Sample Midterm 1

2. In the United States, the opportunity cost of 1 ton of corn is 50 bicycles. In China, the opportunity cost of 1 bicycle is 0.01 ton of corn.

a. Determine the pattern of comparative advantage.

b. In autarky (no trade), the United States can produce 200,000 bicycles if no corn is produced, and China can produce 3,000 tons of corn if no bicycles are produced. Draw each country’s production possibilities frontier assuming constant opportunity cost, with tons of corn on the vertical axis and bicycles on the horizontal axis.

c. With trade, each country specializes its production. The United States consumes 1,000 tons of corn and 200,000 bicycles; China consumes 3,000 tons of corn and 100,000 bicycles. Indicate the production and consumption points in your diagrams, and use them to explain 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>
<thead>
<tr>
<th>Table: Gadget GDP in Rayistan</th>
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<tbody>
<tr>
<td>2007 Gadget Production</td>
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<tr>
<td>2007 Gadget Prices (base year)</td>
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<tr>
<td>2007 Population of Rayistan</td>
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<tr>
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b. 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?
c. Has Rayistan's standard of living, as measured by real GDP per capita, increased, decreased, or stayed the same?

e. Calculate GDP deflators for 2007 and 2008. Base on your results what is the inflation rate?

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 ____