Problem Set A1
Econ 302 - Haworth
Due date: Thursday, July 16 (by 11:59pm)

Note that your answers to this problem set can be submitted via email or uploaded at Blackboard within the Assignments folder.

1. Assume that you have the following production Function: $F(L,K) = AK^{\alpha}L^{1-\alpha}$
(where A, L, K and α have the same definitions from class).

Furthermore, assume that these variables have the following values:
A = 5
α = 0.5
K = 2500
L = 2500
P = 1

a. What is output?
b. What is the wage?
c. What is the rent?

d. What is labor's share of income?

e. If the population decreases by 475, then what is the new level of output?
f. What is the new wage?
g. What is the new rent?

h. What is labor's share of income after this population change?

2. Assume that you have an economy that operates under the same assumptions from class (i.e. Y, G, T, etc are constant and that investment varies with changes in interest rates), and that the following equations describe that economy:

Y = 5000	(Y = real GDP)
G = 1000	(G = Government spending)
T = 1000	(T = Taxes)
C = 250 + 0.75(Y − T)	(C = Consumption)
I = 1000 − 50r	(I = Investment, r = cost of capital, or interest rate)
NX = 0	(NX = Net exports

a. What is private savings, public savings and national savings?

b. What is the equilibrium interest rate?

Question 2 continued

Assume that government spending increases by 1000.
c. What is the new level of private savings, public savings and national savings?

d. What is the new equilibrium interest rate?