Chemistry I-Standard

Mole Conversions Practice

1. What is the mass of a sample containing 8.5 x 1023 atoms of Ni?
2. 2.5 moles of HF are equivalent to how many grams?
3. A sample contains 11,213 tungsten (W) atoms. What is the mass in grams?
4. Convert 8.5 x 1021 molecules of FeO into grams.
5. A beach ball is found to contain 19.5 L of gas. How many atoms of gas are in this beach ball?
6. A 94.21 gram sample of potassium carbonate is equal to how many moles?
7. A sample of nitrogen gas (**Be careful**!) has a mass of 28.0 g. How many moles is this?
8. 32.9 moles of carbon dioxide has how many molecules?

Challenge Problem: A sample of an unknown gas weighs 19.95 g and takes up 44.8 L of space. What is the identity of this gas? (Hint: it’s a Noble Gas & is a single element, not a molecule)