Wilf Csaplar Jr.   Economics 477   Homework #2   Due 09/12

Do not write your name on the assignment. Write your name only on the back of this sheet of paper and staple your answers on the front of this sheet of paper. Your assignment will be typed, except graphs can be drawn by hand and mathematical equations can be done by hand. Failure to follow these directions will cost you 1 point on the assignment and failure to type it will cost you 10 points.

For all questions, show all work.

1) (10 points each) For each of the following equations, determine if it is a valid utility function.
A) $U(A, B, C) = A^{1/2} * B^{1/2} * C^{1/2}$
B) $U(D, E, F) = D^{1/2} + E^{1/2} + F^{1/2}$
C) $U(G, H, I) = G^2/H^{3/2} + I^{1/2}$
D) $U(J, K, L) = 4J^{1/4}K^{1/4}L^{1/4}$
E) $U(M, N) = Ln(M) + Ln(N)$ (Do not worry about the "returns to scale" criteria.)

2) (20 points) Maximize $U = R^{1/4}T^{1/2}$ subject to $2R + T = 12$. Do not worry about the value for λ.

3) (30 points) Maximize $U = F^{1/3} + G^{1/3} + H^{1/3}$ Subject to $F + G = 32$ and $F + G + 4H = 20$.