

The Ideal Gas Law

Name: _____

- 1) How many moles of gas are in a 40.0 L container under a pressure of 1.98 atm at $-15\text{ }^{\circ}\text{C}$?

- 2) What is the volume occupied by 0.005 moles of an ideal gas under 1500 torr of pressure and at a temperature of $300\text{ }^{\circ}\text{C}$?

- 3) 25.0 g of water is heated to $230\text{ }^{\circ}\text{F}$ and is confined to a volume of 150 ml. What is the pressure inside the container?

- 4) How many grams of chloroform, CHCl_3 , are required to fill a 200 ml flask at 373 K and a pressure of 750 torr?

- 5) A gas at constant pressure is cooled to a temperature well below the freezing point of water. The initial volume was 50 ml. The temperature started at $50\text{ }^{\circ}\text{C}$, and was cooled to $-250\text{ }^{\circ}\text{C}$. What was the final volume of the gas?

- 6) At what temperature is 8.70 grams of CO_2 , when it is placed in a 500 ml container at 2500 torr of pressure?

Answers: 2) 119 mL

4) 0.77 g

6) 101 K