Chapter 2 In-Class Exercise

**Problem 1:** A small country produces two goods: corn (measured in bushels) and trucks as given below.

<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>Trucks</td>
<td>0</td>
<td>10</td>
<td>20</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>Corn</td>
<td>70</td>
<td>60</td>
<td>45</td>
<td>25</td>
<td>0</td>
</tr>
</tbody>
</table>

Draw the production possibilities frontier.

Calculate the opportunity cost of increasing the number of trucks produced by ten:
- between 0 and 10
- between 10 and 20
- between 20 and 30
- between 30 and 40

**Problem 2:** An economy consists of three workers: Larry, Moe, and Curly. Each works ten hours a day and can produce two services: mowing lawns and washing cars. In an hour, Larry can either mow one lawn or wash one car; Moe can either mow one lawn or wash two cars; and Curly can either mow two lawns or wash one car.

a) Calculate how much of each service is produced under the following circumstances:
   - All three spend all their time mowing lawns (A).
   - All three spend all their time washing cars (B).
   - All three spend half their time on each activity (C).
   - Larry spends half his time on each activity, while Moe only washes cars and Curly only mows lawns (D).

b) Graph the PPF and plot the points A, B, C, and D

c) Why does the PPF have the shape it does?

d) Are any of the allocations calculated in part (a) inefficient? Explain.
Problem 3: Gains from Trade Exercise

Suppose that Gilligan and the Skipper are stranded on a desert island. Their only source of food on the island is fish and coconuts. Suppose that Gilligan can catch 1 fish per hour and can harvest 1 coconut per hour while the Skipper can catch 2 fish per hour and can harvest 4 coconuts per hour. Answer the following questions assuming that each plan on working 8 hours a day:

a) Suppose that both Gilligan and the Skipper want to eat 4 fish each per day.
   - How many hours must Gilligan work to catch 4 fish? ___________________
   - How many hours must the Skipper work to catch 4 fish? ___________________
   - How many coconuts can Gilligan harvest with his remaining time? ________________
   - How many coconuts can the Skipper harvest with his remaining time? ________________
   - What is the total number of coconuts and fish harvested on the island? ________________

b) What is the opportunity cost of catching 1 fish (in terms of coconuts given up) for:
   - Gilligan ____________________
   - the Skipper ____________________

c) Who has an absolute advantage in catching fish?

d) Who has an absolute advantage in harvesting coconuts?

e) Who has a comparative advantage in catching fish?

f) Who has a comparative advantage in harvesting coconuts?

g) If Gilligan and the Skipper were to specialize and trade, who should specialize in catching fish?

h) If they both specialize, how many fish and coconuts will be harvested on the island?

i) Give an example of a trade that would be mutually beneficial (i.e. that would make them both better off) assuming they both still want to consume (at least) 4 fish.

j) Determine the range of prices of trade (in terms of the price of 1 fish) that would make trade mutually beneficial.