green

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 8:30am Form A quiz # _____

Name Key (print name) Name _____ (sign name) (I can't read some of your handwriting.)

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

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

a. N nitrogen b. potassium K

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

a. transition metal element Mo (any element in groups 3B to 2B)

b. chalcogens S (any group VIA)

3. The row of elements from **Rb to Xe** is the [(period)(group)] (circle one) of [(IA) or (5)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{78}_{34}Se$ has 34 (give #) as its atomic number with 34 (give #) protons and 34 (give #) electrons (for neutral atoms) and has an atomic mass of 78.96 or 78 (give #). The number of neutrons in the element symbol shown is 44 (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work)

78 − 34 = 44 or 79 − 34 = 45

(really specific isotope but ok - no pts off if use mass # from table)

Extra Credit 1: The charge on the element **Ca** as a [(cation)(anion)](circle one) is +2 (~~show work or~~ explain) (1 pt, ½ pt each) Ca - group IIA → charge = +2 = group #

Extra Credit 2: The molar mass of the element **Mg** is 24.31 (give number). A mole of the element (1 pt) **Mg** has 6.022 x 10^{23} atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **Mg** is in 13.2 mg of **Mg** ? (show work) (1 pt)

$$13.2\ mg\ Mg \times \frac{1\ g}{1000\ mg} \times \frac{1\ mol\ Mg}{24.31\ g\ Mg} \times \frac{6.022 \times 10^{23}\ atoms}{1\ mol\ Mg}$$

$$= 3.27 \times 10^{20}\ atoms\ of\ Mg$$

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 8:30am Form B quiz # _____

Name Key (print name) Name _____ (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. (Avogadro's number = ~~6.023~~ 6.022×10^{23})

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

a. Fe iron b. iodine I

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

a. main group element Ca (any element in group IA, IIA, IIIA, IVA, VA, VIA + VIIA)

b. alkali metals K (any element in group IA except H)

3. The column of elements from **N to Bi** is the [(period)(group)] (circle one) of [(VA) or (2)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{30}_{15}P$ has 15 (give #) as its atomic number with 15 (give #) protons and 15 (give #) electrons (for neutral atoms) and has an atomic mass of 30.97 or 30 (give #). The number of neutrons in the element symbol shown is 15 (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work)

30 − 15 = 15 = # neutrons or 31 − 15 = 16 (really specific isotope but OK if use atomic mass # from table)

Extra Credit 1: The charge on the element **K** as a [(cation)(anion)](circle one) is +1 (~~show work or~~ explain) (1 pt, ½ pt each) K is in group IA — left side table group # = + sign

Extra Credit 2: The molar mass of the element **Rb** is 85.47 (give number). A mole of the element (1 pt) **Rb** has 6.022×10^{23} atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **Rb** is in 2.8 kg of **Rb**? (show work) (1 pt)

$$2.8\ kg\ Rb \times \frac{1000\ g\ Rb}{1\ kg\ Rb} \times \frac{1\ mol\ Rb}{85.47\ g\ Rb} \times \frac{6.022 \times 10^{23}\ atoms}{1\ mol\ Rb}$$

$$= 2.0 \times 10^{25}\ atoms\ Rb$$

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 9:55am Form A (green) quiz # _____

Name Key (print name) Name _____ (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. (Avogadro's number = ~~6.023~~ 6.022 x 10^{23})

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

a. B boron b. silicon Si

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

a. actinide / lanthanide Sn (anything in blocks 58–71 & 90–103 atomic #)

b. alkaline earth metals Be - any group IIA

3. The column of elements from **Be to Ra** is the [(period)(group)] (circle one) of [(IIA) or (2)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{87}_{38}\mathbf{Sr}$ has 38 (give #) as its atomic number with 38 (give #) protons and 38 (give #) electrons (for neutral atoms) and has an atomic mass of 87 (give #). The number of neutrons in the element symbol shown is 49 (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work) (really specific isotope but OK if use atomic mass from periodic table) (no pts off)

87 − 38 = 49

Extra Credit 1: The charge on the element **S** as a [(cation)(anion)](circle one) is −2 (show work or explain) (1 pt, ½ pt each) S – group VI A

6 − 8 = −2 (right side table) (charge = (Gp # − 8))

Extra Credit 2: The molar mass of the element **Ar** is 39.95 g (give number). A mole of the element (1 pt) **Ar** has 6.022 x 10^{23} atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **Ar** is in 328.9 mg of **Ar** ? (show work) (1 pt)

$$328.9\ \text{mg Ar} \times \frac{1\ \text{g Ar}}{1000\ \text{mg Ar}} \times \frac{1\ \text{mol Ar}}{39.95\ \text{g Ar}} \times \frac{6.022 \times 10^{23}\ \text{atoms}}{1\ \text{mol Ar}}$$

$$= 4.958 \times 10^{21}\ \text{atoms Ar}$$

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 9:55am Form B quiz # _____

Name Key (print name) Name _____ (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. (Avogadro's number = 6.022×10^{23})

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

a. Na sodium b. phosphorus P

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

a. transition metal element Fe (any group 3B to 2B elements)

b. halogens Cl (any group VII A elements)

3. The column of elements from **Be to Ra** is the [(period)(group)] (circle one) of [(IIA) or (2)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{75}_{33}$**As** has 33 (give #) as its atomic number with 33 (give #) protons and 33 (give #) electrons (for neutral atoms) and has an atomic mass of 75 or 74.92 (give #). The number of neutrons in the element symbol shown is 42 (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work)

