, the price paid by buyers has risen by $3 and the price received by sellers fell by $2 (compared to the original equilibrium price). The government collects $1000 as revenue from the tax. What is the deadweight loss of this tax?
   A) Not enough information is given
   B) $100
   C) $125
   D) $250
   E) $500

62. Jonathan likes to eat Zingers. Each month he spends $40 on this delicious candy, regardless of the price. His price elasticity of demand for Zingers is:
   A) one.
   B) zero.
   C) greater than one.
   D) between zero and one.
   E) not enough information is given.
63. A higher interest rate will lead a firm to purchase less capital because the higher interest rate
   A) lowers the marginal product of capital goods.
   B) causes technological change to cease.
   C) lowers the present value of capital goods.
   D) causes economies of scale to be exhausted.
   E) causes the capital market become monopolized.

64. Suppose leisure is a normal good. When wages increase, the substitution effect ________; the income
effect ________.
   A) Implies that hours worked decrease; implies that hours worked increase.
   B) Implies that hours worked increase; implies that hours worked decrease.
   C) Implies that hours worked decrease; implies that hours worked decrease.
   D) Implies that hours worked increase; implies that hours worked increase.
   E) Depends on whether leisure and consumption are complements or substitutes.

65. A monopolist faces the market demand curve $P = 40 - 2Q$ and her MC = 8. What is the consumer surplus
   in this market?
   A) 64
   B) 77
   C) 126
   D) There is no consumer surplus in monopolistic markets.
   E) None of the above.

66. If a firm has a total cost function of $TC = 80 + 20Q + 4Q^2 + 6Q^3$, then Fixed Costs equal:
   A) 80
   B) $20Q + 4Q^2 + 6Q^3$
   C) 20
   D) $20 + 4Q + 6Q^2$
   E) $20 + 8Q + 18Q^2$

67. Hugette’s demand for Badger basketball tickets is given by $P = 40 - 2Q$. Due to an increase in her
   income, Hugette’s demand has increased to $P = 60 - 2Q$. Assume that the supply of tickets is perfectly
   elastic at $30$. (Since ticket prices are fixed and tickets are always available if purchased early), the
   increase in the number tickets that Hugette will purchase is:
   A) 5
   B) 10
   C) 15
   D) 20
   E) None of the above.

68. The fact that individual productive resources are NOT equally useful in all activities:
   A) Implies that a production possibilities frontier will be bowed outward.
   B) Implies that gain from specialization and trade is unlikely.
   C) Follows from the law of demand.
   D) Implies a linear production possibilities frontier.
   E) Prevents comparison of opportunity costs across countries.
69. The table below shows the total number of loaves of bread a bakery can bake per year with different numbers of ovens. The market for bread is perfectly competitive, with a market price of $2 per loaf. What is the marginal revenue product of the third oven?

<table>
<thead>
<tr>
<th>Number of Ovens</th>
<th>Total Number of Loaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1,000</td>
</tr>
<tr>
<td>2</td>
<td>1,800</td>
</tr>
<tr>
<td>3</td>
<td>2,400</td>
</tr>
<tr>
<td>4</td>
<td>2,800</td>
</tr>
</tbody>
</table>

A) $4,800  
B) $3,600  
C) **$1,200**  
D) $600  
E) $0

70. A public good is

A) excludable and rival.  
B) non-excludable and rival.  
C) excludable and non-rival.  
D) **non-excludable and non-rival.**  
E) None of the above.

Using following information to answer the next two questions.

Suppose a tax, t, is imposed on suppliers in a market, as depicted below.

71. The decline in producer surplus that results from the tax can be represented by areas:

A) e&f&j  
B) **e&f**  
C) e  
D) e&d  
E) g&h

72. Deadweight loss resulted from the tax can be represented by the area:

A) b&c&f  
B) c&d&e&f  
C) **d&e**  
D) c&d  
E) e&f
73. The market structure in which a large number of firms compete by making similar but slightly different products is called
   A) monopoly.
   B) **monopolistic competition**.
   C) perfect competition.
   D) oligopoly.
   E) All of the above.

74. You receive an e-mail from a firm proposing the following business deal. They will send you $1,000 now, and in exchange you will send them $1,100 in one year. You will accept this deal if the interest rate is:
   A) 15%
   B) 12%
   C) 8%
   D) **You would accept both 15% and 12%**
   E) You would accept 15%, 12% and 8%.

75. In which of the graphs depicted below will consumers bear most of the economic incidence of a tax on suppliers:

A) (a)  
B) (b)  
C) (c)  
D) (d)  
E) Not enough information to answer.