Welcome to AP Economics!!

Economics is defined as the social science concerned with the efficient use of scarce resources to achieve the maximum satisfaction of economic wants.

This is a yearlong course with 2 AP classes. During the first semester we will primarily cover Macroeconomics, and during the second semester we will learn about Microeconomics. Microeconomics examines decision making by individual units, while Macroeconomics examines either the economy as a whole, or its basic subdivisions or aggregates. Economists use two types of analysis when studying economics, positive and normative. Positive economics deals with economic facts, i.e. “the unemployment rate is 9.8%.” Normative economics is a subjective perspective of the economy, i.e. “the unemployment rate is too high.” You will practice both types of economic analysis in this course.

Because we will cover both Macro and Micro Economics, there are potentially 2 AP tests you can take in May. Since this course is an approved substitute for Economics & Personal Finance, you will also complete an on-line personal finance mini-course called EverFi.

To help prepare you for this rigorous course, I have designed a summer assignment that introduces the first unit of the course. Your assignment includes several short videos to watch and a few practical exercises to complete. The assignment is due on the first day that you have AP Economics class and will count as 10 extra credit points added to a summative assessment in the first grading period.

Step 1: Watch the following Crash Course Economics Videos:
Crash Course Economics Video 1
https://www.youtube.com/watch?v=3ez10ADR_gM&index=1&list=PL8dPuuaLjXtPNZwz5_o_5uirJ8gQXnhEO

Crash Course Economics Video 2
https://www.youtube.com/watch?v=NI9TLDIPVcs&index=2&list=PL8dPuuaLjXtPNZwz5_o_5uirJ8gQXnhEO

Step 2: Watch the short video linked below and answer the questions that follow:

Questions for “Scarcity, Opportunity Cost, and the PPC” Video

After watching Jason Welker’s video “Scarcity, Opportunity Cost, and the PPC” video, found at https://www.youtube.com/watch?v=kmjzgB_tUJ8, answer the following questions.

1. What is scarcity?
2. What is opportunity cost?

3. What is the production possibilities curve?

4. Use the chart to create a production possibilities curve showing the time you can spend either working or playing. The other 12 hours in the day are committed to sleeping and family time, so you cannot make choices to use them in your day. Place Play on vertical axis and Work on the horizontal axis.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>0</td>
<td>3</td>
<td>6</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Play</td>
<td>12</td>
<td>9</td>
<td>6</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

5. Assume you decide to spend all of your time playing. What is the opportunity cost of your decision? Explain.

6. The next day, you decide to only spend 6 hours playing. What is the opportunity cost of your decision? Explain.

7. Now you decide you want to work 8 hours and play 8 hours. Plot the point on your graph and label it point F. How will this schedule impact your life?
8. What if you decided to spend 6 hours playing and 4 hours working? Plot this point on your graph and label it point G. How will this schedule impact your life?

9. How does the PPC model demonstrate the following concepts?
   a. Scarcity
   b. Opportunity costs
   c. Tradeoffs
   d. Efficiency
   e. Inefficiency

Step 3: Watch the short video linked below and answer the questions that follow:

Shifting the PPC

After watching Jacob Clifford’s “Shifting the Production Possibilities Curve” video (found at https://www.youtube.com/watch?v=FwPiWz1a1Tw), answer the following questions.

1. What are the factors of production?
2. Use the chart to create a production possibilities curve. Use Bubble Gum on the vertical axis and Barrels on the horizontal axis.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bubble Gum</td>
<td>30</td>
<td>28</td>
<td>24</td>
<td>16</td>
<td>0</td>
</tr>
<tr>
<td>Barrels</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

3. Label the following points on the PPC:
   a. Inefficient or unemployed resources = Label as M
   b. Efficient = Label as N
   c. Unattainable = Label as P

4. Calculate the opportunity cost of each of the following:
   a. Point A to Point B =
   b. Point B to Point C =
   c. Point E to Point D =
   d. Point C to Point A =
5. Draw a graph showing constant opportunity costs and explain why constant opportunity costs occur.

6. Draw a graph showing increasing opportunity costs and explain why increasing opportunity costs occur.

Step 4: Read the following overview on absolute and comparative advantage and answer the questions that follow:

**Absolute and Comparative Advantage Overview**

Before trade, both states are self-sufficient in apples and timber and can produce at the levels shown below.

<table>
<thead>
<tr>
<th>State</th>
<th>Apples</th>
<th>Timber</th>
<th>Opp. Cost of 1 Timber</th>
<th>Opp. Cost of 1 Apple</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oregon</td>
<td>10</td>
<td>40</td>
<td>.25 Apple</td>
<td>4 Timber</td>
</tr>
<tr>
<td>Washington</td>
<td>40</td>
<td>10</td>
<td>4 Apple</td>
<td>.25 Timber</td>
</tr>
</tbody>
</table>

Note the absolute advantage that Oregon has in timber and Washington has in apple production.
Draw these PPF’s. Assume each is producing (and consuming) at the midpoint.

So Oregon has 20 timber, 5 apples.  
Total timber production: 25

Washington has 20 apples, 5 timber.  
Total apple production: 25

How can these states increase output?  
The principle of comparative advantage says that total output will be greatest when each good is produced by the state that has the lower opportunity cost.

