

Problem 1

Basic concepts: IS - LM

- a) How do we derive IS and LM curves? (show full derivation)
- b) Which variables are endogenous and which variables are exogenous?
- c) Let's say that:  
Nominal money in the economy is 100  
Price level is 2  
Whenever interest rate increases by 1% (use 1, not 0.01!!!) money demand *changes* by 0.5, and whenever income increases by 1, money demand *changes* by 100.
  - Derive the LM curve and plot it
- d) The IS equation could be written:  $Y = C + I + G$ .  
Let's say that,  $C = 0.8(Y - T)$ ,  $I = 100 - 0.05r$ ,  $G = 200$ ,  $T = 200$ 
  - If government expenditure increases by 10 units, which way IS curve shifts and by how much?
  - If taxes are decreased by 10 units, which way IS curve shifts and by how much?

Problem 2

Use the IS - LM model to analyze the effects of the following shock to the economy:

- a) A banking crisis rumbles through the US. Consumers lose trust in banks and banks start taking more caution in making lending decisions.
- b) The US starts a war with Iran. (Forget your political views, think like an economist 😊)

Analyze each of the shocks separately; show what happens to the endogenous variables in the short run **and** in the long run. (What are the endogenous variables in each case?)