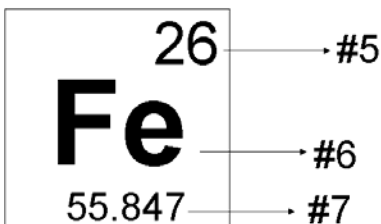


**General Chemistry**  
**Mr. MacGillivray**  
**Atomic Structure Worksheet**

1. The number of protons in the nucleus of an atom of a particular element is called the \_\_\_\_\_ of that element.
2. In a neutral element, the number of protons must equal the number of \_\_\_\_\_.
3. The mass number of an atom is the sum of the \_\_\_\_\_ and the \_\_\_\_\_ in the nucleus of an atom.
4. Atoms of an element that have the same number of protons but different numbers of neutrons are said to be different \_\_\_\_\_ of that element.



5. The number "26" is the \_\_\_\_\_ of Fe.
  6. The symbol "Fe" stands for the name of this element: \_\_\_\_\_.
  7. The number "55.847" is the \_\_\_\_\_ of the element Fe.
  8. There are three isotopes of hydrogen: H-1, H-2, and H-3. The average mass of a hydrogen atom is 1.0079 (check this on the periodic table). Which of these three isotopes above is probably the most common? Why?
  9. Examine the abundance of Fe isotopes:  
5.8% Fe-54  
91.8% Fe-56  
2.1% of Fe-57  
0.28% of Fe-58
- Look at the atomic mass of Fe again. Why do you think it is so close to 56 amu?

II. Fill in the table below. All atoms are neutral.

Isotope symbol	${}_{26}^{54}\text{Fe}$	${}_{26}^{56}\text{Fe}$	${}_{26}^{57}\text{Fe}$	${}_{26}^{58}\text{Fe}$
Alternate symbol	Fe-54	Fe-56		
# of protons	26			
# of neutrons		30		
Mass #				58

III. Fill in the table below. All atoms are neutral.

Element name	Symbol	$p^+$	$n^0$	$e^-$	mass number	Z
		15	16			
	${}_{92}^{238}\text{U}$					
		6	8			
		7	7			
				92	235	
	${}_{1}^1?$					
	${}_{1}^2?$					
	${}_{1}^3?$					