1. A competitive equilibrium results in the largest possible number of transactions in which both buyers and sellers make a profit.

False.

Do you remember the matchmaking demonstration in lecture? The profit of a match was the difference in height between the dark-shirted person and the light-shirted person. First we tried to match people to maximize total profit. That match mimics a competitive equilibrium. Then we matched people in order to have the maximum possible number of matches with positive profit. We found we could get more matches than the competitive equilibrium although total profit was lower. Similarly it is possible to arrange more transactions with positive profit than the transactions in the competitive equilibrium.

2. A market equilibrium is said to be inefficient if some other possible arrangement of trades will result in higher total profits for all participants.

True.

An outcome is efficient if it maximizes total profit. Thus, if an outcome is not efficient, another outcome has higher total profits

3. In a competitive equilibrium, the Buyer Value of any buyer who buys a unit of the good is greater than or equal to the Seller Cost of any seller who sells a unit of the good.

True.

In a competitive equilibrium, there is one uniform price for all transactions. Any buyer will have a Buyer Value greater than or equal to this price. Any seller will have a seller cost less than or equal to this price. Thus the Buyer Value of any buyer will be greater than or equal to the Seller Cost of any seller.

4. A small tropical island's banana market has 60 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 35 low-cost banana producers, each of whom can produce bananas at a cost of $15 per sack and 25 high-cost banana producers, each of whom can produce bananas at a cost of $30 per sack. There are 20 consumers who are willing to pay up to $40 a sack and 20 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

Draw the demand and supply curves.
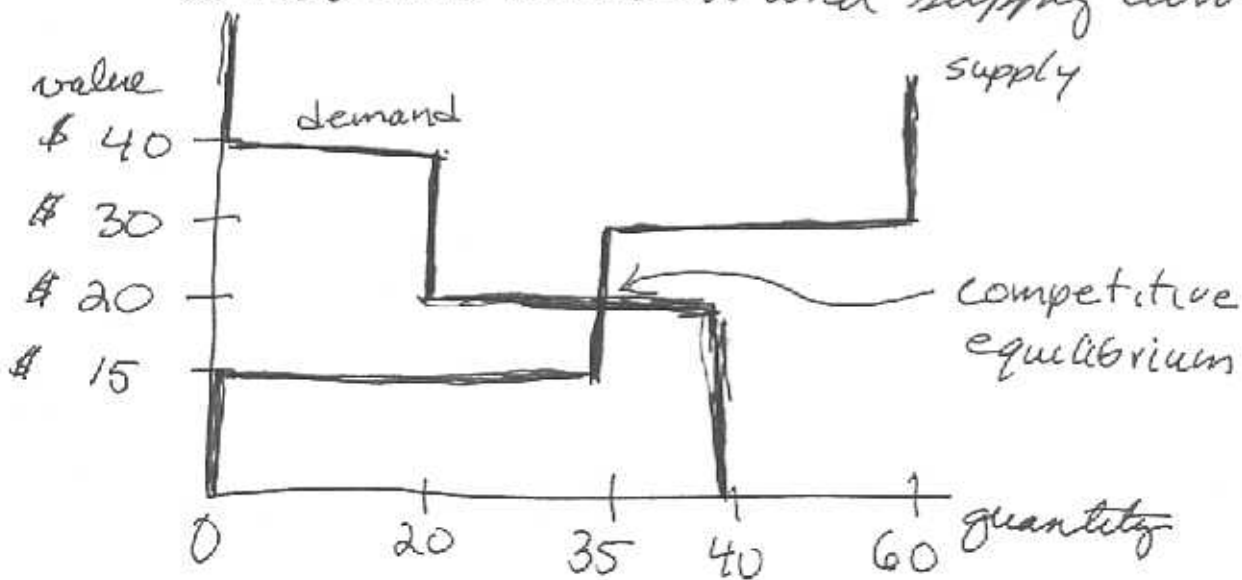
The competitive equilibrium price = $20, A

The competitive equilibrium quantity = 35 sacks

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

(a) 35
(b) 25
(c) 20
(d) 15
(e) 50

The competitive equilibrium quantity =
35 sacks. See previous question,
answer is A.

