Gen Chem I (CHM 201) Fall 18 Dr. Hahn   MWF 8 am   Quiz III form A   9/28 F   Exam # _____

Name ___Key_____   Name _____
Sign   Print

Please **show work on all questions** for **full credit & partial credit.** (20 total pts)

1.   Name the following (4 pts)

memorize these also table 2.7
from table 2.5 memorize these + table 2.8

NO_3^- nitrate

+ memorize element symbols

2.   For the following, write out the formula for the neutral compound. Explain or show work for charges on elements and how you came up with the formula.   (6 pts)

Al & S — Group 6A 6−8=−2 Al^{+3} S^{-2} $Al_2 S_3$ *BA −3*
gp. 3A $(\#Al)(+3) + (\#s)(-2) = zero$ *charge −1*   *attempt −2*
+3

3.   (a)   Given the formula shown, what is the molar mass (molecular weight, formula mass, etc). Show work. (5 pts)

Ba *2pt*   O *2pt*   H *1pt*

$Ba(OH)_2$ $(137.33) + (16.00)(2) + (1.01)(2) = 171.35 g$

math −½ pt.

(b)   How many molecules is 14.5 grams of the $Ba(OH)_2$? (Avogadro's number = 6.022 x 10^{23}) (5 pts)

2pt
$14.5 g \times \dfrac{1 \, mol \, Ba(OH)_2}{171.35 \, g \, Ba(OH)_2} \times \dfrac{6.022 \times 10^{23} \, molecules}{1 \, mol \, Ba(OH)_2} = 5.10 \times 10^{22}$ molecules

1pt   *1pt*   *1pt*

attempt −1   *BA −2 ½*

Extra Credit: (4 pts)

(c)   How many atoms of Oxygen is in the 14.5 grams of the $Ba(OH)_2$?

2 atoms O per $Ba(OH)_2$

2 * answer to ⓑ → 1.02×10^{23} atoms O

BA = −2 *gave just 2 −3pt*
attempt −½

Gen Chem I (CHM 201) Fall 18 Dr. Hahn MWF 8 am Quiz III form B 9/28 F Exam # _____

Name _____Key_____   Name _____
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Please **show work on all questions** for **full credit & partial credit**. (20 total pts)

1.   Name the following (4 pts)   from table 2.5   memorize table 2.7
                                            memorize   + table 2.8
CO_3^{-2} Carbonate   these
                                        memorize element symbols

2.   For the following, write out the formula for the neutral compound.   Explain or show work for charges on elements and how you came up with the formula.   (6 pts)

Li & PO_4^{-3} Li^{+1} PO_4^{3-} ← Li_3PO_4 BA-5

Group 1A   attempt -2

+1 $(\#Li)(+1) + (\#PO_4)(-3) = Zero$ Charge -1
                    3   1

3.   (a)   Given the formula shown, what is the molar mass (molecular weight, formula mass, etc).   Show work. (5 pts)

                    K   S   O
                      2pt   2pt   = 1pt
K_2SO_4 $(39.10)2 + 32.07 + (16.00)4 = 174.27$
                        math $-\frac{1}{2}$ pt

(b)   How many molecules is 14.5 grams of the K_2SO_4 ? (Avogadro's number = 6.022 x 10^{-23})   (5 pts)

2pt K_2SO_4 1pt   1pt
$14.5 g\ K_2SO_4 \times \dfrac{1\ mol}{174.27g\ K_2SO_4} \times \dfrac{6.022 \times 10^{23}\ molecules\ K_2SO_4}{1\ mol\ K_2SO_4} =$

                                                          5.01×10^{22} 1pt

Extra Credit: (4 pts)

(c)   How many atoms of Oxygen is in the 14.5 grams of the K_2SO_4 molecules

          $4\underline{O}$; 1 molecule K_2SO_4 BA -2   attempt $-\frac{1}{2}$

$4 \times (5.01 \times 10^{22}) = 2.00 \times 10^{23}$ atoms $\underline{O}$ gave 4
                                                                        $-3pt$