Econ 105: Final Examination Post Mortem

1.

2.   The equilibrium price will be \$4 and the equilibrium quantity 1000. The elasticity of demand is $\eta = -dq/dp \, p/q = 2 = (3000-1000)/2000$, where the second equality follows from the short-cut formula from the problem set.

If a trade treaty opens up Never-Never Land for the tariff free import of Widgets, the Never-Never Land price will fall to the world price of the commodity, which is \$3.00 per pound. As a result, consumer demand will be 1,500 units and domestic production 500; the balance of 1000 will be imported. Consumer surplus will be (6-3) 1500/2 = 2250.

A \$1.00 per pound subsidy to domestic producers is like a negative tax (you can analyze it by shifting the supply curve down by \$1.00 to show quantity supplied as a function of the price paid by the consumer); the price of the commodity will be the world price, domestic production will be 1000 and imports 500. Thus the subsidy costs the government \$500.

3.   An efficient allocation is one where no individual can be made better off without making at least one individual worse off; the contract curve is the set of efficient points.

4.   Consider the graph of the monopoly

The marginal revenue curve goes through point <0,\$275> and is twice as steep as the demand curve; the marginal cost curve goes through the minimum point on the ATC.

The profit maximizing monopoly will sell that quantity for which MR=MC, charging the maximum obtainable price for that quantity (read it off the demand curve).

5.   The Gini coefficient is twice the area of the crescent shaped area between the Lorenz curve and the 45 degree line representing complete equality.

6.   The following equations are used to construct the IS curve: $Y = C + I + G + X – M$, $I(r)$, $C = c_0 + c_1 Y_d$, $Y_d = d_o + d_1 Y$.

The following for the LM curve: $M_d(Y,r)$, $M_d = M_s^n/p$

The exogenous variables for this IS-LM model are p, G and X and M_s^n.

An increase in government spending would stimulate GDP and consumption, raise interest rates and lower investment spending. An increase in the money supply would lower interest rates, thereby increasing investment spending, GDP and consumption. When the FED sells government securities on the open market, the commercial banks pay for them by reducing their balances on deposit at the FED, which puts a squeeze on their reserves and leads them to raise interest rates and curtail loans, which shifts the LM curve to the left, slowing the economy.

II.   (20 points) Answer either question 1 or question 2 below (not both):

1.   If A utility maximizing consumer has utility function $U(X,Y) = X^{1/2} + Y$, the demand function for the first good will be $X = \min(p_y^2/4p_x^2, M/p_x)$.

2.   If the production function is $Q(L,K) = L^{1/2} + K$ and the owner hires labor (L) at a wage of \$5.00 per hour and rents machines (K) at \$10 per hour, then output in the short run will be $Q = L^{1/2}+10$, labor input $L = (Q-10)^2$ and total costs $C = 100+5(Q-10)^2$.

HAVE A HAPPY NEW YEAR

Drop by and see me if you have any questions about this course, other offerings of the economics department, or the economy.