6. In competitive equilibrium, the total amount of profit made by banana growers will be:

(a) $335
(b) $125
(c) $275
(d) $225
(e) $175

In equilibrium, there are 35 sellers who sell a sack of banannas. Each has a seller cost ~~of~~ of $15, each receives a price of $20, so each makes a profit of $5. Total profit = $5 × 35

= $175

7. A small tropical island's banana market has 35 banana growers and 45 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 10 low-cost banana producers, each of whom can produce bananas at a cost of $15 per sack and 25 high-cost banana producers, each of whom can produce bananas at a cost of $30 per sack. There are 30 consumers who are willing to pay up to $40 a sack and 15 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

First supply and demand curves.
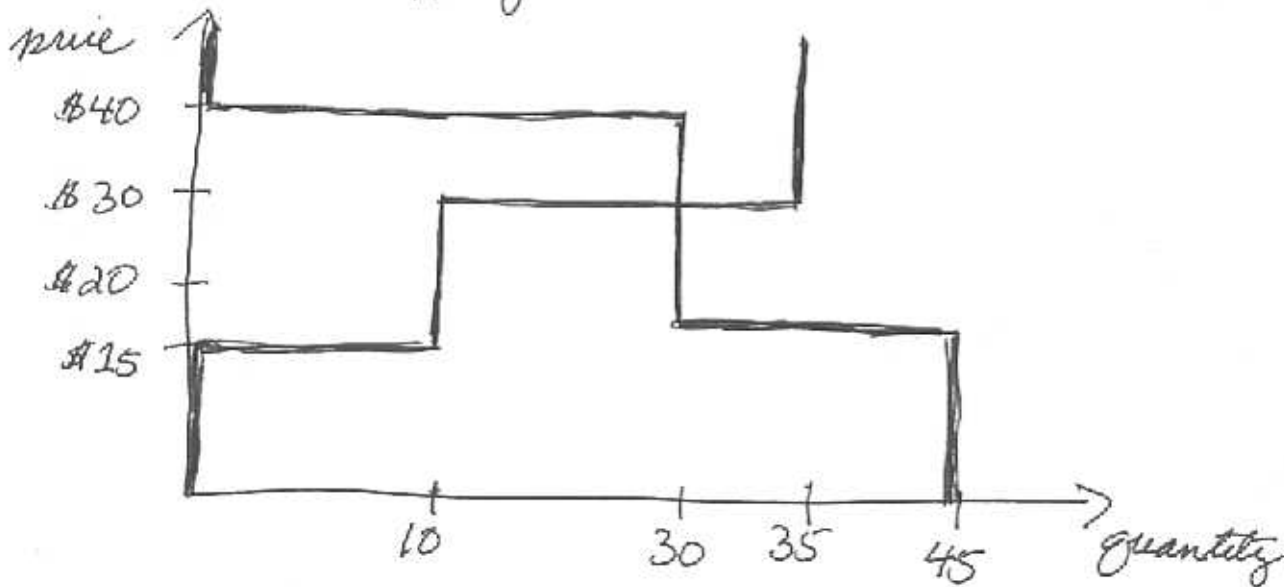
Competitive equilibrium price = $30, answer (b)
Competitive equilibrium quantity = 30 sacks.

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

(a) 10
(b) 25
(c) 30
(d) 15
(e) 50

Answer is (c). See previous question.

9. In competitive equilibrium, the total amount of profit made by banana growers will be:

(a) $285
(b) $100
(c) $250
(d) $200
(e) $150

In the competitive equilibrium, there are 10 growers with a seller cost of $15 and 20 growers with a seller cost of $30. The equilibrium price is $30. Therefore, total profit is

$$= (\$30 - \$15) \times 10 + (\$30 - \$30) \times 20$$

$$= \$150$$

10. The supply function for fresh strawberries is given by the equation $P_s(Q)=2+2Q$. The demand function is given by the equation $P_d(Q)=134-4Q$ where Q is the number of crates of strawberries sold. In competitive equilibrium, how many crates of strawberries will be sold?
(a)   19
(b)   22
(c)   27
(d)   46
(e)   none of the above

First set demand equal to supply.

$$2+2Q = 134-4Q$$
$$6Q = 132$$
$$Q = 22$$

11. In the competitive equilibrium described in problem 10, what is the competitive equilibrium price?
    (a) $20
    (b) $46
    (c) $23
    (d) $132
    (e) none of the above

The competitive equilibrium quantity is $Q=22$ from the previous problem. Substitute that quantity into either the demand function or the supply function. Lets use the supply function:

$$P_S(Q) = 2 + 2Q$$
$$= 2 + 2(22)$$
$$= {}^{\$}46$$