Sample Midterm Exam

1. Holland and Belgium produce Cheese and Beer using only labor as the factor of production. Labor is immobile between the two countries but mobile within each country.

<table>
<thead>
<tr>
<th></th>
<th>Holland</th>
<th>Belgium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor required to make 1 cheese</td>
<td>50</td>
<td>90</td>
</tr>
<tr>
<td>Labor required to make 1 beer</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

a. Calculate the opportunity costs of 1 cheese in terms of beers and the opportunity cost of 1 beer in terms of cheese for each country. Based on these computations, determine the comparative advantage for each country.

b. Suppose that each country has 900 units of labor. Draw the PPF for both Holland and Belgium with cheese on the horizontal axis and beer on the vertical axis. Suppose that without trade Holland produces and consumes 10 units of cheese and 80 units of beer and Belgium consumes and produces 6 units of cheese and 60 units of beer. Mark these points on your diagram.

c. Now suppose that each country specializes in the good in which it has a comparative advantage, so that Holland produces 18 cheeses and Belgium produces 150 beers. They agree on a price between their opportunity costs (more than 10 beers per cheese, less than 15 beers per cheese), and trade goods at that price. Suppose a price of 12 beers per cheese. Suppose that Holland trades 7 of its 18 cheeses for 84 of Belgium’s 150 beers. What are Holland and Belgium production and consumption of cheese and beers? What are the gains from trade?

2. Use Supply and demand curves to show the change in the price of bread and the quantity sold, when these events occur:

a. The population grows.
b. People’s income fall and unemployment increases in recession
c. The price of potatoes rises.
d. The price of butter rises.
e. A drought occurs in the wheat growing regions.

3. Rayistan is a small nation that produces only one good, the gadget. The table below shows production and prices of gadgets for two consecutive years, as well as the population of Rayistan.
Table: Gadget GDP in Rayistan

<table>
<thead>
<tr>
<th>Year</th>
<th>Gadget Production</th>
<th>Gadget Prices (base year)</th>
<th>Population of Rayistan</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>4000</td>
<td>$500</td>
<td>10,000</td>
</tr>
<tr>
<td>2008</td>
<td>4400</td>
<td>$600</td>
<td>12,000</td>
</tr>
</tbody>
</table>

c. What is the rate of growth of nominal GDP between 2007 and 2008? What is the rate of growth of real GDP between 2007 and 2008?
d. Has Rayistan's standard of living, as measured by real GDP per capita, increased, decreased, or stayed the same?

4. From the following situations state what kind of unemployment the person is suffering.
   a. A worker changes her job to move closer to her family
   b. An assembly line worker loses his job because automation
   c. A worker quits his job because he does not get along with his boss
   d. A Freightliner employee got laid off because of the recession of 2008.

5. Consider a country where the labor force is 45 million the number of unemployed workers is 2 million, and the number in the working-age population is 50 million.
   a. What is the unemployment rate?
   b. What is the labor force participation?

6. In 2008, a family of 4 consumes a basket of goods that cost on average $1,400, In 2010, the cost of the same basket was 1500.
   a. Using 2008 as the base year calculate the consumer price index for 2010.
   b. What is the inflation rate?

7. Use the rule of 70 to calculate how long will take for an economy that is growing at a rate of 2.5% per year

8. Use the figure below to answer the following questions:
   a. Diminishing returns to capital is illustrated by the movement from ____ to ____ to ___
   b. An improvement in technology is illustrated by the movement from ____ to ____ to ____