Write all answers in your blue book and show all work there.

Return your exam in your blue book.

18 pts.
1) Let John's compensated demand for good X be less elastic than his uncompensated demand at price level $P_0$.
   a) Draw a well-labeled diagram of these demand curves.
   b) Draw a well-labeled diagram of indifference curves and budget lines that match with prices and quantities in your part a diagram. (Add what you need to the part a diagram.) Be sure to identify income and substitution effects.

10 pts.
2) A war on foreign soil has proven to cost much more than anticipated and the cost in the future is now expected to be much higher than anticipated. Some of the wars objectives have been achieved, but not all. Apply the concepts of sunk cost, marginal cost and marginal benefit to describe the circumstances under which the war should be continued.

18 pts.
3) Suppose that $Q = LK$ and initially $L = 10$, $K = 20$, $P_L = 5$ and $P_K = 2$.
   a) Find the $MP_L$.
   b) Find the RTS.
   c) Find SRMC at the current level of production.
   d) What kind of returns to scale are there?
   e) Is this the least cost way to produce 200 units in the long run? Why?

18 pts.
4) a) Draw a well-labeled diagram showing an effective price ceiling in a competitive market.
   b) Show with appropriate areas the potential size of the DWL caused by the ceiling.
   c) Give an example of such a policy and relate it to the area of DWL.
   d) Who is supposed to be pleased by the policy? Are they? Explain.
5) Consider the diagram below.

Let $P_K = P_L = 2$.

a) Find cost at points A, B and C.

b) Use part a findings to sketch 2 points on LRTC and SRTC curves. Add FC to the short run curve.

c) Find the LRMC and SRMC of the second unit.

d) What can be done in the long run that accounts for the difference observed in part c.

6) The long run supply in industry X is given by $P = 10 + .01Q$ and demand is $P = 25 - .005Q$.

a) Find the market quantity in the long run.

b) Is this a constant cost industry? Why?

c) What must minimum AC equal with demand at the level given.

d) Draw a well-labeled diagram showing the market in one frame and a typical firm in the other.

e) If minimum average cost occurs when $Q = 5$ for the firm, how many firms will be in the industry?

f) How many firms will there be if the demand falls to $P = 17.5 - .005Q$? What will AC equal then?

I have neither given nor received unfair aid on this test nor am I aware of anyone else who has.