Answer on Question #83539 – Chemistry – General Chemistry

A gas system has volume, moles, and temperature of 9040 mL, 0.447 moles and -35.5°C respectively. What is the pressure in atm

Solution:

$pV = nRT$
$p = nRT / V$
$T = -35.5 + 273.15 = 308.65\ K$
$V = 9040\ mL = 9.040\ L$
$p = (0.447\ mol) \times (0.082\ atm \cdot L/(K \cdot mol)) \times (308.65\ K) / (9.040\ L) = 1.25\ atm$