Name _____*Kely*_____ Name _____    *blue*
(print name)                (sign name)

Please show all work for full credit & for partial credit.   Avogadro's number = $6.022 \times 10^{23}$

1    One point per blank for question #1

a.  Give the symbol for the following element name:  sulfur __*S*__

b.    For the element  Ca  given the periodic table, what is the element atomic number __*20*__

What is the element's atomic mass (from the periodic table) ? __*40.078*__

c.    Give the symbol of (out of the periodic table choose any one element which fits the following

description) transition metal __*Mа*__  a halogen __*F*__

d.    How many electrons are in the cation or anion shown ?  $Ga^{+3}$  __*28*__  atomic # − charge   $^{31} -3 =$

•  $Group\ III\ A \rightarrow +3$  because group # = + charge

e.    One mole of the element P  has $\left(\dfrac{6.022 \times}{10^{23}}\right)$ (give a number) of atoms and weighs __/__ grams

                  *30.97*

2.   Give the formula of the following ionic compound with the correct ratios of the ions. (4 pts)

Ca and Br   $Group\ VII\ A \rightarrow 7-8 = -1$   $(Ca)(+2) + (Br)(-1) = 0$

$Group\ II\ A \rightarrow +2$    $Ca = 1$   $Br = 2$   $\boxed{Ca\ Br_2}$

3.    If you have 27.8 grams of the element K , how many atoms of K  is that ? (8 pts)

atomic mass $K = 39.1\ g/mol$

$27.8\ grams\ K \times \dfrac{mol\ K}{39.1\ g\ K} \times \dfrac{6.022 \times 10^{23}\ atoms}{mol\ K} =$

$4.28 \times 10^{23}\ atoms\ K$

Extra Credit (4 pts) (no points off for minor spelling errors)

Name the molecule shown below which combines the elements  barium (Ba) and iodine (I)  $Ba\ I_2$

$\boxed{barium\ iodide}$   Cation name = barium

anion name = iodine − ine + ide

i odi de

Quiz II General Chemistry I Lecture Fall 13 Dr. Hahn 20 pts 9/13 F 9:30 am Form B quiz # _____

Name __*Key*__         Name _____
(print name)               (sign name)

Please show all work for full credit & partial credit. Avogadro's number = $6.022 \times 10^{23}$

1     One point per blank for question #1

a. Give the symbol for the following element name: oxygen __O__

b. For the element Mg given the periodic table, what is the element atomic number __12__

What is the element's atomic mass (from the periodic table) ? __24.3050__

c. Give the symbol of (out of the periodic table choose any one element which fits the following

description) a lanthanide or actinide __Sm__     an alkali metal __K__

d. How many electrons are in the cation or anion shown ? $S^{-2}$ __18ē__ atomic # = 16

charge = -2, add 2ē → 16 + 2ē = 18ē

e. One mole of the element Rb has $\dfrac{6.022 \times}{10^{23}}$ (give a number) of atoms and weighs __1__ grams

                                                               85.4678

2. Give the formula of the following ionic compound with the correct ratios of the ions. (4 pts)

B and S — group VI A    $(B)(+3) + (S)(-2) = 0$   (total charge neutral)
                charge = 6 - 8 = -2    $B = 2, \; S = 3$
(group III A
 charge = +3)                               $B_2 S_3$

3. If you have 73.9 grams of the element Sc , how many atoms of Sc is that ? (8 pts)

Sc atomic mass = $44.956 \text{ g Sc} = 1 \text{ mol} = 6.022 \times 10^{23}$ atoms

$73.9 \text{ g Sc} \times \dfrac{\text{mol Sc}}{44.956 \text{ g Sc}} \times \dfrac{6.022 \times 10^{23} \text{ atoms}}{1 \text{ mol Sc}} =$

$9.90 \times 10^{23}$ atoms Sc

Extra Credit (4 pts) (no points off for minor spelling errors)   cation - strontium

Name the molecule shown below which combines the elements strontium (Sr) and oxygen (O)

Sr O __strontium oxide__      (oxygen - ygen + ide)
                                            anion

Quiz II  General Chemistry I  Lecture  Fall 13  Dr. Hahn  20 pts  9/13 F  10:30 am  Form A  quiz # _____

*blue*

Name ___*Key*___  Name _____
(print name)  (sign name)

Please show all work for full credit & for partial credit.  Avogadro's number = $6.022 \times 10^{23}$

1.  One point per blank this question.

a. Given the following symbol, give the element name:  Ca  *calcium*

b.  For the element  Na  given the periodic table, what is the element atomic number __*11*__

