Wilf Csaplar Jr.   Economics 477   Homework #4   Due 09/30
                                   The last one!
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.

1) (45 points) Suppose that a firm has a production function of $Q = K^{1/3}L^{1/3}$ and capital costs
$25/unit while labor costs $36/unit. Derive the total cost function, the marginal cost function, and
the average cost function for this firm.

2) (20 points) Suppose your utility function is $U = C_1^{1/2}C_2^{1/2}$. Derive the amount of consumption
you will do in each period if your income in the two periods are $I_1=1000$ and $I_2=1200$, and the
interest rate is 10%. Show all work.

3A) (15 points) Using a generic utility function and a generic budget constraint, derive the two
good equi-marginal principle.
B) (15 points) Repeat Part A for the inter-temporal budget constraint.