

Name: _____

Quiz #9

CHEM 1411 — Fall 2009

1. A sample of gas has an initial volume of 32.6 L at a pressure of 1.30 atm. If the sample is compressed to a volume of 13.8 L, what will its pressure be? (25 pts)

2. A syringe containing 1.55 mL of oxygen gas is cooled from 95.3°C to 0.0°C. What is the final volume of the oxygen gas? (25 pts)

3. A 4.00 L cylinder contains 32.0 g of oxygen gas at a temperature of 25.0°C. What is the pressure of the gas in the cylinder? (25 pts)

4. Automobile airbags inflate when a serious impact triggers the following chemical reaction:



If an air bag has a volume of 11.8 L, how many grams of NaN_3 (65.01 g/mol) is required to fully inflate the air bag upon impact at STP conditions (1 atm, 0°C)? (25 pts)