## CHE 305 – Separation Processes Spring 2010 - Quiz 2

On the attached TXY phase diagram, label:

- 1.  $T_1^{Sat}$
- 2.  $T_2^{Sat}$
- 3. Saturated liquid line
- 4. Saturated vapor line
- 5. Liquid phase
- 6. Vapor phase
- 7. 2-Phase region

The system is originally at point "a" on the TXY diagram. The temperature is gradually increased until it reaches point "b".

- 1. What is the vapor phase composition at the bubble point?
- 2. What is the liquid composition at the dew point?
- 3. What is the system temperature at point "c"?
- 4. What are the vapor and liquid compositions for an overall system composition at point "c"?
- 5. The saturated vapor phase for point "c" is cooled to the original feed temperature. What is the composition of the vapor phase for this stream?