## **Isotopes and Atomic Mass**

Fill in the missing information as outlined in the examples

| Standard                        | lormation as o |        |        |         |          |           |
|---------------------------------|----------------|--------|--------|---------|----------|-----------|
| Atomic                          | Short Form     | Atomic | Mass   | Protons | Neutrons | Electrons |
| Notation                        |                | Number | Number |         |          |           |
| <sup>12</sup><br><sup>6</sup> C | C-12           | 6      | 12     | 6       | 6        | 6         |
|                                 |                |        |        |         |          |           |
| 13<br>6 C                       | C-13           | 6      | 13     | 6       | 7        | 6         |
| Не                              |                |        |        |         |          |           |
| Be                              |                |        |        |         | 4        |           |
| Ca                              |                |        | 40     |         |          |           |
| О                               | O-18           |        |        | 8       |          |           |
| F                               |                |        |        |         | 8        |           |
| P                               |                |        | 32     |         |          | 15        |
| Fm                              |                |        |        |         | 132      |           |
| Ne                              |                |        |        | 10      | 18       |           |
| S                               |                |        |        |         | 17       | 16        |
| Al                              | Al-26          |        |        |         |          |           |
| Н                               |                | 1      | 3      |         |          |           |

## Calculate the average atomic mass.

- 1. A sample of bromine consists of two isotopes of mass numbers 79 and 81. Isotope 79 have an abundance of 50.69% and Isotope 81 is 49.31% in abundance. What is bromine's average atomic mass?
- 2. Silicon is found in nature with 3 stable isotopes. Si 28 at 92.23%, Si 29 at 4.67% and Si 30 at 3.10%. What is silicon's average atomic mass?
- 3. Calculate the average atomic mass for each element:
  - a. Li-6, 7.42%; Li-7, 92.58%
  - b. Ne-20, 90.92%; Ne-21, 0.257%; Ne-22, 8.82%
  - c. Cr-50, 4.35%; Cr -52, 83.79%; Cr -53, 9.50%; Cr-54, 2.36%