

Ch 3: Level 2 Questions

- In all samples of the element potassium, each atom has
 - 19 protons
 - 20 neutrons
 - 39 protons and neutrons
 - 39 nucleons
- Which atom contains exactly 15 protons?
 - phosphorus-32
 - sulfur-32
 - oxygen-15
 - nitrogen-15
- What is the structure of a krypton-85 atom?
 - 49 electrons, 49 protons, and 85 neutrons
 - 49 electrons, 49 protons, and 49 neutrons
 - 36 electrons, 36 protons, and 85 neutrons
 - 36 electrons, 36 protons, and 49 neutrons
- Which of these phrases best describes an atom?
 - a positive nucleus surrounded by a hard negative shell
 - a positive nucleus surrounded by a cloud of negative charges
 - a hard sphere with positive particles uniformly embedded
 - a hard sphere with negative particles uniformly embedded
- Which statement is true about the charges assigned to an electron and a proton?
 - Both an electron and a proton are positive.
 - An electron is positive and a proton is negative.
 - An electron is negative and a proton is positive.
 - Both an electron and a proton are negative.
- Which two particles have approximately the same mass?
 - proton and neutron
 - proton and electron
 - neutron and electron
 - neutron and positron
- The total mass of the protons in an atom of gold-198 is approximately
 - 79 atomic mass units
 - 119 atomic mass units
 - 198 atomic mass units
 - 277 atomic mass units

- Which subatomic particles are located in the nucleus of a carbon atom?
 - protons, only
 - neutrons, only
 - protons and neutrons
 - protons and electrons
- The table below gives information about the nucleus of each of four atoms.

Nuclei of Four Atoms

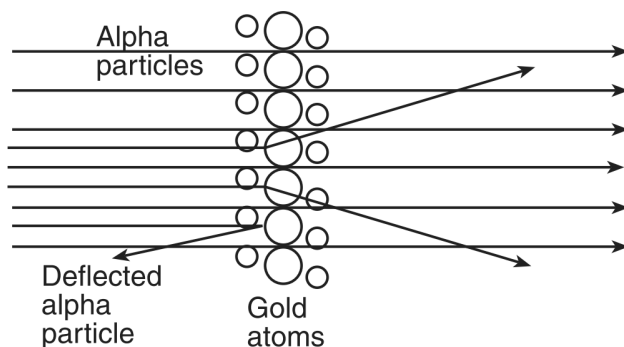
Atom	Number of Protons	Number of Neutrons
A	6	6
D	6	7
E	7	7
G	7	8

How many different elements are represented by the nuclei in the table?

- 1
 - 2
 - 3
 - 4
- Base your answer(s) to the following question(s) on the information and diagram below.

One model of the atom states that atoms are tiny particles composed of a uniform mixture of positive and negative charges. Scientists conducted an experiment where alpha particles were aimed at a thin layer of gold atoms.

Most of the alpha particles passed directly through the gold atoms. A few alpha particles were deflected from their straight-line paths. An illustration of the experiment is shown below.



Most of the alpha particles passed directly through the gold atoms undisturbed. What does this evidence suggest about the structure of the gold atoms?

1.
Answer: A
2.
Answer: A
3.
Answer: D
4.
Answer: B
5.
Answer: C
6.
Answer: A
7.
Answer: A
8.
Answer: C
9.
Answer: B
10.
Answer: The atom is mostly empty space.
The volume of the atom is mostly unoccupied.