Practice Problems 1

The problems below draw from the material in Chapters 1-3 and related lectures. I recommend that you answer these problems as we go through the material or shortly thereafter. Solutions to these problems are at the course website. The most productive approach is to write out all the answers, neatly on a separate sheet of paper, and then check the solutions.

1. Determine which category of resources each of the following belongs in:
   a. a taxicab
   b. computer software
   c. one hour of psychological counseling
   d. a parking lot
   e. a forest
   f. the Mississippi River
   g. a prison

2. The IDS is a free good. True/false/explain.

3. What is the opportunity cost of purchasing a $500 stereo system? Of producing a $500 stereo?

4. a. What do you sacrifice to attend your E201 class on a given day? (List all relevant alternatives.)
   b. What is the opportunity cost of attending E201 on a given day? Explain.

5. You win a full scholarship to graduate school in advanced enigmatology (that's the study of crossword puzzles), but expect to reap little benefit from this study. Nonetheless, you decide to go because it's free. What's wrong with this thinking?

6. a. What does it cost you to attend a concert if the ticket price is $60?
   b. What happens to the cost if the same concert is held the night before your E201 exam?

7. Label each of the following statements as positive or normative.
   a. The economy as a whole faces a short run tradeoff between inflation and unemployment.
   b. If the US can send humans into space, then we should be able to eliminate poverty.
   c. If the US can send humans into space, then 14.2 percent is too high of a poverty rate.
   d. If the unemployment rate is above 5.0%, the Federal Reserve needs to stimulate the economy.
   e. Welfare recipients ought to be required to look for work.
   f. If we are going to prevent urban sprawl, then real estate developers need to be charged fees to connect to existing water and sewer systems.
   g. The average IU student should allocate more time to studying and less time to watching TV.
   h. Lower tax rates would increase hours worked and increase saving.
8. A reduction in the unemployment rate will shift the PPF of an economy outward. True or false. Explain with a graph. (Careful! It’s easy to make a mistake on this one).

9. Suppose a small economy produces two goods, cars and boats, as follows:

<table>
<thead>
<tr>
<th>Cars</th>
<th>Boats</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1000</td>
</tr>
<tr>
<td>100</td>
<td>600</td>
</tr>
<tr>
<td>200</td>
<td>0</td>
</tr>
</tbody>
</table>

a. What is the cost of the first 100 cars?
b. What is the cost per car of the first 100 cars?
c. What is the cost of the second 100 cars?
d. What is the cost per car of the second 100 cars?
e. What do your answers tell you about opportunity costs in production?
f. Sketch the PPF for this economy.

10. There is a debate about whether disposable diapers make efficient use of scarce resources. On the one hand, it is argued that disposable diapers resist biodegradation, creating problems in landfill dumps. But what valuable resource is omitted from this argument--but not from Chapter 1--that makes disposables the most efficient choice for most diaper changers?

11. Suppose that you win $100 in a football pool. You have a choice: spend the money now or put it in a bank account that pays 5 percent interest. What is the opportunity cost of spending the $100 now? What is the opportunity cost of putting the $100 in the bank? Which choice is better?

12. The Social Security system provides income for people over age 66. Recipients with more income from other sources receive smaller benefits (after taxes) than recipients with less income from other sources.

a. How does the provision of Social Security affect a person's incentive to save while working?
b. Social Security recipients age 66 and over who earn more than $38,000 a year from work have their SS benefits reduced by $1 for every $3 of income. What is the effect of this policy on work incentives for persons over 66?

13. In response to the 9/11 terrorist attacks in the U.S., more resources have been allocated to security, especially at airports.

a. Show the effects of this change on the US production possibilities frontier. (Hint: Use AOG (all other goods) on one axis and security on the other axis.)
b. Assume that terrorists have certain demographic characteristics. Further assume that security personnel are not allowed to use information about likely terrorists in trying to catch terrorists. What does this policy do to the PPF of the U.S.?

14. It is sometimes said that terrorist groups have an endless stock of willing “members” (suicide bombers and the like). Do terrorist groups face resource constraints?

a. Draw the PPF of a terrorist group. (Hint: use AOG on one axis; you have to think like a terrorist to label the other axis.)
b. Show the effect of a successful military operation against a terrorist group on the terrorists’ PPF.

15. In one hour Walt can either write one poem or mow two lawns, and Edna can either write two poems or mow three lawns.

a. Who has the absolute advantage in writing poems?
   In mowing?
b. Find the opportunity cost of writing 1 poem for each individual.
c. Find the opportunity cost of mowing 1 lawn for each individual.

d. Who has the *comparative advantage* in writing poetry? 
In mowing lawns?

e. If each individual specializes and trades with the other, what would be a potential exchange rate? 
(Hint: both individuals must be better off with trade than without trade.)