Chemistry 101 – Unit 8
Practice Problems

The amount of gas in all problems remains constant.

1) A fixed quantity of gas at constant volume has a pressure of 0.26 atm at 13 °C. Determine the new pressure at 76 °C.

2) A gas at constant volume shows a pressure change from 778 torr to 623 torr. If the initial temperature was 25 °C, determine the final temperature.

3) A gas at constant pressure shows a volume change from 25.0 mL to 36.0 mL. If the initial temperature was 0 °C, what is the final temperature?

4) A 54 mL sample of a gas at constant pressure is cooled from 136 °C to 25 °C. Determine the final volume.

5) A 156 mL sample of gas at constant temperature undergoes a pressure increase from 0.56 atm to 1.38 atm. Determine the final volume of the sample.

6) A gas at constant temperature undergoes a volume change from 1.6 L to 2.7 L. If the initial pressure was 746 torr, what is the final pressure?

7) A 1.60 L sample of nitrogen gas initially at STP conditions undergoes a temperature increase to 343K and a volume increase to 3.00 L. Determine the final pressure in torr.

8) A sample of oxygen gas is in a 2.3 L container at 25 °C and a pressure of 1.6 atm. Determine the volume of the sample at STP conditions.