

7. Silver has two naturally occurring isotopes  $^{107}\text{Ag}$  (106.90509 amu) and  $^{109}\text{Ag}$  (108.90475 amu). The average atomic mass of silver is 107.8682 amu. The fractional abundance of  $^{107}\text{Ag}$  is:

- A) 0.3817
- B) 0.7578
- C) 0.2422
- D) 0.5184**
- E) 0.9047

**Part II.**

8. Complete the following table (all empty cells):

| NAME                 | FORMULA                      |
|----------------------|------------------------------|
| Aluminum sulfate     | $\text{Al}_2(\text{SO}_4)_3$ |
| nitrogen triiodide   | $\text{NI}_3$                |
| Magnesium carbonate  | $\text{MgCO}_3$              |
| manganese (IV) oxide | $\text{MnO}_2$               |

9. Complete the following table (all empty cells in both rows):

| Symbol           | # of protons | # of neutrons | # of electrons | atomic number | mass number |
|------------------|--------------|---------------|----------------|---------------|-------------|
| $^{65}\text{Cu}$ | 29           | 36            | 28             | 29            | 65          |
| $^{19}\text{F}$  | 9            | 10            | 9              | 9             | 19          |

10. Maleic acid, which is used to manufacture artificial resins, has the empirical formula CHO. Its molar mass is 116.1 g/mol. What is its molecular formula?

$$\text{CHO} = 12.011 + 1.008 + 16.00 = 29.019 \text{ g/mol}$$

$$\frac{116.1}{29.019} = 4 \quad \therefore \text{molecular formula} =$$

$$4 \times (\text{CHO}) = \boxed{\text{C}_4\text{H}_4\text{O}_4}$$