

## AR Chemistry: Final Final Exams Review

### ANSWERS

#### Exam 1: Review Notes 1

- Metals
- Nonmetals
- Semimetals
- Aluminum – is a Metal
- Hydrogen
- alkali metals
- alkaline earth metals
- halogens
- noble gases
- transition metals
- +1, +2, +3, X, -3, -2, -1, X
- 1, 2, 3 and 8
- ionic
- covalent
- covalent
- metals
- nonmetals
- solids, only solids
- solids, liquids, and gases
- 20a.  $\text{Al}_2\text{O}_3$
- 20b.  $\text{Ca}(\text{OH})_2$
- 20c.  $\text{ScCl}_3$
- 20d.  $\text{Ba}_3(\text{PO}_4)_2$
- 21a. covalent
- 21b. covalent
- 21c. ionic
- 21d. ionic and covalent
- H, O, F, N, Cl
- Br Hg
- Carbon ( $\text{C}_{60}$ )
- Phosphors ( $\text{P}_4$ )
- H O F Br I N Cl
- metal atom
- nonmetal ion
- ionization energy
- electronegativity
- atomic radius
- to the right and up
- He
- to the right and up
- F
- \*\*half the distance between 2 nuclei
- to the left and down
- in the nucleus
- atomic mass unit (amu)
- 40a. 1 amu
- 40b. 1 amu
- 40c. 0 amu
- outside the nucleus (“electron shells”)
- 42a. +1
- 42b. 0
- 42c. -1
43. same element, different mass, same chem. properties
44. it is a weighted average of all the isotopesd
- 45a. 9 P, 10 N, 9 e
- 45b. 1 P, 2 N, 0 e
- 45c. 20 P, 21 N, 20 P
- 45d. 17 P, 18 N, 18 e
46. IMA, not bonds
47. 1, 1-1/8, 1000
- 48a. low
- 48b. low
- 48c. high
- 49a. 4 single bonds
- 49b. 2 single bonds
- 49c. 2 bonds, 1 single, 1 double
- 49d. 1 triple bond
- 49e. 2 bonds, both double (or 1 single and 1 triple)
50. 4 and 8

#### Exam 1: Review Notes 2

- 51a. 1 – 2 – 1 - 2
- 51b. 1 – 3 – 3 - 2
- 51c. 2 – 3 – 3 - 1
- 51d. 4 – 1 – 2 - 2
- 51e. 1 – 3 – 2 - 3
- 51f. 1 – 6 – 6 - 6
52. 1 mol = MM grams = 6.02 E23 mole. = 22.4 L STP
- 53a. 96.2
- 53b. 1.45 E24
- 53c. 53.8
54. Liters (L), milliliters (mL)
55. grams, kilograms (kg)
56. moles
57. g / mL
- 58a. Lead, same mass, less dense
- 58b. Neither, both are 100 grams
59. Neither, they both have the same Density
- 60a. 138 grams
- 60b. 194 L @ STP
- 60c. 2460 kJ (-2460 kJ)