1. Write the quantity equation and explain it.

2. What does the assumption of constant velocity imply?

3. Who pays the inflation tax?

4. If inflation rises from 6 to 8 percent, what happens to real and nominal interest rates according to the Fisher effect?

5. List all the costs of inflation you can think of, and rank them according to how important you think they are.

6. Explain the roles of monetary and fiscal policy in causing and ending hyperinflations.

7. Define the terms *real variable* and *nominal variable*, and give an example of each.

8. In the country of GiBi, the velocity of money is constant. Real GDP grows by 3 percent per year, the money stock grows by 8 percent per year, and the nominal interest rate is percent. What is

    a. the growth rate of nominal GDP?
    b. the inflation rate?
    c. the real interest rate?

9. Suppose a country has a money demand function $(M/P)^d = kY$, where k is a constant parameter. The money supply grows by 12 percent per year, and real income grows by 4 percent per year.

    a. What is the average inflation rate?
    b. How would inflation be different if real income growth were higher? Explain.
    c. How do you interpret the parameter k? What is its relationship to the velocity of money?
    d. Suppose, instead of a constant money demand function, the velocity of money in this economy was growing steadily because of financial innovation. How would that affect the inflation rate? Explain.

10. An economy has the following money demand function:

$$(M/P)^d = .2\, Y/i^{1/2}$$

   a. Derive an expression for the velocity of money. What does velocity depend on? Explain why this dependency may occur.
   b. Calculate velocity if the nominal interest rate i is 4 percent.
   c. If output Y is 1,000 units and the money supply M is 1,200 TL, what is the price level P ?
   d. Suppose the announcement of a new head of the central bank, with a reputation of being soft on inflation, increases expected inflation by 5 percentage points. According to the Fisher effect, what is the new nominal interest rate?
   e. Calculate the new velocity of money.
   f. If, in the aftermath of the announcement, both the economy's output and the current money supply are unchanged, what happens to the price level? Explain why this occurs.
   g. If the new central banker wants to keep the price level the same after the announcement, at what level should she set the money supply?

11. Suppose that the money demand function takes the form

$$(M/P) = L(i,Y) = Y/(5i)$$

   a. If output grows at rate g and the nominal interest rate is constant, at what rate will the demand for real balances grow?
   b. What is the velocity of money in this economy?
   c. If inflation and nominal interest rates are constant, at what rate, if any, will velocity grow?
   d. How will a permanent (once-and-for-all) increase in the level of interest rates affect the level of velocity? How will it affect the subsequent growth rate of velocity?
   e. If the central bank wants to achieve a long- run target inflation rate of π, at what rate should the money supply grow?