What is the element's atomic mass (from the periodic table) ? _*22. 989770*_

c.  Give the symbol of (out of the periodic table choose any one element which fits the following

description)  a main group element __*N*__  an alkaline earth metal __*Mg*__

d.  What is the charge for the following element as an anion or cation  (explain in a few words or show

equation)  Se ___*-2*___  *group # = II A*
*charge = 6 - 8 = -2*

2.  Which of the following compounds are ionic ( ████ (circle all ionic ████ ) (2 pts)

⟨*NaCl*⟩  $NO_2$  $PCl_3$  ⟨*CaS*⟩  *ionic - metal + non metal*
*elements opposite side periodic*

3.  Give the formula of the following ionic compound with the correct ratios of the ions. (4 pts)  *table*

Na  and  Se  *group II A → 6 - 8 = (-2)(Na)(+1) + (Se)(-2) = 0*
*group I A → (+1)*  *Na = 2, Se = 1*  ⟨*Na₂Se*⟩

4  How much does $4.5 \times 10^{10}$ atoms of the element Si weigh ?  (8 pts)  Show work.  *(in grams)*

*Si atomic mass = 28.09 g*

*1 mol Si = 28.09 g Si = $6.022 \times 10^{23}$ atoms Si*

$$4.5 \times 10^{10} \text{ atoms Si} \times \frac{1 \text{ mol Si}}{6.022 \times 10^{23} \text{ atoms Si}} \times \frac{28.09 \text{ g Si}}{1 \text{ mol Si}} = 2.1 \times 10^{-12}$$

Extra Credit (4 pts) (no points off for minor spelling errors)  *cation lithium*
*anion nitrogen - ogen*
Name the molecule shown below which combines the elements ( lithium (Li) and nitrogen (N)  $Li_3N$  *+ ide*
*→ nitride*

*lithium nitride*

Quiz II General Chemistry I Lecture Fall 13 Dr. Hahn 20 pts 9/13 F 10:30 am Form B quiz # _____

Name ___*Key*___                        Name _____
(print name)                             (sign name)

Please show all work for full credit & for full credit. Avogadro's number = $6.022 \times 10^{23}$

1. One point per blank this question.

a. Given the following symbol, give the element name: K __*potassium*__

   b. For the element K given the periodic table, what is the element atomic number __*19*__

What is the element's atomic mass (from the periodic table) ? __*39.098*__

   c. Give the symbol of (out of the periodic table choose any one element which fits the following

   description) a transition metal __*Pt*__        a chalcogen __*S*__

   d. What is the charge for the following element as an anion or cation (explain in a few words or show

   equation) Ba __+2__   *group II A → charge = +2*

2. Which of the following compounds are ██ (covalent) (circle all ██ covalent ) (2 pts)

Na Cl   (NO₂)   (PCl₃)   Ca S   *① non metal + non metal*
                                *② elements close in*
                                *periodic table*

3. Give the formula of the following ionic compound with the correct ratios of the ions. (4 pts)
         *group VI A → 6 − 8 = −2   (Al)(+3) + (Te)(−2) = 0*
Al and Te
   *group III A — +3*              *Al = 2, Te = 3*   (Al₂Te₃)

4. How much does $9.2 \times 10^9$ atoms of the element Ag weigh ? (8 pts) Show work.

*1 mol Ag = 107.87 g Ag = 6.022 × 10²³ (in grams)*
                                    *atoms*

$$9.2 \times 10^9 \text{ atoms Ag} \times \frac{1 \text{ mol Ag}}{6.022 \times 10^{23} \text{ atoms Ag}} \times \frac{107.87 g}{1 \text{ mol Ag}} = 1.6 \times 10^{-12} g$$

*Cation = sodium*

Extra Credit (4 pts) (no points off for minor spelling errors)   *anion = sulfur − ur*

Name the molecule shown below which combines the elements sodium (Na) sulfur (S)   *+ ide*

Na₂S __*Sodium Sulfide*__   *sulfide = anion*

Quiz II  General Chemistry I  Lecture  Fall 13  Dr. Hahn  20 pts  9/13 F  9:30 am Form A  quiz # _____

Name _____  Name _____
(print name)                                            (sign  name)

Please show all work for full credit & for partial credit.   Avogadro's number = 6.022 x $10^{23}$

    1       One point per blank for question #1

a.  Give the symbol for the following element name:   sulfur  _____


b.      For the element   Ca  given the periodic table, what is the element atomic number _____

