Nom : _____ PHYS 9

MOCK Final exam	pH + structure de l'atome

Le Châtelard

$$pH = -\log[H^+]$$

Exercice 1 (10 points) Relier chaque solution avec le pH correspondant :

		pH
Eau de mer	•	• 2,4
Lait	•	• 2,5
Sang	•	• 3,5
Café	•	• 5
Thé	•	• 5,5
Jus d'orange	•	• 6,5
Savon	•	• 7
Coca-Cola	•	• 7,4
Eau pure	•	• 8
Jus de citron	•	• 9

Exercice 2 (10 points) Complète le tableau :

	$[H^+]$	pH	acide ? basique ?
a)	0.0001		
b)		6	
c)			physiologique
d)		3	
e)	1×10^{-8}		
f)		11	
g)			neutre
h)		0	
i)	1×10^{-13}		
j)		2	

Exercise 3 (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 _____.

Exercice 4 (4 points) We find on earth 99% of $^{12}_{6}\mathrm{C}$ and 1% of $^{13}_{6}\mathrm{C}$.

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. _____

Exercice 5 (26 points) complete the chart and the last sentence:

		# protons	# électrons	# nucléons	# neutrons
a)	$^{12}_{6}C$				
b)	$^{2}_{1}H$				
c)	$^{54}_{26}\mathrm{Fe}$				
d)	$^{56}_{26}\mathrm{Fe}$				
e)	$^{56}_{26}\mathrm{Fe}^{2+}$				
f)	$^{56}_{26}\mathrm{Fe}^{3+}$				

The two ions are _____ . The two isotopes are _____ .