MEMS 0051 - Introduction to Thermodynamics Quiz #1

Name: **Solution**

Problem #1

Determine the *phase* of water at the following states:

- (a) -50 °C, 1,000 [kPa] Solid
- (b) 25 °C, 10,000 [MPa] Solid
- $\begin{array}{c} \text{(c) } 50~^{\circ}\text{C, } 10{,}000~\text{[kPa]} \\ \text{Liquid} \end{array}$
- $\begin{array}{c} (\mathrm{d}) \ 325 \ ^{\circ}\mathrm{C}, \, 10 \ [\mathrm{kPa}] \\ \mathrm{Vapor} \end{array}$
- (e) 600 °C, 100 [MPa] Supercritical Fluid
- $\begin{array}{c} \text{(f)} \;\; 0.01 \; ^{\circ}\text{C, } 101.325 \; [\text{kPa}] \\ \text{Solid+Liquid} \end{array}$

