We will award 5 points for doing the following correctly. FILL IN THE BUBBLES on your scantron for your name, your Class ID number (in 7 digit form, with leading zeroes), and the test form type. Use pencil only. All bubbles must be completely filled in. Each correct answer is worth 5 points. Answers left blank are worth 2 points. Wrong answers are worth 0 points.

**True-False Questions:** Fill in Bubble A for True, Bubble B for False.

1. A competitive equilibrium price is defined to be a price at which buyers and sellers make equal profits.

2. If the supply curve crosses the demand curve at a single point, then when the market for that good is in competitive equilibrium, everybody who buys a unit of the good pays the same price.

3. The market efficiency of an experimental outcome is defined to be the percentage ratio of the number of trades actually made to the total number of trades that could possibly be made in the experiment.

4. In competitive equilibrium, it might be that some of the suppliers who do not trade have lower Seller Costs than some of the suppliers who do trade.

5. Suppose that the supply curve for lettuce is vertical, the demand curve is downward-sloping, and the demand curve intersects the supply curve at a positive price. If the demand curve shifts up and the supply curve does not change, the equilibrium price of lettuce will rise and the equilibrium quantity of lettuce sold will not change.

6. The price elasticity of demand is the same, whether you measure quantity in kilograms or in pounds.

7. If the price elasticity of demand is $E$, then the price elasticity of supply is defined to be $-1/E$. 
8. The fact that fresh raspberries are both cheaper and more plentiful in the summer than in the winter is best explained by a shift in the demand curve.

Multiple Choice Questions

9. The supply function for spinach is given by the equation $P_s(Q) = 3 + 7Q$. The demand function is given by the equation $P_d(Q) = 255 - 2Q$ where $Q$ is the number of crates of spinach sold. In competitive equilibrium, how many crates of spinach will be sold.

(a) 25
(b) 28
(c) 33
(d) 199
(e) None of the above.

10. Suppose that the demand curve for umbrellas slopes downward and the supply curve slopes upward. If El Nino brings a large increase in the number of rainy days, we would expect:

(a) the demand curve for umbrellas to shift upward and the price and quantity of umbrellas to increase.
(b) the supply curve for umbrellas to shift downward, the price of umbrellas to fall and the number of umbrellas sold to rise.
(c) both the supply curve and the demand curve for umbrellas to shift upward, and the price of umbrellas to rise.
(d) both the supply curve and the demand curve for umbrellas to shift upward, and the price of umbrellas to fall.
(e) neither curve would shift, but there would be a movement along the demand curve.

11. An improvement in the weather led to an increase of 40% in the size of the barley crop. The demand curve for barley did not change. The price of barley fell by 20%. From this we can conclude that:

(a) The price elasticity of demand for barley is $-2$.
(b) The price elasticity of demand for barley is $-1/2$.
(c) The price elasticity of supply for barley is $-2$.
(d) The price elasticity of supply for barley is $1/2$.
(e) The price elasticity of supply for barley is $-1/2$. 

12. The price elasticity of demand for carrots is $-0.33$. This month the price of carrots is $1$ per pound and the total amount of carrots demanded is 1000 truckloads. Next month the price is expected to rise to $1.80$ per pound. If the demand curve does not shift, how many truckloads can we expect to be demanded next month? (Pick closest answer.)

(a) We cannot tell without knowing how many pounds of carrots there are in a truckload.
(b) 733.33
(c) 1,133.33
(d) 666.67
(e) 887.50

13. It is now the year 2005. The orange trees that had been replanted after the disastrous frost in Florida in the early 1990’s have continued to bear fruit. In 2004, Florida harvested 12 million tons of oranges, and the total revenue of orange producers that year was $1,080$ million. In the winter of 2005, however, there was another hard frost reducing the orange harvest in 2005 to 9 million tons. This caused the price of oranges to rise and the total revenue of Florida orange growers to increase to $1,260$ million in 2005. Assuming the demand curve for Florida oranges did not change between 2004 and 2005, from the information above it appears that

(a) the price elasticity of supply of oranges is between 0 and 1.
(b) the price elasticity of demand for oranges is less than $-1$.
(c) the price elasticity of demand for oranges is between $-1$ and 0.
(d) the price elasticity of supply for oranges is greater than 1.
(e) the supply curve for oranges slopes downward.

14. The shrimp harvest was unusually good this year. The demand curve did not shift from last year, but because of the abundant harvest, the price fell from $100$ per sack to $90$ per sack. The price elasticity of demand for shrimp is $-1.20$. What happened to the total revenue of fishermen? Choose the closest answer. Hint: The percentage change in revenue is approximately equal to the percentage change in price plus the percentage change in quantity. Finding the answer takes two steps: 1) find percentage change in quantity. 2) find percentage change in revenue.

(a) It decreased by about 2%.
(b) It decreased by about 4%.
(c) It decreased by about 12%.
(d) It increased by about 2%.
(e) It increased by about 8%.
15. A small tropical island’s banana market has 70 banana growers and 40 banana consumers. Each banana grower can sell at most one sack of bananas. Each consumer can consume either 0 or 1 sack of bananas. There are 30 low-cost banana producers, each of whom can produce bananas at a cost of $15 per sack and 40 high-cost banana producers, each of whom can produce bananas at a cost of $30 per sack. There are 15 consumers who are willing to pay up to $40 a sack and 25 consumers who are willing to pay up to $20 a sack for bananas. What is the competitive equilibrium price of bananas on this island?

(a) $20  
(b) $30  
(c) $15  
(d) $35  
(e) $40

16. What is the competitive equilibrium number of sacks of bananas sold on this island?

(a) 30  
(b) 40  
(c) 35  
(d) 25  
(e) 50

17. In a market with 49 consumers, each of whom will buy at most one unit of a good, the distribution of Buyer Values is as follows: 8 consumers have Buyer Values of $40, 13 consumers have Buyer Values of $30, 15 consumers have Buyer Values of $20, and 13 consumers have Buyer Values of $10. If the price of this good is $19, how many units of the good will be demanded?

(a) 49  
(b) 36  
(c) 21  
(d) 8  
(e) 0

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Did you remember to bubble in your form type, class ID number, and name on your scantron? If you fail to do so, you will lose 5 points, and birds will leave droppings on your bicycle seat.
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