Chemistry
Mole – Particle Conversions

1. Determine the number of representative particles in each of the following:
    a. .250 mol of silver
    b. 8.56×10^{-3} mol sodium chloride
    c. 35.3 mol carbon dioxide
    d. 0.425 mol nitrogen

2. Determine the number of moles in each of the following:
    a. 3.25×10^{20} atoms lead
    b. 4.96×10^{24} molecules glucose
    c. 1.56×10^{23} formula units sodium hydroxide
    d. 1.25×10^{25} copper (II) ions

3. Make the following conversions:
    a. 1.51×10^{15} atoms Si to mol Si
    b. 4.25×10^{-2} mol H_2SO_4 to molecules H_2SO_4
    c. 8.95×10^{25} molecules CCl_4 to mol CCl_4
    d. 5.90 mol calcium to calcium atoms

4. How many molecules are contained in each of the following?
    a. 1.35 mol carbon disulfide
    b. 0.254 mol diarsenic trioxide
    c. 1.25 mol water
    d. 150.0 mol HCl

5. How many moles contain each of the following?
    a. 1.25×10^{15} molecules carbon dioxide
    b. 3.59×10^{21} formula units sodium nitrate
    c. 2.89×10^{27} formula units calcium carbonate

6. A bracelet containing 0.200 mol of metal atoms is 75% gold. How many gold atoms are in the bracelet?

7. If a snowflake contains 1.9×10^{18} molecules of water, how many moles of water does it contain?