

Name: _____ Date: _____

Atomic Structure & Isotope Worksheet

- The mass of an atom is contained mainly in its _____ and _____ .
- The identity of an element is determined by its number of _____ .
- Isotopes are atoms with the same number of _____ and different number of neutrons
- The charge of an atom or ion is determined by its number of _____ .
- What is the central core of an atom called?
a) electron b) isotope c) nucleus d) proton
- An atom with a charge is known as an
a) isotope b) isomer c) element d) ion
- An atom with equal number of protons and electrons is called
a) isotope b) neutral atom c) ion d) nucleus
- Isotopes have
a) same number of neutrons b) different number of neutrons
c) different number protons d) different number of electrons
- An isotope of carbon is
a) boron-12 b) nitrogen-12 c) carbon-14 d) hydrogen-2
- The table below contains information about several elements. In each case, enough information has been provided for you to fill in the blanks.

Protons	Neutrons	Electrons	Element name	Is it an ION? If so, what is the charge?	Nuclear symbol
47	63	47			
15	17	15			
12	12	12			
12	13	12			
28	32	27			

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Answers

1. The mass of an atom is contained mainly in its protons and neutrons .
2. The identity of an element is determined by its number of protons .
3. Isotopes are atoms with the same number of protons and different number of neutrons
4. The charge of an atom or ion is determined by its number of electrons .
5. What is the central core of an atom called?
 - a) electron
 - b) isotope
 - c) nucleus
 - d) proton
6. An atom with a charge is known as an
 - a) isotope
 - b) isomer
 - c) element
 - d) ion
7. An atom with equal number of protons and electrons is called
 - a) isotope
 - b) neutral atom
 - c) ion
 - d) nucleus
8. Isotopes have
 - a) same number of neutrons
 - b) different number of neutrons
 - c) different number protons
 - d) different number of electrons
9. An isotope of carbon is
 - a) boron-12
 - b) nitrogen-12
 - c) carbon-14
 - d) hydrogen-2
10. The table below contains information about several elements. In each case, enough information has been provided for you to fill in the blanks.

Protons	Neutrons	Electrons	Element name	Is it an ION? If so, what is the charge?	Nuclear symbol
47	63	47	Silver	No	Ag
15	17	15	Phosphorous	No	P
12	12	12	Magnesium	No	Mg
12	13	12	Magnesium	No	Mg
28	32	27	Nickel	Yes, +1	Ni ⁺