

## MOLES PRACTICE

NAME \_\_\_\_\_

INTRO STUFF – No work necessary ... just answers 1) A mole is a number which is equal to the number of \_\_\_\_\_ in a \_\_\_\_\_ gram sample of  $\text{H}_2\text{O}$ .

- 2) Avogadro's number is \_\_\_\_\_.
- 3) So there are \_\_\_\_\_ representative particles in 1 mole of any substance.
- 4) How many molecules of water are present in one mole of water?
- 5) How many moles of oxygen are present in one mole of water?
- 6) How many atoms of oxygen are present in one mole of water?
- 7) How many moles of hydrogen are present in one mole of water?
- 8) How many atoms of hydrogen are present in one mole of water?
- 9) How many formula units of iron (III) sulfate are present in 3 moles of iron (III) sulfate?
- 10) How many moles of oxygen atoms are present in 3 moles of iron (III) sulfate?
- 11) How many oxygen atoms are present in 3 moles of iron (III) sulfate?

## MOLAR MASS

- 1) Molar mass is defined as the mass (in units of \_\_\_\_\_) of one mole of any substance.
- 2) Calculate the molar mass for the following: no work necessary, unless you really want to.  
(please write formulas for each of these compounds as well)
  - a) Carbon dioxide
  - b) Sodium sulfate
  - c) Iron (III) permanganate
  - d) Ammonium phosphate
  - e) Plumbic dichromate

TURN OVER TO KEEP THE GOOD TIMES ROLLIN'

## SOME CALCULATIONS

Use your mole road map and show your work!!!

- 1) What is the mass of 2.50 moles of water? 45 grams
- 2) How many molecules are present in 0.675 moles of carbon dioxide?  $4.06 \times 10^{23}$
- 3) How many oxygen atoms are present in 1.54 moles of calcium hydroxide?  $1.85 \times 10^{24}$
- 4) What is the mass, in grams, of  $8.21 \times 10^{24}$  formula units of calcium phosphate? 4228g
- 5) How many molecules of diphosphorus pentoxide are present in a 10.5 gram sample?  $4.45 \times 10^{22}$
- 6) If one doughnut contains 386 chocolate sprinkles, and you have a collection of doughnuts which has a total of  $5.72 \times 10^{24}$  chocolate sprinkles, how many moles of donuts do you possess? .0246 moles
- 7) A certain sample of iron (III) carbonate contains **25.3 grams of oxygen**. What is the total mass of this sample of iron (III) carbonate? 42.5 grams
- 8) How many **atoms of chromium** are present in a 8.23 gram sample of iron (III) dichromate?  
 $3.9 \times 10^{22}$
- 9) How many **atoms of carbon** are present in a 2.50 mole sample of ammonium oxalate?  $3.06 \times 10^{24}$