Wilf Csaplar Jr. Economics 280 Homework #5 Due 03/15

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 and failure to type it will cost you 10 points.

1) (30 points) Draw an isoquant/isocost diagram which has the wage rate twice the rental rate of capital. Find four points on the expansion path. Explain how you know the wage rate is twice the rental rate of capital. Explain how you found the four points on the expansion path.

2) (40 points) Draw an isoquant which shows the output of 200 items. Put a scale on both axes. Draw two isocost lines. The first represents a wage of $40/L and the rental rate is $20/K. How much capital and labor will you use? Explain how you reached that conclusion. For the second isocost line, assume the wage rate is $20/L and the rental rate is $20/K. How much capital and labor will you use? Explain how you reached that conclusion. For both lines, you want to produce 200 items and remember to you have a precise scale on the axes.

3) (15 points) What is the equi-marginal principle as it applies to capital and labor? Explain why it holds.

4) (15 points) When we draw the isoquant/isocost diagram, we found the expansion path. If we know the costs of production of every point along that line, we can find the long-run total cost function. Explain how we can find the costs of production of each point on the path.