

PRINT NAME _____

SIGN NAME _____

CIRCLE your recitation section in the list below.

22: W 3:00 HM 106	23: F 10:00 HM 221
24: F 8:00 HM 210	25: M 8:00 HM 210
26: M 9:00 DA 205	27: T 3:00 WS 108
28: W 8:00 HM 210	29: Th 2:00 NS 212C

SCORED GRADE: _____

All answers should be with the correct significant figures.

Atomic weights are provided in the Periodic Table. These values must be used.

The Periodic Table will not be collected. It may be used as scratch paper or as cover paper. Do not turn it in.

Be certain your answers are clear. If an answer is not clear, it can be considered wrong.

Problems marked with ** in the margin are from the assigned homework. These total 23 points.

Place your name in the space provided at the top of each question page. This helps to identify the pages if they are accidentally separated during grading and processing.

Work promptly. Use your time effectively.

SOME THINGS WHICH MAY OR MAY NOT BE USEFUL

Avogadro's Number

$$6.022 \times 10^{23}$$

****KEEP YOUR WORK AND ANSWERS COVERED.****

1. (24 pts) Indicate whether each statement is true (T) or false (F). Be certain T or F is clearly indicated.

_____ The answer for the multiplication of 1.060×507.1 has four significant figures.

_____ ^{12}C and ^{13}C are isotopes.

_____ Barium is an alkaline earth metal element.

_____ The common elemental form of iodine is molecular, diatomic.

_____ A sulfide ion has 14 electrons.

_____ Sodium bromide is a binary, ionic network compound.

_____ SeF_2 is a covalent, molecular compound.

_____ The empirical formula of cobalt(II) carbonate is CoCO_3 .

- ** 2. (5 pts) Citric acid has the formula $\text{C}_6\text{H}_8\text{O}_7$. Circle the mass (in g) of 0.09051 mol of citric acid.

7.402	8.117	9.068	10.46	11.03	12.19
13.54	15.28	16.95	17.39	18.41	19.22

3. (8 pts) Balance the following equations.



4. (2 pts) Give the number of protons in a magnesium ion. _____

(2 pts) Give the symbol of the alkali metal element in the Fourth Period. _____

(2 pts) Give the symbol of an element in the Sixth Period which is monatomic in its common elemental form. _____

last name: _____

** 5. (3 pts) What is the formula of the monatomic ion which has 15 protons and 18 electrons? _____

(3 pts) What is the charge of the chlorite ion? _____

6. (5 pts) Circle all below which are network compounds.



** 7. (6 pts) Give the formula for each of the following.

ammonium cyanide _____

ozone _____

** 8. (6 pts) The following equation is balanced.



In order to make 11.6 g NO₂, how many grams of H₂O₂ are needed?

4.289

5.973

6.120

7.463

8.001

9.327

10.41

11.62

12.18

13.65

14.08

15.22

9. (3 pts) Give the number of molecules in 16 g of carbon dioxide. _____

10. (6 pts) Write the balanced equation for the combustion of PH₃. One product is tetraphosphorus decaoxide.