ANSWERS TO PROBLEM SET 3

1. True, False or Uncertain. (35 pts)

   (a) False. As long as people perceive a problem (even if it is not there) they may be willing to get their deposits out generating a bank run.

   (b) False. An increase in reserve requirements will decrease the money multiplier. Therefore monetary policy will have a smaller effect.

   (c) True. ATM's will probably make people leave a larger amount of liquidity in the checking account. This will increase the money multiplier, increasing the amount of money for a given level of currency.

   (d) False. A contractionary market open operation decreases the money supply and increases the interest rate.

   (e) True. This merge will probably decrease the amount of transactions needed by the economy. Therefore money demand will decrease without altering GDP.

   (f) False. This is the saving paradox. Lower consumption will imply a lower GDP in equilibrium. In the model seen in class GDP will decrease to the point where savings are equal to (exogenous) investment.

   (g) False. The effects will not cancel out and there will be a positive effect over output one for one (i.e. a multiplier $= 1$).

2. (35 pts)

   (a) (5 pts) Marginal propensity to consume $= 0.3 + 0.2 = 0.5$.

   (b) (5 pts) $Y = 10 + 0.3(Y - 10) + 0.2(Y - 10) + 25 + 0.1Y + 10$.
   Solving for Y:
   $$\overline{Y} = \frac{1}{0.4} * 40 = 100.$$

   (c) (5 pts) From the solution in part (b) it is easy to see that an increase in G equal to 1 will imply an increase in $\overline{Y}$ of $\frac{1}{0.4} = 2.5$

   (d) (10 pts) It increases the multplier effect. If investment were exogenous then the multiplier effect would be $\frac{1}{0.5} = 2$

(e) (10 pt) Marginal propensity to consume, equilibrium output, and the multiplier effect will be the same. What will differ is the transient after the increase in government spending. Under these new conditions, the new equilibrium will be reached faster.

3. (30 pts)

   (a) (5 pts) $M = \frac{2}{1.1} * 100 = 181.82$

   (b) (10 pts) $i = \frac{1}{0.6}(1 - \frac{181.82}{5000}) = 10.6\%$

   (c) (10 pts) $M = \frac{2}{1.1} * 150 = 181.82$ $i = \frac{1}{0.6}(1 - \frac{272.73}{5000}) = 7.58\%$.

   (d) (5 pts) $P * (1 + 0.0758) = 1000$. Therefore $P = 929.54$