What is the element's atomic mass (from the periodic table) ? _____

c.      Give the symbol of  (out of the periodic table choose any one element which fits the following

description)   transition metal _____   a  halogen _____

d.      How many electrons are in the cation or anion shown ?  $Ga^{+3}$   _____


e.      One mole of the element P  has _____ (give a number) of atoms and weighs _____ grams


2.      Give the formula of the following ionic compound with the correct ratios of the ions. (4 pts)

Ca and Br


3.      If you have 27.8  grams of the element K , how many atoms of K  is that ? (8 pts)


Extra Credit (4 pts) (no points off for minor spelling errors)

Name the molecule shown below which combines the elements   barium (Ba) and iodine (I)   Ba $I_2$


_____

Quiz II  General Chemistry I  Lecture  Fall 13  Dr. Hahn  20 pts  9/13 F  9:30 am Form B  quiz # _____

Name _____  Name _____
(print name)                                              (sign  name)

Please show all work for full credit & partial credit.   Avogadro's number = 6.022 x $10^{23}$

2        One point per blank for question #1

a.  Give the symbol for the following element name:   oxygen _____


f.        For the element   Mg   given the periodic table, what is the element atomic number _____

What is the element's atomic mass (from the periodic table) ? _____

g.        Give the symbol of  (out of the periodic table choose any one element which fits the following

description)   a  lanthanide or actinide _____          an alkali metal _____

h.        How many electrons are in the cation or anion shown ?   $S^{-2}$   _____


i.        One mole of the element Rb  has _____ (give a number) of atoms and weighs _____ grams


2.        Give the formula of the following ionic compound with the correct ratios of the ions. (4 pts)

B and S


3.        If you have 73.9 grams of the element Sc , how many atoms of Sc  is that ? (8 pts)


Extra Credit (4 pts) (no points off for minor spelling errors)

Name the molecule shown below which combines the elements  strontium (Sr) and oxygen (O)

Sr O _____

Quiz II  General Chemistry I  Lecture   Fall 13  Dr. Hahn  20 pts   9/13 F   10:30 am Form A  quiz # _____

Name _____    Name _____
(print name)                                                (sign  name)

Please show all work for full credit & for partial credit.   Avogadro's number $= 6.022 \times 10^{23}$

1.      One  point per blank this question.

a. Given the following symbol, give the element name:   Ca      _____

b.      For the element    Na    given the periodic table, what is the element atomic number _____

What is the element's atomic mass (from the periodic table) ? _____

c.      Give the symbol of  (out of the periodic table choose any one element which fits the following

description)   a main group element _____        an alkaline earth metal _____

d.      What is the charge for the following element as an anion or cation   (explain in a few words or show

equation)   Se   _____

2.      Which of the following compounds are ionic  (circle all ionic  ) (2 pts)

Na Cl          $NO_2$                PCl$_3$                Ca S

3.      Give the formula of the following ionic compound with the correct ratios of the ions. (4  pts)

Na    and  Se

4       How much does $4.5 \times 10^{10}$ atoms of the element Si  weigh in grams?  (8 pts)  Show work.

Extra Credit (4 pts) (no points off for minor spelling errors)

Name the molecule shown below which combines the elements   lithium (Li) and nitrogen (N) $Li_3 N$

_____

Quiz II  General Chemistry I  Lecture   Fall 13  Dr. Hahn  20 pts   9/13 F   10:30 am Form B  quiz # _____

Name _____   Name _____
(print name)                                                      (sign  name)

Please show all work for full credit & for full credit.   Avogadro's number = 6.022 x $10^{23}$

    4.      One  point per blank this question.

a. Given the following symbol, give the element name:   K  _____

    e.   For the element   K   given the periodic table, what is the element atomic number _____

What is the element's atomic mass (from the periodic table) ? _____

    f.   Give the symbol of  (out of the periodic table choose any one element which fits the following

       description)   a transition metal _____          a  chalcogen _____

    g.   What is the charge for the following element as an anion or cation   (explain in a few words or show

       equation)   Ba _____

    5.      Which of the following compounds are covalent (circle all  covalent ) (2 pts)

Na Cl          NO$_2$               PCl$_3$             Ca S

6.      Give the formula of the following ionic compound with the correct ratios of the ions. (4  pts)

Al   and   Te

4        How much does   9.2 x $10^9$  atoms of the element   Ag   weigh in grams ?  (8 pts)  Show work.

Extra Credit (4 pts) (no points off for minor spelling errors)

Name the molecule shown below which combines the elements  sodium (Na) sulfur (S)

Na$_2$ S _____