

**Problem Set #1**  
**14.02**

1.) In 1986, the U.S. government released statistics showing that personal consumption, government spending and private investment summed to 105 percent of total GDP. How can these numbers be true? Assume inventories are zero.

2.) Explain why each of the following would or would not be counted in U.S. GDP.

a.) You find a sweater in the clearance rack at Macy's during their after-Christmas sale and subsequently buy it at 50% off the original price.

b.) You pay a neighbor's son \$10 an hour to mow your lawn on a weekly basis.

c.) A tourist from Sydney, Australia comes to the U.S. and buys a used Apple Computer and a pound of Russian caviar.

d.) A local bakery, in making its oatmeal cookies, buys 1,000 pounds of raw oatmeal directly from Quaker each year.

3.) A small economy consists of three goods: burgers, onion rings and milk shakes. In 1995, the economy produced 1,200 burgers, 5,000 onion rings, and 600 milk shakes. The unit prices (per burger, ring or shake) in 1995 were \$1, \$.50 (50 cents) and \$2, respectively. During 1996, a drought caused agricultural production to decline. Consequently, in 1996, the economy produced 800 burgers, 4,000 rings and 400 milk shakes at \$1.50, \$.75 (75 cents) and \$3 per unit, respectively.

a.) Fill in the following table based on the information above. Note: you may round your answers, if necessary.

<b>Year</b>	<b>1995</b>	<b>1996</b>
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Nominal GDP

Real GDP (in '95 dollars)

Real GDP (in '96 dollars)

GDP deflator (in '95 dollars)

GDP deflator (in '96 dollars)

b.) What is the rate of inflation between 1995 and 1996 using 1995 as a base year?

c.) What is the rate of inflation between 1995 and 1996 using 1996 as a base year?

d.) Briefly, why do we study inflation? What are the potential effects of high inflation rates?

4.) This question asks you to differentiate between methods of measuring inflation. Assume that a certain tool called a widgetizer is used heavily by

U.S. firms in their production of various goods. Furthermore, the widgetizer is virtually useless to the average American consumer and, as such, personal consumption of these tools is negligible. In 1997, the price of widgetizers increases considerably while the prices of all other goods and services remain stable.

a.) Would you expect the inflation rate computed using the GDP deflator to be higher, lower or the same as the inflation rate computed using the CPI index? Explain your reasoning for this answer.

b.) In 1979, CPI inflation was substantially higher than GDP deflator inflation, standing at roughly 11.3% and 8.6%, respectively. Provide some intuition as to why this was the case.

5.) a.) Assume that, of the 250 million people that comprise the US population, 160 million are working and 40 million are below the age of 16. Assume that those persons under the age of 16 are considered to be “not in the labor force.” Take these figures as true. The unemployment rate is 10%. True, False, Uncertain. Explain your answer.

b.) Of the 210 million U.S. people either working or out of work and over 16 years old, 160 million are working and 40 million are not working and looking for work. Compute the unemployment rate.

c.) Why has the total labor force participation rate in the US increased over the past 20 years?

d.) The Mass. government recently passed a welfare statute that limited the time that welfare recipients may spend in the welfare program. How do you expect the participation rate to be impacted by such a law?

6.) You turn on the television and see a commentator make the following statement: “Last year, government spending (or G) grew significantly. This was due, in most part, to an increase in Social Security, welfare and Medicare payments as well as an increase in unemployment compensation.” Critique the above statement.

7.) In Chapter 2 of the text, you will find an illustration that traces real and nominal GDP for the US since 1960. Why are the slopes of the two curves different? What was the base year used in computing real GDP? If the base year had been 1976, where would the two curves have crossed? What would the nominal GDP curve look like?