$75 - 33 = 42$

right side table charge = (gp # − 8)

really specific isotope but no pts off if use atomic # from periodic table

Extra Credit 1: The charge on the element **Cl** as a [(cation)(anion)](circle one) is −1 (show work or explain) (1 pt, ½ pt each)

gp VIIA $7 - 8 = -1$

Extra Credit 2: The molar mass of the element **In** is 114.8 (give number). A mole of the element (1 pt) **In** has 6.022×10^{23} atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **In** is in 1.22 kg of **In** ? (show work) (1 pt)

$$1.22 \text{ kg In} \times \frac{1000 \text{ g In}}{1 \text{ kg In}} \times \frac{1 \text{ mol In}}{114.8 \text{ g In}} \times \frac{6.022 \times 10^{23} \text{ atoms}}{1 \text{ mol In}} =$$

6.40×10^{24} atoms In

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 8:30am Form A quiz # _____

Name _____ Name _____
(print name) (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. (Avogadro's number = 6.022×10^{23})

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

   a. N _____ b. potassium _____

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

   a. transition metal element _____

   b. chalcogens _____

3. The row of elements from **Rb to Xe** is the [(period)(group)] (circle one) of [(IA) or (5)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{78}_{34}\mathbf{Se}$ has _____ (give #) as its atomic number with _____ (give #) protons and _____ (give #) electrons (for neutral atoms) and has an atomic mass of _____ (give #). The number of neutrons in the element symbol shown is _____ (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work)

Extra Credit 1: The charge on the element **Ca** as a [(cation)(anion)](circle one) is _____ (show work or explain) (1 pt, ½ pt each)

Extra Credit 2: The molar mass of the element **Mg** is ____ (give number). A mole of the element (1 pt) **Mg** has _____ atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **Mg** is in 13.2 mg of **Mg** ? (show work) (1 pt)

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 8:30am Form B quiz # _____

Name _____ Name _____
(print name) (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. (Avogadro's number = 6.022×10^{23})

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

   a. Fe _____ b. iodine _____

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

   a. main group element _____

   b. alkali metals _____

3. The column of elements from **N to Bi** is the [(period)(group)] (circle one) of [(VA) or (2)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{30}_{15}\mathbf{P}$ has _____ (give #) as its atomic number with _____ (give #) protons and _____ (give #) electrons (for neutral atoms) and has an atomic mass of _____ (give #). The number of neutrons in the element symbol shown is _____ (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work)

Extra Credit 1: The charge on the element **K** as a [(cation)(anion)](circle one) is _____ (show work or explain) (1 pt, ½ pt each)

Extra Credit 2: The molar mass of the element **Rb** is _____ (give number). A mole of the element (1 pt) **Rb** has _____ atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **Rb** is in 2.8 kg of **Rb** ? (show work) (1 pt)

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 9:55am Form A quiz # 5-10

Name _____ Name _____
(print name) (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. (Avogadro's number = 6.023×10^{23})

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

a. B _____ b. silicon _____

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

a. actinide / lanthanide _____

b. alkaline earth metals _____

3. The column of elements from **Be to Ra** is the [(period)(group)] (circle one) of [(IIA) or (2)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{87}_{38}\mathbf{Sr}$ has _____ (give #) as its atomic number with _____ (give #) protons and _____ (give #) electrons (for neutral atoms) and has an atomic mass of _____ (give #). The number of neutrons in the element symbol shown is _____ (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work)

Extra Credit 1: The charge on the element **S** as a [(cation)(anion)](circle one) is _____ (show work or explain) (1 pt, ½ pt each)

Extra Credit 2: The molar mass of the element **Ar** is ____ (give number). A mole of the element (1 pt) **Ar** has _____ atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **Ar** is in 328.9 mg of **Ar** ? (show work) (1 pt)

Quiz II General Chemistry I Lecture Spring 14 Dr. Hahn 20 pts 1/21 T 9:55am Form B quiz # 5-9

Name _____ Name _____
(print name) (sign name) (I can't read some of your handwriting.)

Please show all work for full credit. (Avogadro's number = 6.022×10^{23})

1. For the following either fill in the blank with the element symbol or the word for the element name. (I do not count off for small spelling errors in naming elements.) (4 pts, 2 pts each)

   a. Na _____ b. phosphorus _____

2. Give the symbol for one element of the following element type: (6 pts total, 2 pts each)

   a. transition metal element _____

   b. halogens _____

3. The column of elements from **Be to Ra** is the [(period)(group)] (circle one) of [(IIA) or (2)] (circle one) (4 pts, 2 pts each)

4. The element shown by the symbol $^{75}_{33}\mathbf{As}$ has _____ (give #) as its atomic number with _____ (give #) protons and _____ (give #) electrons (for neutral atoms) and has an atomic mass of _____ (give #). The number of neutrons in the element symbol shown is _____ (give #). (show work for last part) (6 pts, 1 pt per blank, 1 pt show work)

Extra Credit 1: The charge on the element **Cl** as a [(cation)(anion)](circle one) is _____ (show work or explain) (1 pt, ½ pt each)

Extra Credit 2: The molar mass of the element **In** is ____ (give number). A mole of the element (1 pt) **In** has _____ atoms. (1 pt, ½ pt each)

Extra Credit 3: How many atoms of the element **In** is in 1.22 kg of **In** ? (show work) (1 pt)