

Atomic Theory HW #3 Isotopes and Average Atomic Mass name: _____

1. Define Isotope:

The accepted values for atomic mass and abundance for the naturally occurring isotopes of silicon are below.

Isotope	Atomic Mass in amu	% Natural Abundance (%)
Si-28	27.98	92.22
Si-29	28.98	4.69
Si-30	29.97	3.09

- Determine the total number of neutrons in an atom of Si-29.
- Determine the total number of electrons in Si-30.
- Determine the total number of electrons in Si-28.
- Show the correct numerical set up and calculate the average atomic mass for silicon to the proper number of significant figures.

- What can be said about: the total number of electrons in every isotope of any atom?
- What can be said about the total number of protons in every isotope of any atom?
- What can be said about the total number of neutrons in every isotope of any atom?
- If the mass is different among various isotopes of any atom, then why are the atom's chemical properties the same?
- What is the charge of each of the three subatomic particles in an atom?