**Study Questions: Part 3**

4. In general equilibrium analysis, an allocation is a feasible allocation if every consumer is consuming a bundle that costs no more than his or her income.

5. If two people have identical Cobb-Douglas utility functions, then in every Pareto optimal allocation, they must consume all goods in the same proportions as each other.

6. If two people have identical Cobb-Douglas utility functions, then in an Edgeworth box, the locus of Pareto optimal allocations between them is a diagonal straight line. (Show mathematically that this is true.)

7. A small economy has only two consumers, Charlie and Doreen. Charlie’s utility function is *U*(*x*, *y*) = *x* + 154*y*1/2. Doreen’s utility function is *U*(*x*, *y*) = *x* + 7*y*. At a Pareto optimal allocation in which both individuals consume some of each good, how much *y* does Charlie consume?

 a. 121

 b. 9

 c. 22

 d. 18

 e. We can’t tell without knowing the initial endowments.

8. Eduardo and Francisca participate in an economy that is in competitive equilibrium. Although they are unacquainted with each other, both purchase strawberries and champagne. Edouardo’s utility function is *U*(*s*, *c*) = 2*s* + *c*, where *s* is the number of boxes of strawberries he consumes per month and *c* is the number of bottles of champagne. Francisca’s utility function is *U*(*s*, *c*) = *sc*.

 a. Francisca consumes equal amounts of strawberries and champagne.

 b. Eduardo consumes more strawberries than champagne.

 c. Francisca consumes twice as many bottles of champagne as boxes of strawberries.

 d. Francisca consumes twice as many boxes of strawberries as bottles of champagne.

 e. None of the above.

9. Colette and Boris both consume the same goods in a pure exchange economy. Colette is originally endowed with 9 units of good 1 and 6 units of good 2. Boris is originally endowed with 18 units of good 1 and 3 units of good 2. They both have the utility function *U*(*x*1, *x*2) = *x*1/31*x*2/32. If we let good 1 be the numeraire, so that *p*1 = $1, then what will be the equilibrium price of good 2?

 a. $2

 b. $12

 c. $1

 d. $6

 e. $3

4. False 5. True 6. True 7. A 8. C 9. D