Wilf Csaplar Jr.   Economics 302   Homework #2   **Due Monday 2/1**

Do NOT write your name anywhere. (Canvas will tell me who turned in the assignment.) All answers must be typed, except for mathematics and graphs. Take pictures of your written answers and use your own software or https://pdfcandy.com/ to create a single PDF size A4. (pdfcandy.com will convert many file types to PDF, resize PDF, merge PDF and many other things for free.   However, Apple phones may require using CamScanner before using pdfcandy.com.) Failure to follow these directions will cost you 10 points.

1) (15 points) Explain the equation $Y = AK^{.3}N^{.7}$. For the two numbers, you do not have to explain what happens when they change, but you do need to explain they are positive fractions.

2) (40 points) Draw both production functions, the one with capital and the one with labor. Also draw the NS/ND diagram. Illustrate the effects of an increase in the population. Explain why the curves moved. If one of the production function curves does not move, explain how you see the event on the graph. What happens to the amount of labor, amount of capital, GDP, and the wage rate?

3) (20 points) Draw the NS/ND diagram. Illustrate the effects of an improvement in technology. Explain why the curve(s) moved as drawn. What happens to the wage rate and labor hired?

4) (10 points) What are the two effects which determine the slope of the labor supply curve? Which do we assume is the stronger one? Explain your logic.

5) (15 points) Use the following data to calculate the unemployment rate and the labor force participation rate. Show all work and briefly explain what you did. A country has 1000 people aged 16 or older. 500 of them have full-time jobs. 40 of them have part-time jobs. 60 of them do not have jobs, but are looking for a job. 100 of them do not have a job, but have quit looking. 140 are full-time students without jobs. The rest are retired.