Gas Law Problems WS

Practice Problems (Level 1)

1. A dry gas occupies a volume of 28.4 mL at 725 torr. What will be the volume of this gas at 800 torr?

2. A dry gas with a volume of 588.8 mL at a pressure of 1.00049 atm is subjected to a new pressure of 1.035 atm. What is its volume under the new pressure?

3. A dry gas occupies a volume of 35.9 mL at a temperature of 22.0°C. What volume will the same gas occupy
at a temperature of 28.0°C?

4. At a temperature of 24.46°C, a dry gas occupies a volume of 4.588 mL. What volume will the gas occupy at a temperature of 21.24°C?

5. At a pressure of 780.mm and 24.2°C, a certain gas has a volume of 350.0 mL. What will be the volume of this gas under standard conditions?

6. A dry gas at a temperature of 67.5°C and a pressure of 882 torr occupies a volume of 242.2 mL. What will be
the volume of the gas at a new pressure of 840 torr and 80.0°C?

7. A sample of gas containing 0.089 mol is put into a 10.00 L container at a temperature of 30.0°C. What pressure does the gas exert on the container?

Practice Problems (Level 2)

1. A gas occupies a volume of 34.2 mL at a temperature of 15.0°C and a pressure of 800.0 torr. What will be the volume of this gas at standard conditions?

2. At conditions of 785 torr of pressure and 15.0°C temperature, a gas occupies a volume of 45.5 mL. What will be the volume of the same gas at 745 torr and 30.0°C?

3. A dry gas has a volume of 100.0 mL at a pressure of 1600. torr. At what pressure would this volume be reduced to 50.0 mL?

4. A dry gas at a temperature of 18.0°C has a volume of 40.0 mL. What temperature change is needed to reduce this volume to 35.0 mL?

5. A 40.0 mL of gas is collected over water on a day when the barometric pressure was 790.0 torr and the temperature 20.0°C. What would be the volume of this (dry) gas at standard conditions?

6. A sample of oxygen collected over water when the atmospheric pressure was 1.002 atm and the room temperature, 25.5°C occupied 105.8 mL. what would be the volume of this dry gas at standard conditions?