**Gas Law wksht – BOYLE’S, DALTON’S, CHARLES’, AND COMBINED GAS Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**For the following problems, assume that the temperature remains constant.**

1. If 259 cm3 of oxygen gas at 112 kPa is compressed to 101.3 kPa, what volume would it occupy?
2. 99.3 kPa of gas was measured at 455 cm3. What will the volume be if the pressure is adjusted to 202.6 kPa?
3. As the volume of a gas is changed from 62.4 cm3 to 47.3cm3, what will the final pressure be if the initial was 117 kPa?
4. If 74.5 m3 of oxygen is collected at a pressure of 98.0 kPa, what volume will the gas occupy if the pressure is changed to 90.4 kPa?

**The following gases were collected over water under the conditions indicated. Correct each volume to the volume that the DRY GAS would occupy at standard pressure. Assume temperature does not change (remains constant – don’t move it to standard temp).**

1. 757 cm3 at 21.00C and 87.3 kPa
2. 43.3 cm3 at 70.00C and 121 kPa
3. 84.2 cm3 at 29.00C and 101.3 kPa
4. 2.38 m3 at 50.00C and 90.3 kPa

**The following gases were collected using a eudiometer. Assume constant temperature and find the new pressure as the volume is changed to the indicated value.**

1. 53.1 ml of gas collected at 740 mm Hg atmospheric pressure. The level inside the tube is 27 mm Hg lower than the outside. Volume is adjusted to 60 ml.
2. 18.5 cm3 of gas collected at an atmospheric pressure of 650 mm Hg. The level inside the tube is 10 mm higher than the outside. Volume is adjusted to 32.8 cm3.

**Find the new volume of gases when the temperature changes from that indicated to standard temperature (P is constant).**

1. 907 cm3 at 190C
2. 3.44 m3 at 370C
3. 50.2 cm3 at -53.00C
4. 76.1 cm3 at 1670 C

**Find the new volume of gases when the temperature changes to the value indicated (P is constant).**

1. 6.67 m3 at 100 C to 430C
2. 488 cm3 at 270C to -270C

**Find the new volumes of the following gases when the conditions change as indicated.**

1. 51.7 cm3 at 270C and 90.0 kPa to STP
2. 14.6 m3 at -120C and 78.6 kPa to 350C and 107 kPa
3. 67.4 cm3 at 760C and 125.4 kPa to STP
4. 20.2 cm3 at 420C and 112.0 kPa to 250C and 80.0 kPa