

Atomic Theory Podcast 3: Isotopes Problem Set

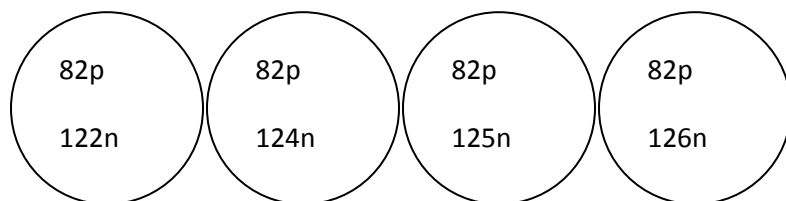
Complete the following table first:

Atomic Number	Mass number	Number of protons	Number of neutrons	Number of electrons	Symbol of element
9			10		
		14	15		
	47		25		
	55	25			

1. Name two ways that isotopes of an element differ.

2. What data must you know about the isotopes of an element to calculate the atomic mass of the element?

3. The four isotopes of lead are shown below, each with its percent by mass abundance and the composition of its nucleus. Using these data, calculate the approximate atomic mass of lead.



4. Lithium has two naturally occurring isotopes. Lithium-6 has an atomic mass of 6.015 amu; lithium-7 has an atomic mass of 7.016 amu. The atomic mass of lithium is 6.941 amu. What is the percentage of naturally occurring lithium-7? (Make Li-6's percent abundance x and Li-7's percent abundance $1-x$)