

Homework 1

Due Wednesday, January 21, 2009

1. Assume that HS represents health status, HC represents health care, and LS represents lifestyle.
 - (a) Graph the health production function $HS = 10HC^{0.5}LS^{0.33}$ in a graph with axes HS and HC, assuming LS=5.
 - (b) In a second graph, show the marginal product of health care. Is it increasing or decreasing? Explain why this is what one would expect or not expect.
 - (c) Finally, show how the curve changes when LS is increased to 10. Intuitively, explain whether this makes sense or not.
2. A \$1 per pack increase in the federal tax on cigarettes has been proposed as a method of discouraging smoking by teenagers. Some statistical estimates suggest that a 10 percent increase in the price of cigarettes causes teenagers to reduce their demand for cigarettes by 13 percent. Compute the price elasticity of demand for cigarettes among teenagers. Is this elastic or inelastic?