

Honors Chemistry – Gas Laws Worksheet Key

1. Determine the pressure in torr and kPa on a day when the pressure is .96atm.

$$\text{torr} = (.96\text{atm})(760\text{torr/atm}) = 729.6 = \mathbf{730\text{torr}}$$

$$\text{kPa} = (.96\text{atm})(101.3\text{kPa/atm}) = \mathbf{97\text{kPa}}$$

2. A reaction occurs in which a gas is produced causing the mercury column in an open-end manometer to be 125mm higher on the side of the sample gas. If the prevailing atmospheric pressure is .97atm, what is the pressure of the gas?

A gas storage tank is a 1.72 atm

$$= (.97\text{atm})(760\text{mmHg/atm}) - 125\text{mmHg} = 612.2\text{torr}$$

$$612.2\text{torr}(101.3\text{kPa}/760\text{torr}) = 8.2 \times 10^4\text{Pa}$$

3
P_{gas}
612

3. A gas with a volume of 1.00 L is at 135°C and 844 mm Hg. What is the volume if the conditions change to 14°C and 748 mm Hg? (0.794L)

4. A gas
conditio

5. Calculate the mass of 162 L of chlorine gas, measured at STP. (513 g)

5. Calc