Gas law practice quiz (Homework)

1.
Convert 260. mm Hg to atmospheres.

2.
What is the pressure in atmospheres of 38.0 g of N_2 in a 890. mL container at 93.5°C?

3.
What is the final pressure in the container if 410. mL of nitrogen gas at 975 mm Hg is expanded to 805 mL? Assume the temperature and the amount of gas are held constant.

4.
What is the final volume of 805 mL of hydrogen gas at 210. mm Hg if the pressure is increased to 995 mm Hg? Assume the temperature and the amount of gas are held constant.

5.
What is the final volume of 205 mL of oxygen gas at 72.5°C if the gas is heated to 198°C? Assume the pressure and the amount of gas are held constant.

6.
What is the final pressure of 100. mm Hg of argon gas at 25.0°C if the gas is heated to 246°C? Assume the volume and the amount of gas are held constant.

7.
To what Celsius temperature must 42.0 mL of methane gas at 80.0°C be changed so the volume will be 80.5 mL? Assume the pressure and the amount of gas are held constant.

8.
What is the volume of 355 mL of oxygen gas at 70.5°C and 560. mm Hg if the conditions are adjusted to STP? Assume the amount of gas is held constant.

9.
What is the volume in liters of 20.0 g of CO_2 at 185 mm Hg and 24.5°C?

10.
What mass of oxygen gas will occupy 610. mL at 975 mm Hg and 68.5°C?

11.
What is the molar mass of a gas if 1.10 g occupy 890. mL at 745 mm Hg and 60.5°C?

12.
What is the density of ethane gas, C_2H_6, at 955 mm Hg and 54.5°C?