MEMS 0051 - Introduction to Thermodynamics
Quiz #2

Name: Solutions

Problem 1

Determine the phase of water at 100°C and 101.3 [kPa]
Solution:
T=T_{sat} and P=P_{sat} $\Longrightarrow$ saturated water

Problem 2

Determine the phase of water at 180°C and 2,000 [kPa]
Solution:
P>P_{sat} for given T $\Longrightarrow$ compressed liquid

Problem 3

Determine the phase of water at 160°C and 400 [kPa]
Solution:
T>T_{sat} for given P $\Longrightarrow$ superheated vapor

Problem 4

Indicate whether this is a P-v or T-v diagram and identify:

1. Compressed/subcooled liquid region
2. Saturated liquid region
3. Superheated vapor region
4. Line of constant temperature