

# HW#5 Due Feb 3, 2022

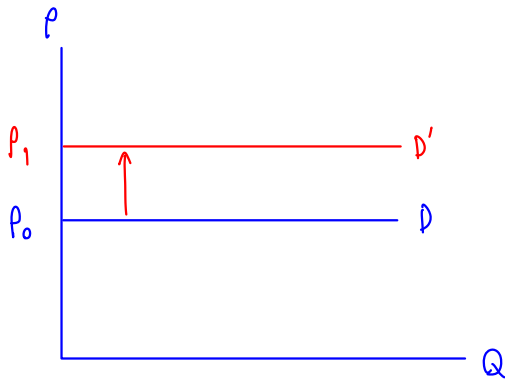
1) How the demand increases in each of these extreme cases

- A) Demand is horizontal
- B) Demand is vertical

2) If individual demands of two consumers are horizontal but at different prices, what will be the market demand derived from these two consumers?

1.

A)



Before: at Price  $\leq P_0$ ,  $Q_D = \infty$   
 Demand increases - at same price  $\rightarrow$  more  $Q_D$

- at same quantity demanded the buyers are willing and able to pay higher price

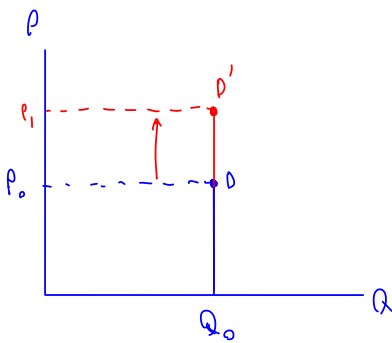
at Price  $\leq P_0$ ,  $Q_D = Q_0$   
 $P_0$  is determined by ability to pay

There are 2 cases.

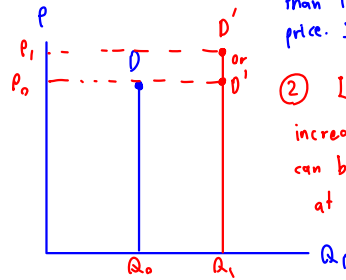
① Ex. heart transplant -  $Q_D$  would not increase b/c if demand increases, it does not mean that buyers need more than 1 heart, but the buyers are able to buy at a higher price. So new Demand is  $D'$  at  $P_1, Q_0$ .

② In the second case, if demand increases, it can increase quantity demanded at the same price level. Or it can be at a higher price too. For example, usage of water at a higher amount from  $10 \text{ m}^3$  to  $12 \text{ m}^3$ .

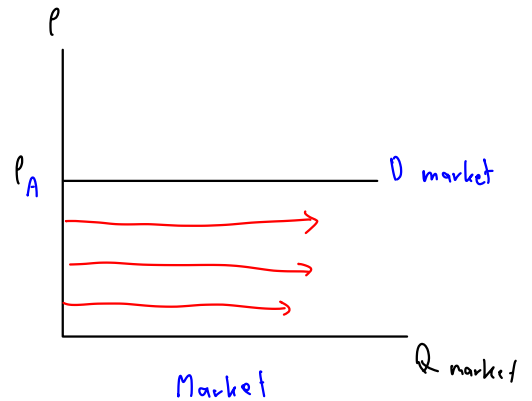
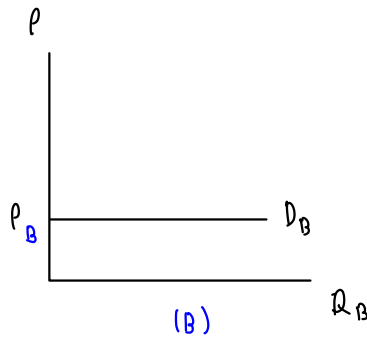
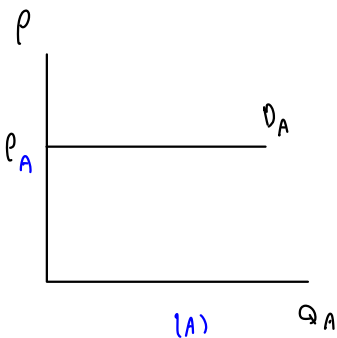
B)



OR



2.



At  $P_A$ , quantity demanded is infinity in which  $P_A$  is the maximum price that the buyers are able to pay. Therefore, at  $P_B < P_A$ , the quantity demanded is still infinity. So the  $Q_D$  of market is the same as  $P_A$  level.