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 12-point question should take 6 minutes.  I cannot give extra time because some students have a class after your class.

1) (12 points) Answer EITHER Part A OR Part B.
A) Explain how *outsourcing affects these curves*.
B) When we do a breakeven analysis, we assume TR and TC are constant?  How do we justify that?

2) (14 points) Answer EITHER Part A OR Part B.
A) What is the slope of the isoquant line?  Prove that is the slope.
B) What are $MRP_L$ and $MRC_L$?  Why should they be equal?

3) (20 points) Answer EITHER Part A OR Part B.
A) Suppose a firm has a fixed cost of $600 and a constant marginal cost of $6/unit.  If their price is $8/unit, then what is their break-even point?  Show all work and briefly state what you did.  Draw the straight-line TR/TC diagram.  State how you found the vertical intercepts and the slopes.  Suppose they are producing 420, what is their DOL?  Show all work and briefly state how you found it.
B) Draw a straight-line TR/TC diagram for two firms on one graph.  Draw it so they have the same price, profits, and level of production (greater than the break-even quantity) but they have different fixed costs.  Explain how you know they have the same price, level of production, and profits but different fixed costs.  Which has a higher DOL?  How can you tell?

4) (24 points) Answer EITHER Part A OR Part B.
A) Draw the ATC/AVC/AFC/MC diagram for a firm which makes doors.  Illustrate on that graph the effects of an increase in the price of wood.  Explain why the curves moved as drawn.
B) Draw the ATC/AVC/AFC/MC diagram for a firm which sells cars.  Illustrate on that graph the effects of an increase in the property tax on the showroom.  Explain why the curves moved as drawn.

5) (30 points) Answer EITHER Part A OR Part B.
A) Draw an isoquant/iso-cost diagram.  Draw it such w = $5/L and r = $3/K.  Draw isocost lines for total costs of $30 and $45.  Label the isoquants (which are tangent to those two isocost lines) outputs of 10 and 20.  Briefly explain how you found the points on the line.  Suppose the current amount of capital is the amount of capital which you would want to have to produce 20 items.  Draw the appropriate line.  Use your graph to find the LRTC, LRATC, and LRMC for the quantities of 10 and 20.  Show all work and briefly explain what you did.  Does your graph show increasing, constant, or decreasing returns to scale?  Explain your logic and show all work.
B) Draw an isoquant/iso-cost diagram.  Draw it such w = $4/L and r = $3/K.  Draw isocost lines for total costs of $24 and $48.  Label the isoquants (which are tangent to those two isocost lines) outputs of 10 and 20.  Briefly explain how you found the points on the line.  Suppose the current amount of capital is the amount of capital which you would want to have to produce 20 items.  Draw the appropriate line.  Use your graph to find the SRTC, SRTVC, and SRTFC for the quantities of 10 and 20.  Show all work and briefly explain what you did.