Chemistry 141 Name

Dr. Cary Willard

Quiz 5A (20 points) March 4, 2014

760 torr=760 mm Hg=1 atm=14.7 psi=101.3 KPa, PV=nRT, R=0.0821 L atm/mol K=62.4 L torr/mol K, oC + 273.16 = K

1. (4 points) The barometric pressure in Taos, NM is 692 torr. Calculate the barometric pressure in atm and psi.
2. (4 points) A syringe containing 8.55 mL of oxygen gas is cooled from 95.3oC to 24.5oC. What is the new volume of oxygen gas in the syringe?
3. (6 points) A piece of dry ice (solid carbon dioxide) with a mass of 38.2 g sublimes into a large balloon. Assuming that all of the carbon dioxide ends up in the balloon, what is the volume of the balloon at a temperature of 25oC and a pressure of 729 torr?
4. (6 points) A 261 mL gas sample has a mass of 2.81 g at a pressure of 2.75 atm and a temperature of 12oC. What is the molar mass of the gas?

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Quiz 5B (20 points) March 4, 2014

760 torr=760 mm Hg=1 atm=14.7 psi=101.3 KPa, PV=nRT, R=0.0821 L atm/mol K=62.4 L torr/mol K, oC + 273.16 = K

1. (4 points) The barometric pressure in Taos, NM is 657 torr. Calculate the barometric pressure in atm and psi.
2. (4 points) A syringe containing 7.34 mL of oxygen gas is cooled from 95.3oC to 24.5oC. What is the new volume of oxygen gas in the syringe?
3. (6 points) A piece of dry ice (solid carbon dioxide) with a mass of 24.6 g sublimes into a large balloon. Assuming that all of the carbon dioxide ends up in the balloon, what is the volume of the balloon at a temperature of 25oC and a pressure of 729 torr?
4. (6 points) A 261 mL gas sample has a mass of 3.27 g at a pressure of 2.75 atm and a temperature of 12oC. What is the molar mass of the gas?