

1. Determine the specific volume of superheated water vapor at 1.6 MPa and 225 °C based on:
 - a. The ideal gas equation.
 - b. The generalized compressibility chart.
 - c. The steam tables.
2. A 3.27-m³ tank contains 100 kg of nitrogen at 225 K. Determine the pressure in the tank, using:
 - a. The ideal gas equation
 - b. The van der Waals equation. The actual value is 2 000 kPa.

3. Complete the following table for H₂O:

T, °C	P, kPa	h, kJ/kg	x	phase
	200		0.7	
140		1800		
	950		0.0	
	800	3161.7		