

Nom : \_\_\_\_\_

PHYS 9



## Test 3

## ions et isotopes

**Exercise 1 (10 points)** Complete the sentences :

- a) Two atoms of the same element allways have the same amount of .
- b) The charge of an element can change if we remove or add some .
- c) An atom whose charge is not zero is called an .
- d) Two different isotopes of the same element allways have the same amount of  but a different amount of .
- e) The atomic mass of an element represents its amount of . However, this number may have some decimals, because it is obtained by calculated the weighted  of the atomic  of all the different  of this element which can be found on .

**Exercise 2 (4 points)** We find on earth 99% of  $^{12}_6\text{C}$  and 1% of  $^{13}_6\text{C}$ .

- a) How many isotopes does carbon have?
- b) What is the most abundant isotope of carbon on earth?
- c) Calculate the atomic mass of Carbon by taking the weighted average of the atomic masses of its main natural isotopes.

**Exercise 2 (16 points)** Complète le tableau :

		protons	électrons	nucléons	neutrons
a)	$^{54}_{26}\text{Fe}$				
b)	$^{56}_{26}\text{Fe}$				
c)	$^{56}_{26}\text{Fe}^{2+}$				
d)	$^{56}_{26}\text{Fe}^{3+}$				