Please write answers in **ink**. You may use a pencil to draw your graphs. Good luck.

1.a. During the early 1930s there were a number of bank failures in the United States. What did this do to the money supply? The New York Federal Reserve Bank advocated open market purchases. Would these purchases have reversed the change in the money supply and helped banks? Explain.

Bank failures cause people to lose confidence in the banking system so that deposits fall and banks have less to lend. Further, under these circumstances banks are probably more cautious about lending. Both of these reactions would tend to decrease the money supply. Open market purchases increase bank reserves and so would have at least made the decrease smaller. The increase in reserves would also have provided banks with greater liquidity to meet the demands of customers who wanted to make withdrawals. In short, while the actions of depositors and banks lowered the money supply, the Fed could have increased it by buying bonds.

1.b. Draw a simple T-account for First National Bank which has $5,000 of deposits, a required reserve ratio of 10 percent, and excess reserves of $300. Make sure your balance sheet balances.

<table>
<thead>
<tr>
<th>First National Bank</th>
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<tbody>
<tr>
<td><strong>Assets</strong></td>
<td><strong>Liabilities</strong></td>
</tr>
<tr>
<td>Reserves</td>
<td>Deposits</td>
</tr>
<tr>
<td>$800</td>
<td>$5,000</td>
</tr>
<tr>
<td>Loans</td>
<td>$4,200</td>
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2. Illustrate and explain the adjustment process in the money market that creates a change in the price level when the money supply increases.

When the money supply increases, there is an excess supply of money at the original value of money. After the money supply increases, people have more money than they want to hold in their purses, wallets and checking accounts. They use this excess money to buy goods and services or lend it out to other people to buy goods and services. The increase in expenditures causes prices to rise and the value of money to fall. As the value of money falls, the quantity of money people want to hold increases so that the excess supply is eliminated. At the end of this process the money market is in equilibrium at a higher price level and a lower value of money.

3. What assumptions are necessary to argue that the quantity equation implies that increases in the money supply lead to proportional changes in the price level?

We must suppose that \( V \) is relatively constant and that changes in the money supply have no effect on real output.

4. Economists agree that increases in the money-supply growth rate increase inflation and that inflation is undesirable. So why have there been hyperinflations and how have they been ended?

Typically, the government in countries that had hyperinflation started with high spending, inadequate tax revenue, and limited ability to borrow. Therefore, they turned to the printing presses to pay their bills. Massive and continued increases in the quantity of money led to hyperinflation, which ended when the governments instituted fiscal reforms eliminating the need for the inflation tax and subsequently slowed money supply growth.
Mexico was able to conquer inflation by adopting best practices in central banking in the latter 1990s—granting the Banco de México independence and mandating price stability as the central bank’s primary goal—Mexico began installing a framework that has proven remarkably successful. Additional fiscal and financial system reforms of the 1990s and 2000s have eliminated macroeconomic policy as a source of instability. Mexico’s experience provides an instructive view of how a nation, by providing independence and a clear mandate to its central bank, can create relative macroeconomic stability and enhance economic opportunity.

5.a. Under what circumstances does purchasing-power parity explain how exchange rates are determined, and why is it not completely accurate?

Purchasing-power parity works well in helping us explain long-term trends in exchange rates, and in explaining what happens to exchange rates during hyperinflation. It is not completely accurate because (1) not all goods are easily traded, and (2) even tradable goods are not always perfect substitutes when they are produced in different countries.

5.b. Suppose that a U.S. dollar buys more gold in Australia than it buys in Russia. What does purchasing-power parity imply should happen?

People can make a profit by buying gold in Australia and selling it in Russia. Purchases in Australia drive down the amount of gold a dollar can buy there. Sales in Russia drive up the amount of gold a dollar can buy there. Purchasing-power parity theory claims that this should continue until the dollar can buy the same amount of gold anywhere.