

Name _____

Chemistry

___/___/___

Mole Conversions

Solve each of the following mole conversion problems. All problems must be set up correctly and you must show all of your work to get credit. Put a box around your final answer and label it with the proper units. This worksheet will be graded on correctness. 3 points each.

1. How many molecules of H_2S are there in 2.0 liters of the substance?
2. How many molecules of nitrogen gas (N_2) are there in 62.0 liters of the substance?
3. What is the mass of 32.0 liters of oxygen gas (O_2)?
4. What is the mass of 19.5 liters of carbon dioxide (CO_2)?
5. What is the volume of 450.0 grams of nitrous oxide (N_2O)?
6. What is the volume of 50.0 grams of fluorine gas (F_2)?
7. How many molecules are there in 500.0 grams of water?

8. How many molecules are there in 850.0 grams of sodium chloride (NaCl)?
9. What is the mass of 3.2×10^{25} atoms of selenium?
10. What is the mass of 2.8×10^{20} molecules of sodium bicarbonate (NaHCO_3)?
11. What is the volume of 7.5×10^{24} molecules of sulfur dioxide (SO_2)?
12. What is the volume of 6.1×10^{22} molecules of carbon monoxide (CO)?
13. What is the mass of 2.0 liters of dichlorodifluoromethane (CCl_2F_2)?
14. What is the volume of 42.0 grams of freon ($\text{C}_2\text{Cl}_4\text{F}_2$)?
15. How many freon molecules ($\text{C}_2\text{Cl}_4\text{F}_2$) are there in 3.33 liters of the substance?