

## Quiz 2.1 – Isotopes, Atomic Weight, and the Periodic Table

Name: \_\_\_\_\_

**Question 1**

Give the number of protons, electrons, and neutrons in each atom or ion

	$^{27}\text{Al}$	$^{127}\text{I}^-$	$^{40}\text{Ca}^{2+}$	$^{209}\text{Po}$	$^{144}\text{Nd}^{5+}$	$^{31}\text{P}^{3-}$
$e^-$						
$p^+$						
$n$						

**Question 2**How many grams of Si would contain 0.750 *moles*?**Question 3**How many moles of Al are in a 54.0 *g* sample?**Question 4**

Boron has two primary isotopes.  $^{10}\text{B}$  has  $m = 10.012937 \frac{\text{g}}{\text{mol}}$  and an abundance of 19.9%, while  $^{11}\text{B}$  has  $m = 11.009305 \frac{\text{g}}{\text{mol}}$  and an abundance of 80.1%

Based on these numbers, what atomic weight should be reported for boron?

**Question 5**

Classify each of the following elements as an alkali metal, alkaline earth metal, halogen, or noble gas:

Na	Cl	Be	Ar	Ca	I	K	Ne	Ba
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*Holy Sonnets: Death, be not proud*

By John Donne

Death, be not proud, though some have called thee  
Mighty and dreadful, for thou art not so;  
For those whom thou think'st thou dost overthrow  
Die not, poor Death, nor yet canst thou kill me.  
From rest and sleep, which but thy pictures be,  
Much pleasure; then from thee much more must flow,  
And soonest our best men with thee do go,  
Rest of their bones, and soul's delivery.  
Thou art slave to fate, chance, kings, and desperate men,  
And dost with poison, war, and sickness dwell,  
And poppy or charms can make us sleep as well  
And better than thy stroke; why swell'st thou then?  
One short sleep past, we wake eternally  
And death shall be no more; Death, thou shalt die.