

Isotopes and Average Atomic Mass Worksheet
Chemistry

Name: _____

Date: _____ Hour: _____

Determine the average atomic mass of the following mixtures of isotopes. **Show your work!!**

- 1) 5.8% iron-54
91.7% iron-56
2.2% iron-57
0.3% iron-58

- 2) 99.0% hydrogen-1
0.8% hydrogen-2
0.2% hydrogen-3

- 3) 95.0% nitrogen-14
3.0% nitrogen-15
2.0% nitrogen-16

- 4) 98.9% carbon-12
1.1% carbon-13

- 5) 72.2% rubidium-85
27.8% rubidium-87

5. What is the average atomic mass of silver if 51.84% of silver atoms have a mass of 106.905 u and 48.16% of them have a mass of 108.905 u?

6. Find the average atomic mass of krypton using the data below:

Isotope Mass (u)	Percentage Abundance (%)
77.920	0.350
79.916	2.27
81.913	11.56
82.914	11.55
83.912	56.90
85.911	17.37

7. What is the average atomic mass of the element copper if it is composed of 69.17% of an isotope of atomic mass 62.93 u and 30.83% of an isotope of atomic mass 64.93 u?
8. Calculate the average atomic mass of chromium, given the following percent abundances and isotopic masses.
- | | |
|---------|----------|
| 4.345% | 49.946 u |
| 83.789% | 51.941 u |
| 9.501% | 52.941 u |
| 2.365% | 53.939 u |
9. Calculate the average atomic mass of indium if 4.3% of its atoms are indium-113 and 95.7% of its atoms are indium-115.