9PS **Name:** _____

Atomic Number, Mass Number, Isotopes, and Stuff

1 Complete the following questions. Assume all atoms are neutral.

$^{4}_{2}He$

element: _____

protons: _____

neutrons: _____

$^{56}_{26}Fe$

element: _____

atomic #: _____

mass #: _____

$^{27}_{13}Al$

element: _____

protons: _____

electrons: _____

$^{40}_{20}Ca$

element: _____

protons: _____

neutrons: _____

electrons: _____

$^{20}_{10}Ne$

element: _____

atomic #: _____

electrons: _____

atomic mass: _____

$^{14}_{6}C$

element: _____

protons: _____

electrons: _____

neutrons: _____

$^{19}_{9}F$

element: _____

atomic #: _____

mass #: _____

electrons: _____

$^{1}_{1}H$

element: _____

atomic #: _____

electrons: _____

neutrons: _____

$^{2}_{1}H$

element: _____

protons: _____

electrons: _____

neutrons: _____

2. Write the symbol for the isotope...

a. with 8 protons and 8 neutrons

c. with atomic # 11 and mass # of 23

b. with 28 protons and 30 neutrons

d. with 92 protons and mass # 238

How many neutrons are in this isotope? _____

1. Here are three isotopes of an element: $_{6}^{12}C$ $_{6}^{13}C$ $_{6}^{14}C$

   a. The element is: _____

   b. The number 6 refers to the _____

   c. The numbers 12, 13, and 14 refer to the _____

   d. How many protons and neutrons are in the first isotope? _____

   e. How many protons and neutrons are in the second isotope? _____

   f. How many protons and neutrons are in the third isotope? _____

2. Complete the following chart:

Isotope name	atomic #	mass #	# of protons	# of neutrons	# of electrons
Uranium-235					
Chlorine-35					
Calcium-48					
Strontium-90					
Bismuth-209					
Boron-11					
			22	22	
				30	26
	15	32			
			34	45	
		208		127	
				146	94