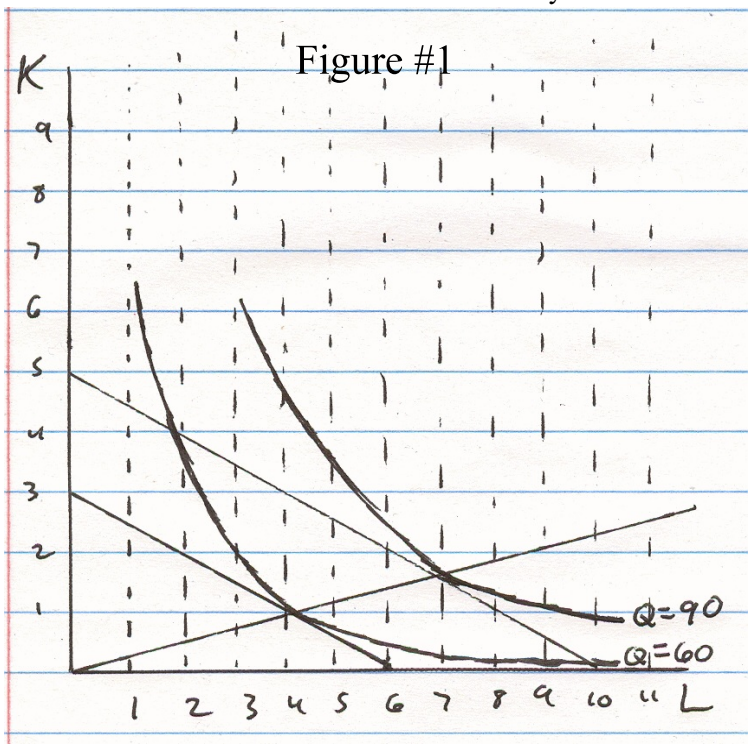
Write your name on the cover of the test booklet and nowhere else. Enclose this sheet with the booklet. Failure to follow these directions will cost you 1 point. The test has 100 points (to be scaled up to 170 points) and is scheduled to take 50 minutes. Therefore, expect to spend 1 minute for every 2 points. For example, a 16-point question should take 8 minutes. I cannot give extra time because some students have a class after your class.



1) (6 points each) Use Figure #1 to the right to answer THREE of the following parts. Assume the isocost line closer to the origin is TC = 24.
A) What should the other isocost line be labeled as? Briefly explain your logic and show all calculations.
B) Suppose you have two units of capital. How much are your short-run total costs for producing 60 units? Briefly explain your logic and show all calculations.
C) What should the upward sloping line be labeled? What are your long-run total costs of producing 6o units. Briefly explain your logic and show all calculations.
D) Does this graph exhibit increasing returns to scale, constant returns to scale, or decreasing returns to scale? Briefly explain your logic and show all calculations.

2) (16 points) Answer EITHER Part A OR Part B.
A) Draw the supply and demand for a perfectly competitive industry. Find the consumer surplus. Explain how you found it and why it is called that.
B) Draw the supply and demand for a perfectly competitive industry. Find the producer surplus. Explain how you found it and why it is called that.

3) (16 points) Answer EITHER Part A OR Part B.
A) Is the LRATC curve the envelope of the SRATC curves? Explain your logic. Why doesn't that logic hold for the LRMC and the SRMC curves?
B) Draw the learning curve. Explain why it takes that shape and how it is different from economies of scale.

4) (16 points) Answer EITHER Part A OR Part B.
A) Explain how we used "price takers" when we drew the ATC/AVC/MC/D/MR diagram for a firm, and how we used "free exit" in our analysis of the industry in the long-run. Why do those assumptions have those results?
B) What is the shut-down point? Why is it there? Give an example of economies of scope and explain why it happens.

5) (34 points) Answer EITHER Part A OR Part B.
A) Draw a firm's ATC/AVC/MC diagram and beside it the industry's S/D diagram. Draw it such that the firm is making negative profits but staying open. Show their losses on the graph. Explain how you found the losses. Illustrate what happens over time. Explain why the curve(s) move over time. Assume a constant cost industry.
B) Draw a firm's ATC/AVC/MC diagram which is in the long-run equilibrium. Beside it draw the industry's S/D diagram. Draw an increase in demand for the industry. Illustrate what will happen over time if the industry is an increasing cost industry. Explain why the curve(s) moved as drawn.