

****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.

- F One thousand kilograms is the same as one million milligrams.
F For every neutral atom, the mass number is the same as the number of electrons.
F Silver has the symbol Si.
F Manganese forms a constant charge cation of 2+ charge.
F Hydrogen chloride has ionic bonds.
T All molecular compounds have covalent bonds (only).
T Hydroxide is a binary, diatomic anion.
T Silicon dioxide is a covalent, network compound.

- ** 2. (6 pts) The reaction of oxygen and copper(I) sulfide produces copper(II) oxide and sulfur dioxide. Circle the mass (in g) of oxygen which is necessary in order to make 25.0 g copper(II) oxide according to this reaction.

<u>10.1</u>	13.4	16.2	18.9	21.5	24.3
26.9	27.4	32.7	34.0	36.1	39.9

3. (2 pts) How many Main Group elements in Period 6 are metals? 6

(2 pts) Give the symbol of the element in the Third Period which is monatomic. Ar

- ** 4. (5 pts) Circle the compounds below which have an anion of 2- charge.

SO

H₂Se

HgCl₂

K₂O

NH₄NO₃

CaCO₃

5. (4 pts) An atom of He has a diameter of 1.10×10^{-8} inches. Circle this diameter in pm.

107

128

163

223

279

294

318

336

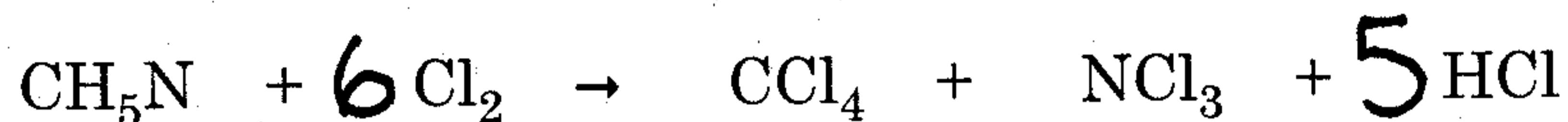
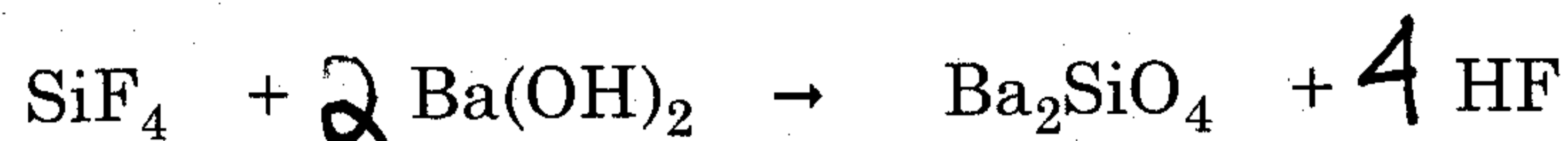
360.

457

482

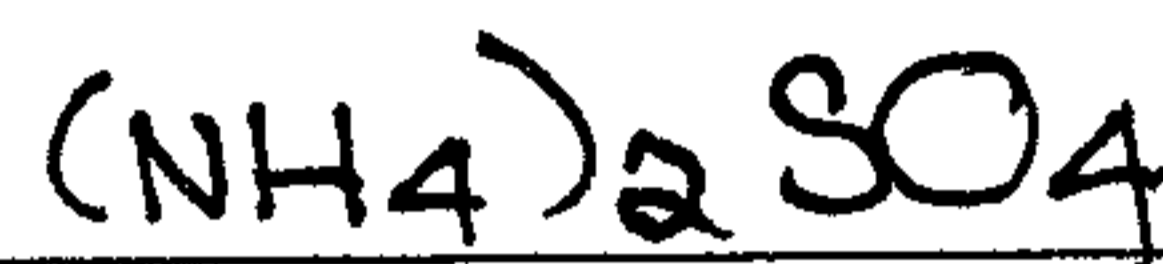
491

6. (8 pts) Balance the following equations.

** 7. (3 pts) Give the molecular weight of $\text{As}_2(\text{CH}_3)_4$.209.98

8. (6 pts) Give the formula for each of the following.

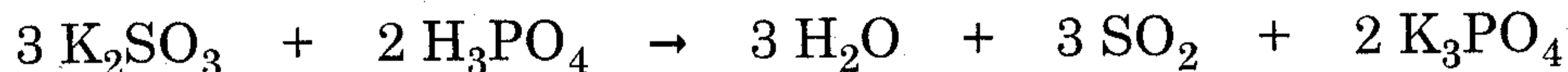
ammonium sulfate



diboron tetrachloride



9. (6 pts) The following equation is balanced.

Circle the mass (in g) of H_3PO_4 which is needed in order to make 23.6 g of SO_2 by this reaction.

21.5

24.1

28.9

33.1

36.0

38.5

40.2

43.3

48.8

54.1

56.4

58.0

** 10. (3 pts) How many protons are in an atom of ^{14}C ?6

(3 pts) What is the symbol of the halogen in the Fourth Period?

Br

(3 pts) What is the formula of the monatomic ion which has 23 protons and 20 electrons?

 V^{3+}