1. **Monetary Approach to Exchange Rates**
   Suppose you learn that the current exchange rate for the Japanese Yen is $1 = 120 yen.
   
   a. If you expect Japanese monetary growth to be a total of 25% larger over the next ten years than US monetary growth, what is your best guess as to the exchange rate ten years from now? What theory underlies your prediction? Explain why we apply this theory here over a long run period, like 10 years, rather than over a short period, say less than a year?
   
   b. If you expect that in addition to the higher money growth rate in Japan above, you also expect the output growth rate to be higher in Japan by 30%. Would you predict that the value of the Japanese yen will appreciate or depreciate relative to the dollar (more or fewer dollars per yen).

2. **Interest Rate and Purchasing Power Parities**
   Suppose that the following conditions all hold: uncovered and covered interest rate parity, real interest rate parity, relative and absolute purchasing power parity.
   
   And suppose you have the following information:
   - The current nominal interest rate for a 1 year deposit in a Brazilian bank is 20%.
   - Inflation is expected to be 10 percentage points higher in Brazil than Argentina over the next year.
   - The forward exchange rate between Brazil and Argentina is 1.1 (Brazilian real / Argentinian peso).
   
   For each of the following, compute a value using the information above, or state if there is not enough information given above to do this. Show your work in each case and name which parity conditions you are using.
   
   a. real exchange rate (Brazil/Argentina)
   b. expected future spot exchange rate for one year from now (Brazilian real / Argentinian peso)
   c. real interest rate in Brazil
   d. current spot exchange rate (Brazilian real / Argentinian peso)

3. **Exchange Rate Overshooting**
   Use the foreign exchange and money market diagrams to answer the following questions about the relationship between the Indian rupee (INR) and the Chinese yuan (CNY). Let the exchange rate be defined as rupees per yuan E\textsubscript{INR/CNY}. Suppose there is a fall in the Indian nominal money supply.
   
   a. Assume first that the fall in money supply is temporary (so that the nominal money supply is put back at its original level in the long run). Illustrate the effects of this in a pair of graphs, one for the Indian money market and one for the foreign exchange market. Label the initial equilibrium as point A, the short-run equilibrium point B, and your long-run equilibrium point C.
   
   b. Now assume instead that the fall in money supply is permanent. Illustrate this in a pair of graphs, one for the Indian money market and one for the foreign exchange market. Label the initial equilibrium as point A, the short-run equilibrium point B and your long-run equilibrium point C.
   
   c. For the case you just analyzed above (permanent shock), plot a graph for each of the following variables over time showing the initial equilibrium, short run equilibrium, and the long run equilibrium: India’s nominal money supply, India’s interest rate, India’s price level, India’s real money supply, and the exchange rate E\textsubscript{INR/CNY}.
   
   d. Does the theory of “exchange rate overshooting” apply to the case in part (a) above? How about to the case in parts (b) and (c)? Explain the economic reason the two cases are different.