

Example 3.7

Result

(a) By Ideal gas Equation

$$V =$$

$$3.934$$

$$\text{m}^3/\text{kmol}$$

$$Z =$$

$$1.$$

(b) Using Equation 3.37 $\rightarrow Z = PV/RT = 1 + BP/RT$

$$V =$$

$$3.546$$

$$\text{m}^3/\text{kmol}$$

$$Z =$$

$$0.9014$$

(c) Using Equation 3.39 $\rightarrow Z = PV/RT = 1 + (B/V) + (C/(V^2))$

$$V =$$

$$3.488$$

$$\text{m}^3/\text{kmol}$$

$$Z =$$

$$0.8867$$