

AP Chemistry Assignment #3

1. Identify the following elements:

- a. mass # 91 atomic # 40
- b. mass # 108 atomic # 47
- c. mass # 33 atomic # 16
- d. mass # 85 atomic # 36
- e. mass # 51 atomic # 23
- f. mass # 133 atomic # 55

2. Identify the following elements:

- a. mass # 98 atomic # 43
- b. mass # 186 atomic # 75
- c. mass # 75 atomic # 33
- d. mass # 14 atomic # 6
- e. mass # 40 atomic # 19
- f. mass # 131 atomic # 54

3. How many protons and neutrons are in each of the following elements? Also, identify the elements.

- a. mass # 89 atomic # 39
- b. mass # 73 atomic # 32
- c. mass # 24 atomic # 12 2+ charge
- d. mass # 238 atomic # 92
- e. mass # 35 atomic # 17 1- charge
- f. mass # 65 atomic # 30

4. How many protons and neutrons are in each of the following elements?

- a. mass # 227 Ac
- b. mass # 70 Ga
- c. mass # 11 B
- d. mass # 251 Cf
- e. mass # 239 Pu
- f. mass # 64 Cu

5. How many protons, neutrons and electrons are in each of the following ions?

- a. mass # 56 atomic # 26 Fe 3+ charge
- b. mass # 40 atomic # 20 Ca 2+ charge
- c. mass # 19 atomic # 9 F 1- charge
- d. mass # 31 atomic # 15 P 3- charge
- e. mass # 127 atomic # 53 I 1- charge
- f. mass # 127 atomic # 53 I 7+ charge

6. How many protons, neutrons, and electrons are in each of the following:

- a. mass # 195 atomic # 78 Pt 1+ charge
- b. mass # 93 atomic # 41 Nb
- c. mass # 40 atomic # 18 Ar 1- charge

- d. mass # 16 atomic # 8 O 2- charge
- e. mass # 122 atomic # 51 Sb 2+ charge
- f. mass # 56 atomic # 26 Fe 3+ charge
- g. mass # 184 atomic # 74 W
- h. mass # 133 atomic # 55 Cs 1+ charge
- i. mass # 28 atomic # 14 Si 3- charge

7. Name the family to which each of the following elements belong:

- a. Fe
- b. Cl
- c. Ar
- d. Sr
- e. Rb
- f. Nd

8. Are the following elements metals or nonmetals?

- a. Mg
- b. Si
- c. Ge
- d. Br
- e. O
- f. Bi
- g. Co
- h. Mo
- i. Xe

9. Name the family to which each of the following elements belong:

- a. Es
- b. I
- c. Au
- d. Yb
- e. Kr
- f. Fr
- g. Ca

10. Given the position in the periodic table, what is the most likely oxidation state that each element will have when forming an ion?

- a. Cs
- b. N
- c. Br
- d. K
- e. Al
- f. S

11. Would you expect the following atoms to gain or lose electrons when forming an ion? If so, how many would be gained or lost?

- a. Be

- b. Cl
- c. Al
- d. O
- e. F
- f. Li
- g. P

12. Name each of the following compounds:

- a. PbI_2
- b. NH_4Cl
- c. Fe_2O_3
- d. LiH
- e. CsCl
- f. OsO_4
- g. $\text{Cr}(\text{OH})_3$
- h. $\text{NaC}_2\text{H}_3\text{O}_2$
- i. $\text{K}_2\text{Cr}_2\text{O}_7$
- j. Na_2SO_4
- k. KH_2PO_4

13. Name each of the following compounds:

- a. MgSO_4
- b. N_2O_3
- c. Ce_2O_3
- d. KMnO_4
- e. NiO
- f. BaSO_4
- g. $\text{Fe}(\text{IO}_4)_3$
- h. SO_3
- i. KClO_4

14. Name each of the following compounds:

- a. NI_3
- b. PCl_5
- c. CO
- d. P_4O_{10}
- e. N_2O_4
- f. NH_3

15. Name each of the following compounds:

- a. P_4O_6
- b. KOH
- c. N_2
- d. PH_3
- e. BF_3
- f. AgCl

- g. KHCO_3
- h. AgNO_3

16. Name each of the following compounds:

- a. HIO_3
- b. HBr
- c. HNO_2
- d. HCN
- e. NaNO_2
- f. K_2SO_3
- g. NaHSO_3

17. Name each of the following compounds:

- a. UF_6
- b. $\text{Cu}(\text{NO}_3)_2$
- c. H_3PO_4
- d. SF_6
- e. N_2H_4
- f. $\text{Mg}(\text{OH})_2$
- g. SnCl_2
- h. NaCO_3

18. Write formulas for each of the following compounds:

- a. sodium cyanide
- b. Tin(II) fluoride
- c. sodium hydrogen sulfate
- d. lead(II) nitrate
- e. iron(III) oxide
- f. calcium phosphate
- g. sodium bromate
- h. hydrogen iodide

19. Write formulas for each of the following compounds.

- a. sodium sulfate
- b. manganese dioxide
- c. potassium chlorate
- d. potassium hypochlorite
- e. lithium aluminum hydride
- f. barium chloride
- g. magnesium oxide
- h. copper(I) oxide

20. Write formulas for each of the following compounds:

- a. potassium carbonate
- b. magnesium hydroxide
- c. dinitrogen tetroxide
- d. hypoiodous acid

- e. iron(III) chloride
- f. tin(IV) oxide
- g. rubidium nitrate
- h. potassium chlorate
- i. carbon tetrachloride
- j. sodium iodate
- k. potassium permanganate
- l. sulfurous acid
- m. potassium hydrogen phosphate
- n. ammonium acetate
- o. ammonium dichromate
- p. hydroiodic acid

21. Give the names of the following acids:

- a. H_2SO_3
- b. HI
- c. HBr
- d. HNO_2
- e. H_3PO_4
- f. HCl

22. Give formulas for the following acids:

- a. nitric acid
- b. hydrofluoric acid
- c. sulfuric acid
- d. hydrocyanic acid
- e. hydrosulfuric acid
- f. acetic acid