<table>
<thead>
<tr>
<th>State</th>
<th>Timber</th>
<th>Apples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oregon</td>
<td>40</td>
<td>10</td>
</tr>
<tr>
<td>Washington</td>
<td>10</td>
<td>40</td>
</tr>
</tbody>
</table>

Comparative advantage can be determined using the output method, which is used when output is variable and input is fixed. With the output method, *apples go over timber* and *timber goes over apples* as shown below. Remember OOO = Output Other Over.

<table>
<thead>
<tr>
<th></th>
<th>Timber</th>
<th>Apples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oregon</td>
<td>( \frac{10}{40} = .25 )</td>
<td>( \frac{40}{10} = 4 )</td>
</tr>
<tr>
<td>Washington</td>
<td>( \frac{40}{10} = 4 )</td>
<td>( \frac{10}{40} = .25 )</td>
</tr>
</tbody>
</table>

Washington has comparative advantage in apple production because it has the lowest opportunity cost (0.25 of a unit of timber) and should specialize in apples.
Oregon should specialize in timber because of its comparative advantage. Its opportunity cost is only .25 of an apple while Washington must give up 4 apples to produce a unit of timber.

Note that if they specialize, they’ll produce (together) more apples and timber than they had individually without specialization.

In the PPC’s for each state, show the points of specialization.

Total timber production: 40 (all in Oregon) Total apple production: 40 (all in Washington)

So now Oregon doesn’t have anything to eat, and Washington doesn’t have any shelter. Maybe a trade is in order?

Oregon will export timber, Washington will export apples.

<table>
<thead>
<tr>
<th></th>
<th>Hours to produce 1 unit of Donuts</th>
<th>Hours to produce 1 unit of Coffee</th>
<th>Producing 1 unit of donuts costs</th>
<th>Producing 1 unit of coffee costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Springfield</td>
<td>8</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shelbyville</td>
<td>24</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With the input method, coffee production goes under donut production and donut production goes under coffee production. (IOU)

Springfield has an absolute advantage producing both donuts and coffee because it takes them fewer hours. Why would Springfield want to trade if they can do more of both?

<table>
<thead>
<tr>
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<th>Producing 1 unit of coffee costs</th>
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</thead>
<tbody>
<tr>
<td>Springfield</td>
<td>(\frac{8}{4} = 2)</td>
<td>(\frac{4}{8} = .5)</td>
<td>2 unit of coffee</td>
<td>(\frac{1}{2}) unit of donuts</td>
</tr>
<tr>
<td>Shelbyville</td>
<td>(\frac{24}{8} = 3)</td>
<td>(\frac{8}{24} = .33)</td>
<td>3 units of coffee</td>
<td>(\frac{1}{3}) unit of donuts</td>
</tr>
</tbody>
</table>

Every unit of donuts Springfield produces requires them to give up 8 hours in which they could have made 2 units of coffee. Thus in Springfield, 1 donut = 2 coffee.

In Shelbyville, each unit of donuts requires them to give up 24 hours in which they could have produced 3 units of coffee. So, in Shelbyville, 1 donut = 3 coffee.

Springfield therefore has a comparative advantage producing donuts. Shelbyville has a comparative advantage in producing coffee, because to produce one coffee they give up \(\frac{1}{3}\) of a unit of donuts, while Springfield must give up \(\frac{1}{2}\) of a unit of donuts.
Calculating Comparative Advantage

There are two nations that, using all of their resources, both produce lemon drops and boxes. Nation A can produce either 300 lemon drops and 0 boxes per day or 100 boxes and 0 lemon drops per day or any combination that lies on its constant cost PPC. Nation B can produce either 200 lemon drops and 0 boxes per day or 200 boxes and 0 lemon drops per day or any combination that lies on its constant cost PPC.

Draw a correctly labeled PPC for each nation. Use lemon drops on the vertical axis and boxes on the horizontal axis.

Calculate the opportunity cost of producing each good for each nation. (Calculate means show your work.)

<table>
<thead>
<tr>
<th>nation</th>
<th>Lemon Drops</th>
<th>Boxes</th>
<th>Opportunity cost of Lemon Drops</th>
<th>Opportunity cost of Boxes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nation A</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nation B</td>
<td></td>
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</tbody>
</table>

What good should each nation specialize in? Why?

What range would be acceptable terms of trade? Why?
The U.S. and England have the following production possibility curves.

Using the information on the graphs above:

The opportunity cost of 1 unit of Fish in the U.S. is ________________________.

The opportunity cost of 1 unit of Chips in the U.S. is ________________________.

The opportunity cost of 1 unit of Fish in England is ________________________.

The opportunity cost of 1 unit of Chips in England is ________________________.

The U.S. has an absolute advantage in ________________________.

England has an absolute advantage in ________________________.

The U.S. has a comparative advantage in ________________________.

England has a comparative advantage in ________________________.

There are two nations that both produce 100 lemon drops and 50 boxes using the same amount of resources. Nation A can produce lemon drops in 3 hours and boxes in 2 hours. Nation B can produce lemon drops in 4 hours and boxes in 5 hours.
Calculate the opportunity cost of producing each good for each nation. (Calculate means show your work.)

<table>
<thead>
<tr>
<th></th>
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<th>Boxes</th>
<th>Opportunity cost of Lemon Drops</th>
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