Planet smart tutorials

GRADE 9 CHEMISTRY WORKSHEET -1

ICSE STUDY OF GAS LAWS TIME:-1HRS

1. Constant temperature a gas occupies a volume of 200cm3 at a pressure of 740 mm of mercury. Find at what pressure its volume will be 500cm3.
2. A gas occupies the initial volume of 400cm3 at a pressure ‘Z’. If the pressure is changed to 5 atmospheres, the volume of the gas was found to be 200Cm3. Calculate the value of ‘Z’.
3. Calculate the pressure of a gas, when its volume is 250ml initially, the gas is expanded to volume of 100ml and the pressure of 0.4 atmospheres. The temperature during the reaction remains constant.
4. Calculate the pressure of 2.5 litre of dry hydrogen gas, If it occupies a volume of 3 litre at 1.2 atmosphere. Assume that the temperature remains constant.
5. At constant temperature, a gas is at a pressure of 540mm of mercury. At what pressure its volume decrease by 60%.
6. At a constant temperature, a gas at a pressure of 750mm of mercury occupies a volume of 100cm3. If volume is decreases by 40%, Find the new pressure.
7. The volume of certain gas was found 400Cm3, when pressure was 520mm of Hg, If the pressure is increase by 30% , find the new volume of the gas.
8. The volume occupied by a certain gas was found 5.6dm3when the pressure was 2 atmospheres. If the pressure is increased by 20%, find the new volume of the gas.
9. 100 Cm3 of a gas at 27°C is cooled to 20°C at constant pressure. Calculate the volume of gas at 20°C.
10. Hydrogen gas occupies a volume of 400 Cm3 at a temperature of 27°C and normal atmospheric pressure. Find the volume of the gas at 10°C at constant pressure.
11. A gas is enclosed in a vessel at standard temperature. At what temperature, the volume of enclosed gas will be 1/6 of its initial volume given that the pressure remains constant.
12. Carbon dioxide occupies a volume of 336 Cm3 at S.T.P. Find its volume at 20°C and at a pressure of 700 mm Hg.
13. 2.5 dm3 of dry nitrogen gas is collected at a temperature of 27°C and a pressure of 740 mm Hg. Find the volume of gas at S.T.P.
14. 6 dm3 of dry gas at temperature of 27°C and pressure of 700 mm Hg. Find the Volume of gas at S.T.P.
15. Moist nitrogen at a pressure of 700 mm Hg and temperature 27°C is found to occupy a volume of 100 Cm3. Find the volume of dry nitrogen gas at S.T.P.
16. Convert the following temperature (in °C) to the Kelvin temperature.