Economics 221
HW #2
Due February 19, 2015

1. List whether the following items would be included as part of the CPI, GDP deflator, neither, or both. (4 points each)
a. An automobile made in Japan that is purchased by a U.S. consumer
b. Machinery made in the U.S. purchased by a U.S. manufacturer
c. Tomatoes grown in California purchased by a U.S. consumer

2. Use the following information to answer question 2 (4 points each)

	2007	2014
M1	1,375	2,545
Real GDP	14,830	16,090
GDP deflator	97.3	108.3

a. Calculate the velocity of money in 2007 and 2014
b. Suppose the velocity of money remained constant between 2007 and 2014 and that real GDP in 2014 was equal to its actual value. What would be the value of the GDP deflator?
c. What was the value of nominal GDP in 2007 and 2014?

3 Use the following information to answer question 4. 4 points each.
$\%\Delta M = 8$, $\%\Delta V = -2$, $\%\Delta Y = 2$, expected inflation rate = 3, ex ante real interest rate = 1.
a. Calculate the inflation rate
b. Calculate the nominal interest rate
c. Calculate the ex post real interest rate
d. Suppose the velocity of money was constant but all the other variables at the beginning of the problem were the same. What effect, if any, would this have on the inflation rate and the nominal interest rate?
e. Bonus. Assume a saver deposits $100 in a savings deposit. Given the numbers above, what will be the real value of her savings a year later?

4. Use the information below to answer question 4:

Commercial Banks

Assets		Liabilities.	
Reserves	400	Deposits	2000
Loans	1,600	Equity	500
Securities	500		

Federal Reserve

Assets		Liabilities.	
Securities	900	Currency	500
		Reserves	400

Public

Assets		Liabilities.	
Deposits	2,000	Loans	1,600
Currency	500	Net Worth	900

Assume that the required reserve ratio (ratio of reserves to deposits) is .1
Calculate the following: (5 points each)

a. excess reserves
b. the monetary base
c. M1
d. the money multiplier
e. leverage
f. Suppose the monetary base remained the same and the currency-deposit ratio increased to .5. What would be the value of M1?
g. Suppose the monetary base remained the same and that there were no excess reserves. What would be the value of M1? (Assume the same currency-deposit ratio as in the beginning of the problem.)
h. Show the effect on the balance sheets of a $100 open market purchase of securities by the Federal Reserve.
i. Bonus. Calculate the effect of the $100 open market purchase of securities on currency and deposits after the completion of the money multiplier process.

5. Answer question 6 on page 129 of the textbook. It is reproduced below. 4 points each.

6. In each of the following scenarios, explain and categorize the cost of inflation.

a. Because inflation has risen, the L.L. Bean Company decides to issue a new catalog quarterly rather than annually.

b. Grandma buys an annuity for $100,000 from an insurance company, which promises to pay her $10,000 a year for the rest of her life. After buying it, she is surprised that high inflation triples the price level over the next few years.

c. Maria lives in an economy with hyperinflation. Each day after being paid, she runs to the store as quickly as possible so she can spend her money before it loses value.

d. Warren lives in an economy with an inflation rate of 10 percent. Over the past year, he earned a return of $50,000 on his million-dollar portfolio of stocks and bonds. Because his tax rate is 20 percent, he paid $10,000 to the government.

e. Your father tells you that when he was your age, he worked for only $3 an hour. He suggests that you are lucky to have a job that pays $7 an hour.