

Name: _____

Quiz #2
CHEM 1411 — Fall 2009

1. Which ONE of the following statements about subatomic particles is **false**? (10 pts)
- _____ (a) Protons and electrons have charges of the same magnitude but opposite sign.
(b) Protons have about the same mass as neutrons.
(c) Isotopes have the same number of protons but different numbers of neutrons.
(d) Protons and neutrons have charges of the same magnitude but opposite sign.

2. In the modern periodic table of the elements, the elements are arranged by: (10 pts)
- _____ (a) increasing atomic mass
(b) increasing atomic number
(c) increasing size
(d) increasing ability to withstand sarcasm

2. Write isotopic symbols of the form ${}^A_Z X$ for each of the following isotopes. (20 pts)
- a. The sodium isotope with 12 neutrons.
- b. the element with 18 protons and 22 neutrons

3. How many protons and neutrons are in each of the following isotopes? (30 pts)

	protons	neutrons
a. ${}^{40}_{19}\text{K}$	_____	_____
b. phosphorus-33	_____	_____
c. bromine-80	_____	_____

4. How many protons and electrons are in each of the following ions? (30 pts)

	protons	electrons
a. O^{2-}	_____	_____
b. Ca^{2+}	_____	_____
c. P^{3-}	_____	_____