The Ideal Gas Law

1) Calculate the universal gas constant (R) for 1 mole of NO, occupying 22.4 L of volume at standard temperature and pressure.

2) What is the volume occupied by 0.005 moles of an ideal gas under 1.32 atm of pressure and at a temperature of 300 ^{O}C?

3) How many moles of chloroform, $CHCl_3$, are required to fill a 100 ml flask at 373 K and a pressure of 1.25 atm?

4) At what pressure will a 6.70 moles sample of nitrogen gas be in a 300 L tank at 250 K?

5) What temperature is a 0.375 moles sample of oxygen gas at when it is in a 7800 mL tank at 1.7 atm?

6) How many moles of argon gas is in a 400 L balloon at 36 ^{O}C and 0.94 atm?

Answers: 2) 0.178 L   3) 0.0041 moles   5) 431 K

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