

Practice sheet  
Grade 9  
Physical Science  
Chapter 17  
Section 17.1 and 17.2 Masses of atoms



Write the symbol of the following elements.

- 1- Aluminum: \_\_\_\_\_
- 2- Calcium: \_\_\_\_\_
- 3- Carbon: \_\_\_\_\_
- 4- Chlorine: \_\_\_\_\_
- 5- Gold: \_\_\_\_\_
- 6- Sulfur: \_\_\_\_\_
- 7- Magnesium: \_\_\_\_\_
- 8- Sodium: \_\_\_\_\_
- 9- Potassium: \_\_\_\_\_
- 10- Oxygen: \_\_\_\_\_
- 11- Zinc: \_\_\_\_\_
- 12- Copper: \_\_\_\_\_
- 13- Silver: \_\_\_\_\_
- 14- Mercury: \_\_\_\_\_
- 15- Iron: \_\_\_\_\_
- 16- Iodine: \_\_\_\_\_
- 17- Fluorine: \_\_\_\_\_
- 18- Helium: \_\_\_\_\_
- 19- Lithium: \_\_\_\_\_
- 20- Phosphorous: \_\_\_\_\_
- 21- Boron: \_\_\_\_\_
- 22- Silicon: \_\_\_\_\_
- 23- Neon: \_\_\_\_\_
- 24- Argon: \_\_\_\_\_

State the number of protons for atoms of each of the following:

- a. Nitrogen:
- b. Sulfur:
- c. Barium:

Complete the following table

Element	Symbol	Atomic number	# of protons	# of neutrons	Mass number	Average atomic mass
Boron					11	
Carbon					12	
Oxygen					16	
Sodium					23	
Copper					63	

- Naturally occurring elements of Boron have mass number of 10 or 11. Calculate the number of neutrons of B-10, and B-11.
- Uranium-238 has 92 protons. How many neutrons does it have?

Naturally occurring carbon consists of three isotopes,  $^{12}\text{C}$ ,  $^{13}\text{C}$ , and  $^{14}\text{C}$ . State the number of protons, neutrons, and electrons in each of these carbon atoms.

$^{12}\text{C}$ 6	$^{13}\text{C}$ 6	$^{14}\text{C}$ 6
#P _____	_____	_____
#N _____	_____	_____
#E _____	_____	_____

An atom of zinc has a mass number of 65.

- A. Number of protons in the zinc atom  
 1) 30                      2) 35                      3) 65
- B. Number of neutrons in the zinc atom  
 1) 30                      2) 35                      3) 65
- C. What is the mass number of a zinc isotope with 37 neutrons?  
 1) 37                      2) 65                      3) 67

Write the atomic symbols for atoms with the following:

A. 8 p<sup>+</sup>, 8 n, 8 e<sup>-</sup> \_\_\_\_\_

B. 17p<sup>+</sup>, 20n, 17e<sup>-</sup> \_\_\_\_\_

C. 47p<sup>+</sup>, 60 n, 47 e<sup>-</sup> \_\_\_\_\_