

## Isotope Notation

Block: \_\_\_\_\_

1. Uranium-235 and uranium-238 are considered isotopes of one another. How are uranium-235 similar, and how are they different?

2. Define isotope:

3. The number of protons in an atom is known as the \_\_\_\_\_ of that atom.

4. The number of \_\_\_\_\_ determines the name of the atom.

5. The mass number of an atom is the number of \_\_\_\_\_ plus the number of \_\_\_\_\_ in the nucleus of the atom.

6. The isotope notation for nitrogen-15 is as follows:

a. The number 15 is the \_\_\_\_\_ number.

b. The number 7 is the \_\_\_\_\_ number.

c. How many neutrons does nitrogen-15 have? \_\_\_\_\_

7. Write the following in isotope notation:

a. zinc-66: \_\_\_\_\_ d. helium-4: \_\_\_\_\_ g. silver-108: \_\_\_\_\_

b. chlorine-35: \_\_\_\_\_ e. uranium-235: \_\_\_\_\_ h. thorium-234: \_\_\_\_\_

c. plutonium-239: \_\_\_\_\_ f. potassium-40: \_\_\_\_\_ i. oxygen-16: \_\_\_\_\_

j. the atom with 12 protons and 12 neutrons \_\_\_\_\_

k. the atom with 6 protons and 7 neutrons \_\_\_\_\_

l. the atom with 79 protons and 117 neutrons. \_\_\_\_\_

m. the phosphorus atom that has 17 neutrons. \_\_\_\_\_

n. the copper atom that has 34 neutrons. \_\_\_\_\_

o. the iodine atom that has 72 neutrons \_\_\_\_\_

## Isotope Notation

Block: \_\_\_\_\_

Complete the table. Recall that A = mass number, Z = atomic number, and ions have charge!

Name	${}^A_Z\text{Sym}^{+/-}$	Atom or ion?	Atomic Number	Mass Number	# of n <sup>o</sup>	# of p <sup>+</sup>	# of e <sup>-</sup>	Metal, non-metal, or metalloid?
	${}^{24}\text{Mg}$	Atom						
	${}^{30}\text{Si}$	Atom						
	${}^{108}\text{Pd}$	Atom						
		Atom		131		53		
		Atom	25		30			
	${}^{35}\text{S}^{2-}$							
	${}^{112}\text{Cd}^{2+}$							
					50	38	36	
			85		125		86	
	${}^{4+}$			119	69			
				242		94	89	
		Atom			80	56		
	${}^{52}_{24}\text{S}^{2-}$							