

Chemistry Review  
Chapter 14

1. Define
  - A. absolute zero
  - B. ideal gas
  - C. partial pressure
2. What does STP stand for?
3. What are the conditions at STP?
4. State the following laws and write out the equation for each.
  - A. Avagadro's Law
  - B. Boyle's Law
  - C. Charles' Law
  - D. Combined Gas Law
5. What is the value for R?
6. What is the standard value of pressure in
  - A. atmospheres
  - B. mm Hg
  - C. torr
  - D. kPa
7. Solve:
  - A. A gas is collected in a 125 mL container. The pressure is 76.8 kPa. What will be the volume of the gas at standard pressure if the temperature remains constant?
  - B. 259 mL of gas is at a pressure of 112 kPa. What will be the volume of the gas if the pressure is decreased to 101.3 kPa if the temperature remains constant?
  - C. 907 mL of gas at 30.0°C is heated to 100.0°C, what will be the new volume of this gas if pressure remains constant?
  - D. 4.88 L of gas at 27°C is cooled to -27°C, what is the new volume of the gas?
  - E. 1.7 L of gas at 27°C and 90.0 kPa will have what volume at STP?
  - F. 14.6 L of gas at -12°C and 78.6 kPa is heated to 35°C and expands to 21.2 L. What is the new pressure of the gas?
  - G. 4.2 g of Oxygen, and 3.5 g of Nitrogen are placed in a 45.6 L container at 14.5°C. What is the pressure in the container? What is the partial pressure of each gas?
  - H. Argon and Helium gases are placed in a 5.00 L container at 35.6°C. If the partial pressure of Argon is 502 torr, and the total pressure is 915 torr. What is the partial pressure of Helium? How many moles of Helium are in the container?
  - I. 55 g of oxygen gas is put into a 1.2 L container at 25°C. What is the pressure inside this container?
  - J. How many moles of hydrogen are present in a 10.0 L container at 100.0°C and 770 mm Hg?