**ECN-100 HW Week-1: Econ Principles, Variables Correlation, Positive/Normative Statements, PPF-Trade**

Please submit this homework on Monday, the next class, any late submission will be deducted by 10% point for every day late. Have a good weekend!

Part I. 60 points.

1. About Game Designs and Economics:

a) Fave-Five: List your favorite three (3) Games. For each, write a brief description or scenario of the game (just a line or two). Out of the principles of economics (incentives, scarcity of resources, trade-offs, opportunity cost, trade creates value), write which one(s) of these economic principles that can be traced in each of the game.

Example:

*Settlers of Catan*: a game about settling in an island, how to use resources to build the island. Some economic principles involved: Scarcity of resources, trade creates value, opportunity cost.

b) Do a bit of research of the Game industry: find the last five years sales volume or market share; then your prediction about the next five years (just a line or two). Quote your sources.

c) When you developed a game design, you also think of the potential customers/users. List five traits/characteristics of your games’ users (in terms of age group, income group, education group, gender, etc.)

2. Determine the variables of the following situations, sketch a small graph to show which is on the x-axis (the independent variable) or on the y-axis (the dependent variable), and show a curve or a line that shows the relationship (positive or negative or anything else):

1. The more amount of property damage occurs due to fire hazard, the number of firefighters coming on the scene increases.
2. As Seattle grows economically, the number of newly constructed houses rises.
3. Improvement in education system is believed to have decreased the incidence of crimes.
4. The climate change due to the increase amount of carbon dioxide (CO2) has increased global temperatures by a few degrees.

3. Positive or Normative Statements?

1. Society should take measures to prevent people from engaging in dangerous personal behavior.
2. People who engage in dangerous personal behavior impose higher costs on society through higher medical cost.
3. When people must pay higher taxes on their wage earnings, it reduces their incentive to work.
4. We should lower taxes to encourage more work.

4. Consumption and Income data as follows:

GDP ($bn) (Y) Consumption Spending (C )

2009 $10,722 $9,846

2014 $14,950 $12,120

1. Find the equation to represent the consumption function: C = a + b. Y
2. Predict an estimate for 2020 Spending when the GDP reached $18,000 billion (or $18 trillion).

Part II. 20 points. Multiple Choice: Choose the best answer.

1) Which of the following describes the reason why scarcity exists?

* 1. Governments make bad economic decisions
  2. The gap between the rich and the poor is wide
  3. Wants exceed the resources available to satisfy them
  4. There is too much unemployment

2) Economics is the social science that studies ……..

1. The best way of eliminating scarcity
2. The choices made to cope with scarcity
3. How money is created and used
4. The inevitable conflict between self-interest and social interest

3) A rational choice is ….

1. The best thing you must forgo to get something
2. What you are willing to forgo to get something
3. Made by comparing marginal benefit and marginal cost
4. The best for society

4) Which of the following best illustrates your marginal benefit from studying?

1. The knowledge you gain from studying two hours a night for a month
2. The best things forgone by studying two hours a night for a month
3. What you are willing to give up to study for one additional hour
4. What you must give up to be able to study for one additional hour

5) Economic models are used to …

1. Clarify normative disagreements
2. Avoid the need to study the real questions
3. Replicate all the features of the real world
4. Focus on those features of reality assumed relevant for understanding a cause and effect relationship

Part III. 20 Points. PPF Model and Trade

1) Label the following: True of False?

1. An increase in the amount of resources available to Tom does not change his production possibility frontier.
2. A technological change that allows Tom to catch more fish for any amount of coconuts gathered, results in a change in his PPF.
3. The PPF is useful because it illustrates how much of one good an economy must give up to get more of another good regardless of whether resources are being used efficiently.

2) Comparative Advantage and Trade between the U.S. and Canada. Two goods are traded: aircraft and tons of pork. The PPF of the US is assumed to be linear and shows: 1,500 aircrafts on the y-axis, and 3 million tons of pork on the x-axis. The PPF of Canada is also linear and shows: 3,000 aircrafts on the y-axis, and 1.5 million tons of pork. Create graphs of these two countries’ PPF, and answer the following:

1. Determine the per unit opportunity cost of 1 mil.ton of pork in the US and Canada.
2. Determine which country should specialize in which product (the comparative advantage).
3. Determine the range of terms of trade that could be acceptable by the two countries