You learned to ride a bicycle by trying it out. You tried getting on, starting, turning, stopping. Each of these was a problem. By solving problems one by one (and crash by crash), you developed the skill. Microeconomics is learned the same way. You can't rely on memorizing a bunch of definitions and dates; you have to get inside the skill and make it your own--like shooting a basket or knitting a sweater. The acquisition of any skill requires determination and practice.

Demonstrate your skill in economic analysis by answering the following questions on a separate sheet of paper. You can check your answers against the solutions at the ANS2 link on the web site.

1. An eminent judge and criminologist argues that the rights of those accused of crimes should not be thought of as absolute. Rather, he points out that the more procedural rights are expanded for criminals, the lower the probability of conviction and the higher the crime rate. Can you reformulate this discussion in terms of the PPF? (Remember, you need to show two goods on the axes of the PPF.)

2. Consider the farmer and the rancher from the example in Chapter 3. Explain why the farmer's opportunity cost of producing 1 ounce of meat is 4 ounces of potatoes. Explain why the rancher's opportunity cost of producing 1 ounce of meat is 2 ounces of potatoes.

3. Maria can read 20 pages of economics in an hour. She can also read 50 pages of sociology in an hour. She spends 5 hours per day studying.
   a. Draw Maria's production possibilities frontier for reading economics and sociology.
   b. What is Maria's opportunity cost of reading 100 pages of sociology?

4. In one hour, Pat can cook six dinners and Chris can cook 2 dinners. In one hour, Pat can clean six areas of the kitchen and Chris can clean three areas.
   a. Who has the absolute advantage in cooking? In cleaning?
   b. Find the opportunity cost of cooking 1 dinner for each individual.
   c. Find the opportunity cost of cleaning 1 area for each individual.
   d. Who has the comparative advantage in cooking? In cleaning?
   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.)

5. Suppose that in Brazil the average worker can produce 20 bolts of cotton cloth or 60 tires in a year. In Peru the average worker can produce 50 bolts of cotton or 100 tires in a year.
   a. Which country has the absolute advantage in cotton production and which has the comparative advantage in cotton production? Explain, perhaps with a table.
   b. What kind of specialization and trade would occur?
   c. Give an example of a mutually beneficial exchange rate.
6. Lawyer Michael can type faster and more accurately than his legal secretary, Bonnie. Yet in their law office Bonnie types and Michael interviews clients. Is this arrangement efficient?

7. While on a round-the-world trip you discover an economy engaged in foreign trade that can produce either beaded necklaces or agricultural products (food). This economy has the highest poverty rate in the world, with many of its citizens malnourished and starving. You are touched by their condition and offer your services as an economic consultant. “What shall we produce,” they ask you. What is your answer? Explain yourself convincingly.

8. The demand schedules of three individuals (Johann, Wolfgang, and Ludwig) for one-pound bags of popcorn are given below. Assume these are the only three buyers of popcorn.

   a. Diagram each of the individual demand curves.
   b. Calculate and diagram the market demand curve.

   **QUANTITY (BAGS OF POPCORN)**

<table>
<thead>
<tr>
<th>PRICE per bag</th>
<th>Johann</th>
<th>Wolfgang</th>
<th>Ludwig</th>
<th>Market Quantity Demanded</th>
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</tbody>
</table>

9. Explain why there is an inverse relationship between quantity demanded and price. Hint: think about how a change in price affects the opportunity cost of consuming a given good.

10. Explain the difference between a change in demand and a change in quantity demanded.

11. List the shift variables of demand.

12. a. Show an increase in demand on a graph.
    b. Show a decrease in demand on a graph.

13. Using a separate graph for each, show the effects of the following on the demand for autos:

   a. Increase in the price of gas
   b. Increase in incomes
   c. Increase in auto insurance rates
   d. More and safer interstate highways are built
   e. A decrease in air fares

14. An increase in price leads to a decrease in demand. True/false/explain.