Name:
Box:

1. Indicate in the following cases whether the given information is sufficient (YES) or insufficient (NO) in fully determining the thermodynamic state of the substance:

YES	NO	Known thermodynamic properties	Known phase
_____	_____	pressure, temperature	compressed liquid
_____	_____	pressure, temperature	superheated vapor
_____	_____	pressure, temperature	saturated mixture
_____	_____	pressure, temperature	saturated vapor
_____	_____	pressure, specific volume	saturated liquid
_____	_____	pressure, specific entropy	saturated mixture
_____	_____	temperature, specific enthalpy	superheated vapor
_____	_____	quality, temperature	saturated mixture

2. Given the following limited data from a property table of water at a pressure of 2 MPa:

Temperature	Specific enthalpy *(h)*
300 ^{o}C	3023.5 kJ/kg
350 ^{o}C	3137.0 kJ/kg

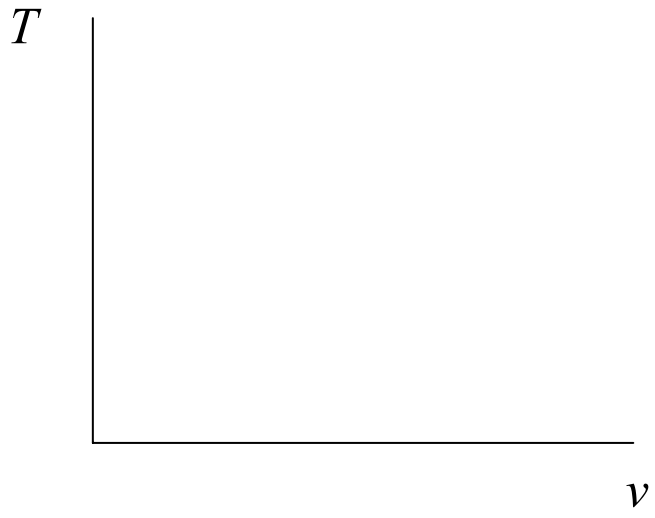
What is the value of specific enthalpy of water at a temperature of 330 ^{o}C and a pressure of 2 MPa?

3. According to the Compressed Liquid Approximation, how are the following thermodynamic properties approximated in the compressed liquid region.

$u(T,P) =$ _____ $v(T,P) =$ _____

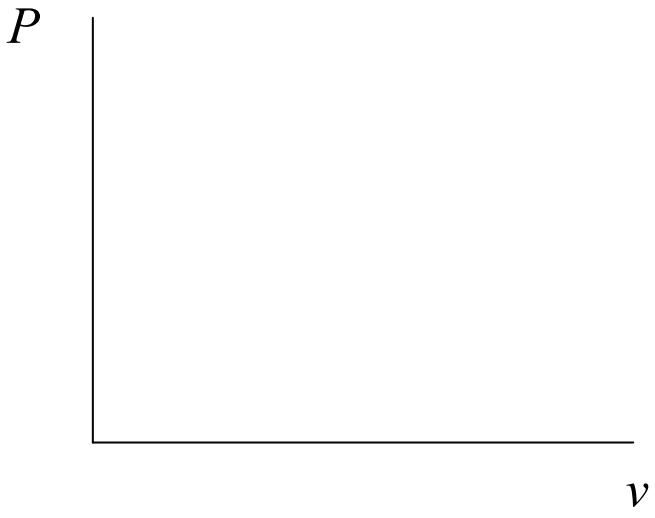
$s(T,P) =$ _____ $h(T,P) =$ _____

4. Sketch two constant pressure curves ($P = P_1$, $P = P_2$ with $P_1 < P_2$) on the T-v diagram below:



Indicate clearly their behavior in the two-phase region and label them clearly with P_1 and P_2.

5. Sketch two constant temperature curves ($T = T_1$, $T = T_2$ with $T_1 < T_2$) on the P-v diagram below:



Indicate clearly their behavior in the two-phase region and label them clearly with T_1 and T_2.