**Homework Practice Questions: Microeconomics/Macroeconomics**

**The following questions are for homework practice only. They are to be answered in detail, so it can be used for practice and future reference.**

**1.** Suppose you are hired to manage a small manufacturing facility that produces Widgets.    
  
(a.) You know from data collected on the Widget Market that market demand and market supply have both increased recently. As manager of the facility, what decisions should you make regarding production levels and pricing for your Widget facility?  
Remember that supply and demand are about the market supply and market demand, which is bigger than your own company.  You are being given data on supply and demand for the whole market, and are being asked what effect that has on you as a small part of that market.  
  
(b.) Now, suppose that following the supply and demand changes in (a), a substitute good goes up in price, and your costs of production increase.  What new decisions will you make regarding production levels and pricing for your Widget facility?

**2.** Here is some data on the demand for marshmallows:  
  
Price                Quantity  
$10                  100  
$ 8                   300  
$ 6                   700  
$ 4                   1300  
$ 2                   2200  
  
(a.) Is demand elastic or inelastic in the $6-$8 price range? How do you know?   
  
(b.) If the table represents the demand faced by a monopoly firm, then what is that firm’s marginal revenue as it increases output from 1300 units to 2200 units? Show all work. (Be careful here!)   
**3.** You have been hired to manage a small manufacturing facility which has cost and production data given in the table below.

Total                            Total  
Workers     Labor Cost      Output     Revenue  
     1                $500             100          $700  
     2                1000             280          1150  
     3                1500             440          1440  
     4                2000             540          1570  
     5                2500             600          1670  
     6                3000             630          1710  
     7                3500             640          1730  
  
(a.) What is the marginal product of the second worker?    
  
(b.) What is the marginal revenue product of the fourth worker?    
  
(c.) What is the marginal cost of the first worker?    
  
(d.) Based on your knowledge of marginal analysis, how many workers should you hire? Explain you answer.

**4.**  Answer the next questions on the basis of the following cost data for a firm in pure competition:      
            
OUTPUT ------ TFC ---------- TVC  
      0          $100.00            0.00    
      1            100.00          70.00  
      2            100.00        120.00  
      3            100.00        150.00  
      4            100.00        200.00  
      5            100.00        270.00  
      6            100.00        360.00  
  
(a.) Refer to the above data.  If the product price is $45, at its optimal output, will the firm realize an economic profit, break even, or incur an economic loss?  How much will the profit or loss be?  Show all calculations.         
  
(b.) Refer to the above data.  If the product price is $75, at its optimal output, will the firm realize an economic profit, break even, or incur an economic loss?  How much will the profit or loss be?  Show all calculations.

**5.** A software producer has fixed costs of $30,000 per month and her Total Variable Costs (TVC) as a function of output Q are given below:  
  
  Q                        TVC                           Price  
  3,000               $ 5,000                          $5      
13,000                15,000                            4      
23,000                28,000                            3      
33,000                42,000                            2      
43,000                70,000                            1

(a.) If software can only be produced in the quantities above, what should be the production level if the producer operates in a monopolistic competitive market where the price of software at each possible quantity is also listed above? Why? (Show all work).  
  
(b.) What should be the production level if fixed costs rose to $50,000 per month? Explain.

**6.** (a.) Suppose nominal GDP in 1999 was $100 billion and in 2001 it was $260 billion.  The general price index in 1999 was 100, and in 2001 it was 180.  Between 1999 and 2001, the real GDP rose by what percent?   
  
 (b.) Use the following scenario to answer questions (b1) and (b2).  
In a given year in the United States, the total number of residents is 230 million, the number of residents under the age of 16 is 38 million, the number of institutionalized adults is 15 million, the number of adults who are not looking for work is 27 million, and the number of unemployed is 12 million.  
  
(b1.)   Refer to the data in the above Scenario.  What is the size of the labor force in the United States for the given year?  
  
(b2.)   Refer to the data in the above Scenario.  What is the unemployment rate in the United States for the given year?

**7.**   
(a.) Suppose your local Congress representative suggests that the federal government intervenes in the gasoline market to stop runaway price increases.  Would you say that this view basically supports the Keynesian or the Monetarist school of thought?  Why?  What position would the opposing school of thought take on this issue?  (Be brief -- you can answer this in 2 or 3 brief paragraphs).   
  
(b.) Any change in the economy’s total expenditures would be expected to translate into a change in GDP that was larger than the initial change in spending. This phenomenon is known as the *multiplier effect.* Explain how the multiplier effect works.    
  
(c.) You are told that 90 cents out of every extra dollar pumped into the economy goes toward consumption (as opposed to saving). Estimate the GDP impact of a positive change in government spending that equals $20 billion.      
 **8.**   
(a.) Third National Bank is fully loaned up with reserves of $30,000 and demand deposits equal to $100,000. The reserve ratio is 5%. Households deposit $20,000 in currency into the bank. How much excess reserves does the bank now have, and what is the maximum amount of new money that can be created in the banking system as a result of this deposit?  Show all work.   
  
(b.) What is the *fed funds rate* in the banking system, and explain how the Fed manipulates this rate in order to achieve macroeconomic objectives.

**9.** Let the exchange rate be defined as the number of dollars per British pound.  Assume there is a relatively lower rate of inflation in U.S. relative to that of Britain.  
  
(a.) Would this event cause the demand for the dollar to increase or decrease relative to the demand for the pound?  Why?    
  
(b.) Has the dollar appreciated or depreciated in value relative to the pound?     
  
(c.) Does this change in the value of the dollar make imports cheaper or more expensive for Americans?  Are American exports cheaper or more expensive for importers of U.S. goods in Great Britain?  Illustrate by showing the price of a U.S. cell phone in Britain, before and after the change in the exchange rate.     
  
(d.) If you had a business exporting goods to Britain, and U.S. inflation fell as discussed above in this example, would you plan to expand production or cut back?  Why?