

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Pre-AP Chemistry – Mr. McKnight – Per. \_\_\_\_\_

Mole Conversion Worksheet #1

Write answer in space provided. Show your work beneath each problem. (No work = no credit!) You **must** use dimensional analysis to work these problems. Round using sig figs.

1.  $6.02 \times 10^{23}$  seconds = \_\_\_\_\_ years

2. 7.22 gills = \_\_\_\_\_ fesh  
(2.5 fesh = 12.25 evos; 0.78 evos = 19.43 graks; 11.2 gills = 2.4 zeds;  $3 \times 10^{-2}$  graks = 23 zeds)

3. 64.1 g of sulfur = \_\_\_\_\_ moles of sulfur = \_\_\_\_\_ atoms of sulfur.

4. 4.25 moles of carbon = \_\_\_\_\_ grams of carbon = \_\_\_\_\_ atoms of carbon.

5.  $5.22 \times 10^{24}$  atoms of helium = \_\_\_\_\_ grams of helium = \_\_\_\_\_ moles of helium.

6. 45.2 grams of copper = \_\_\_\_\_ moles of copper = \_\_\_\_\_ atoms of copper.

7. Hydrogen gas is  $H_2$ . 1.00 moles of hydrogen gas would contain \_\_\_\_\_ hydrogen atoms.

- \_\_\_\_ 8. Which contains more atoms?
- 3 moles of zinc.
  - 3 moles of silver.
  - 36 grams of carbon.
  - 12 grams of helium.
  - All contain the same number of atoms.

- \_\_\_\_ 9. Which has the most mass?
- 3 moles of zinc.
  - 3 moles of silver.
  - 36 grams of carbon.
  - 12 grams of helium.
  - All have the same mass.

- \_\_\_\_ 10. Which contains the most moles?
- 12.0 grams of carbon.
  - 4.00 grams of helium.
  - 16.0 grams of oxygen.
  - 18.0 grams of beryllium.
  - All contain the same number of moles.