

TEST 2– ATOMS & PERIODICITY

PART A MULTIPLE CHOICE – CIRCLE THE CORRECT ANSWER (1 POINT EACH)

- The negative, positive, and neutral subatomic particles are called
 - a. electrons, protons, and neutrons.***
 - protons, neutrons, and electrons.
 - neutrons, electrons, and protons.
 - protons, electrons, and neutrons.
- If an atom has a mass of 11 atomic mass units and contains 5 electrons, its atomic number is
 - 55.
 - 16.
 - 6.
 - d. 5.***
- If an atom has a mass of 11 atomic mass units and contains 5 electrons, the number of neutrons is
 - 55.
 - 16.
 - c. 6.***
 - 5.
- The maximum number of electrons normally found in the first three energy levels is
 - 1, 2, 4.
 - b. 2, 8, 18.***
 - 2, 8, 8.
 - 2, 4, 8.
- Elements in the same group or family
 - have similar atomic number.
 - have similar mass numbers.
 - c. have similar properties.***
 - have different properties.

PART B FILL IN THE BLANK (1 POINT EACH)

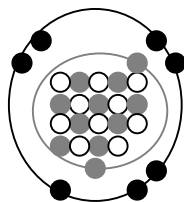
- Atoms that have the same number of protons but different number of neutrons are referred to as _____
isotopes.
- A row in the periodic table is called a ***period***.
- The neutrons and protons are located in the ***nucleus***.
- Atoms*** are the building blocks of elements.
- Elements that do not react with any other elements belong to the ***Noble Gas*** family.

PART C MATH – SHOW ALL WORK (4 POINTS EACH)

11. How many atoms are in 3.75 moles of magnesium? 2.26×10^{24} atoms of Mg
(3.75 moles)(6.022×10^{23} atoms/1 mole)
12. If 3.6×10^{24} atoms of cobalt are present, how many moles exist? 6.0 moles of Co
(3.64×10^{24} atoms)(1 mole/ 6.022×10^{23} atoms)
13. Determine the number of grams in 1.90 moles of zinc. 124.24 g of Zn
(1.90 moles of Zn)(65.39g of Zn/ 1mole of Zn)
14. Determine the amount (in moles) of calcium present in 150 g of calcium 3.74 moles of Ca
(150g of Ca)(1 mole of Ca/ 40.08g Ca)
15. If there exist 4.5×10^{23} atoms of arsenic, how many grams are present? 56g of As
(4.5×10^{23} atoms of As)(1 mole/ 6.022×10^{23} atoms)(74.92g of As/1mole of As)

PART D SHORT ANSWER (4 POINTS EACH)

16. What is true about elements in a period in the periodic table?
Elements in a period increase in atomic number
17. What is true about elements in a family in the periodic table?
Elements in a family have similar properties
18. Explain the difference between an electron and a proton.
An electron is a negatively charged particle found outside the nucleus while a proton is a positively charged particle found within the nucleus.
19. Explain the difference between a proton and a neutron.
A proton is a positively charged sub atomic particle while a neutron is a sub atomic particle with no charge.
20. Draw an atomic model of a fluorine atom.



→ STOP AND CHECK YOUR WORK