Chemistry 115 Name

Dr. Cary Willard

Quiz 8A (20 points) April 16, 2009

PV=nRT, 760 torr = 760 mmHg = 1 atm = 101 kPa = 14.7 psi = 30 in Hg,

R=0.0821 L atm/mol K=62.4 L torr/mol K

1. (4 points) Draw a lewis electron dot structure for nitrogen trichloride, NCl3.



1. (4 points) Draw a lewis electron dot structure for sulfur dioxide, SO2. (You should get 2 resonance structures.)



1. (3 points) Why is it dangerous to incinerate an aerosol can?
2. (3 points) The pressure of a sample of neon gas is 639 torr. What is the pressure in atmospheres?
3. (3 points) A sample of nitrogen gas occupies a volume of 362 mL at 0.824 atm pressure. What is the volume of the nitrogen gas if the pressure is increased to 1.07 atm?
4. (3 points) A sample of methane gas contains 3.92 moles of methane at 2.94 atm pressure and 25.0oC. What is the volume of the gas?

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PV=nRT, 760 torr = 760 mmHg = 1 atm = 101 kPa = 14.7 psi = 30 in Hg,

R=0.0821 L atm/mol K=62.4 L torr/mol K

1. (4 points) Draw a lewis electron dot structure for nitrogen trichloride, NCl3.



1. (4 points) Draw a lewis electron dot structure for sulfur dioxide, SO2. (You should get 2 resonance structures.)



1. (3 points) Why is it dangerous to incinerate an aerosol can?
2. (3 points) The pressure of a sample of neon gas is 834 torr. What is the pressure in atmospheres?
3. (3 points) A sample of nitrogen gas occupies a volume of 529 mL at 0.824 atm pressure. What is the volume of the nitrogen gas if the pressure is increased to 1.07 atm?
4. (3 points) A sample of methane gas contains 6.87 moles of methane at 3.94 atm pressure and 25.0oC. What is the volume of the gas?