**Mole Conversions Part II**

**Station #5**

**(Molecules or atoms)**

**Mass (grams)**

**# Particles**

**# of Moles**

Avogadro’s #

Molar mass

 Mass

**A.**  Convert **Moles to Particles (Molecules or Atoms)**

Example: How many atoms are there in 7.9 moles of Sulfur?

1. **Multiply** the number of moles by Avogadro’s number, which is 6.022 x 1023.

(7.9 moles) x (6.022 x 1023 atoms/1 mol) = 4.76 x 1024 atoms

**B**. Convert **Particles (Molecules or Atoms) to Moles**

*Example:* How many moles are there in 6.3 x 1034 molecules of water?

1. **Divide** the given number of molecules by Avogadro’s number, which is 6.022 x 1023.

$\frac{(6.3\*10^{34} )molecules\*mole}{\left(6.022\*10^{23}\right) molecules}$ = 1.05 mole

\*Don’t forget to put your parentheses in your calculator!

**Practice Problems:**

1. How many molecules are there in 9.54 moles of hydrogen peroxide?
2. How many atoms are there in 3.23 moles of Rhodium?
3. Convert 9.83 x 1026 atoms to moles.
4. Express 8.92 x 1034 molecules in moles.
5. How many moles are there in 4.87 x 1042 atoms of silver?