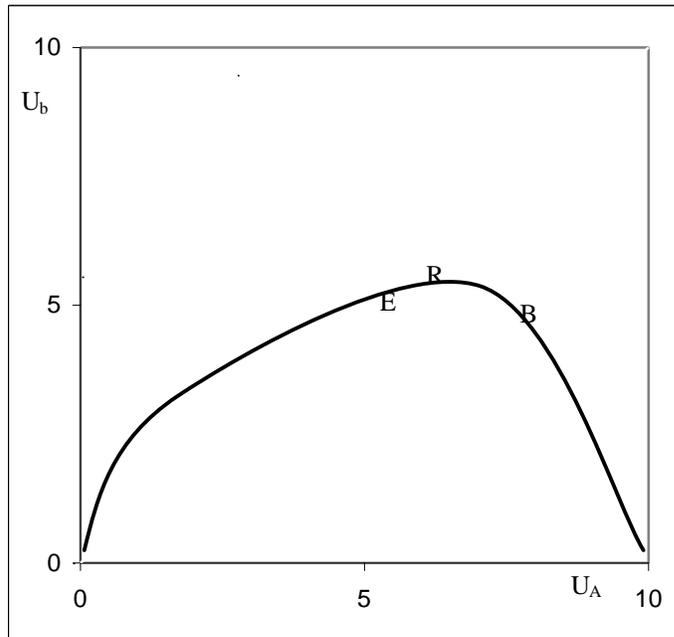


Quiz #1: Postmortem

I: Please circle the letter in front of the best answer: 1b, 2b, 3c, 4a

Re #3: Income of affected workers would increase *if* the demand for their services were *inelastic*.

Re #4:  $\partial U/\partial X = 2XY^2$  and  $\partial^2 U/\partial X^2 = 2Y^2 > 0$ , which violates the law of diminishing marginal utility.



II. Both individuals have the same utility at any point on the line with slope +1; Albert is the least advantaged at any allocation to the left of that line while Baker is the least advantaged at any point on the right. Point R on the horizontal tangent line maximizes the position of the least advantaged. Point B on the line with slope -1 maximizes the sum total of happiness!

A utility transformation curve of this shape might arise if a tax on Albert used to finance transfer payments to Baker, who is disabled, have strong disincentive effects on Albert's work effort.

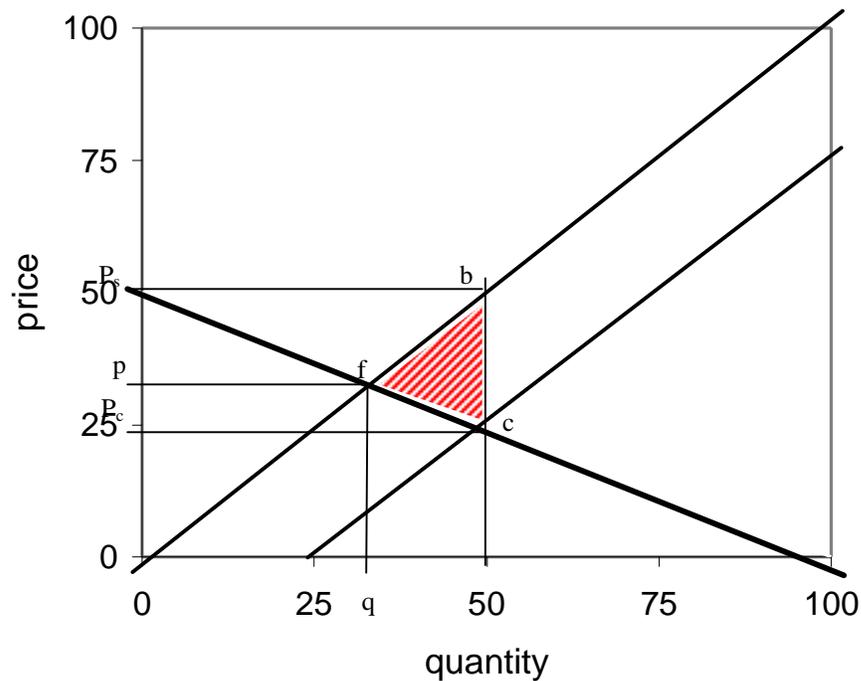
6. The demand curve is  $q = 100 - 2p$  and supply is  $S = p$ ; therefore,  $p = q = 33 \frac{1}{3}$ .

Since  $dq/dp = -2$ ,  $\eta = -dq/dp \cdot p/q = 2$ . Consumer surplus is the area of the triangle:  $(50 - 33.3)33.3/2 = 277.7$ . These numbers can be approximated by reading off the graph.

7. If consumers are paid a subsidy of \$25 for each prescription they purchase, the price  $p_c$  that the consumer pays will be \$25 less than the price received by the seller. We need a solution with the properties  $p_c = p_s - \$25$ ;  $D(p_c) = S(p_s)$ .

To find the answer, note that we need  $100 - 2p_c = p_c + 25$  so  $p_c = 25$ ,  $q = 50$  and  $p_s = 50$ . The subsidy will cost the government  $25 \cdot q = \$1,250$ . Consumer surplus increases by the trapezoid area  $p, f, c, p_c$   $(33.3 - 25)(50 + 33.3)/2 = \$347$  and profits increase by trapezoid area  $a, b, f, p$ , or  $(50 - 33.3)(50 + 33.3)/2 = 694$ . The deadweight loss (excess burden) is  $\$1,250 - \$347.22 - 694 = \$208$ .

All of this can be read off the graph:



8. The demand and supply apparatus assumes that there are so many firms selling each product that no seller can influence the price, which is manifestly not the case with patented pharmaceuticals. It is also true that the medical market has other distinctive features, including (1) payments are often made at least in part by 3<sup>rd</sup> parties (e.g. insurance companies; HMOs, or Medicare) rather than by the consumer. (2) consumers have to rely on the supplier (i.e. their physician) for information about what treatment they need, (3) the cost of healthcare is often extremely high for the afflicted, (4) the public does not like to think of anyone having to go without medical treatment for financial reasons.

Some students commented that consumers would buy medicines that they needed regardless of the price, but both Gore and Bush have been telling us about patients who skip the pills because they cannot afford them. In subsequent chapters we will be looking at alternative models of market behavior that may be more appropriate for analyzing the medical marketplace.

**Honors Option:** An efficient allocation requires that the marginal rates of substitution be the same for the two firms. Because the production transformation curves are identical, this efficiency condition means they must both produce the same quantities of each good. Therefore, we have  $X_p = X/2$  and  $Y_p = (49 - X_p^2)^{1/2}$ ; also,  $Y = 2Y_p$ . Therefore,  $Y = 2[49 - (X/2)^2]^{1/2} = (196 - X^2)^{1/2}$ .

Trade will take place, even with identical production technologies, if differences in tastes lead each country to produce a different product mix, which would cause their marginal rates of technological substitution to be unequal in the absence of trade.

Grades: Mean 81.4; Minimum: 60; Maximum: 100