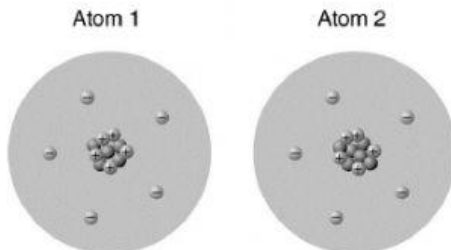


## What Is Atomic Theory?

- 1 Samir drew two atoms as shown in the following illustration.



Which statement is **true**?

- (A) They are atoms of two different elements.
  - (B) They are both atoms of the same element.
  - (C) Atom 1 has a positive charge, and Atom 2 has a negative charge.
  - (D) Atom 2 has a positive charge, and Atom 1 has a negative charge.
- 2 Atoms are made up of smaller particles called subatomic particles. Which is a subatomic particle that has no charge?
- (A) electron                      (C) nucleus
  - (B) neutron                      (D) proton
- 3 Every atom has a center called the nucleus. The nucleus has a positive charge. Which particles are found in the nucleus?
- (A) neutrons only
  - (B) protons only
  - (C) electrons and protons
  - (D) neutrons and protons

- 4 The following table describes four different atoms.

|        | Number of electrons | Number of neutrons | Number of protons |
|--------|---------------------|--------------------|-------------------|
| Atom 1 | 8                   | 8                  | 8                 |
| Atom 2 | 8                   | 10                 | 8                 |
| Atom 3 | 10                  | 8                  | 7                 |
| Atom 4 | 10                  | 9                  | 8                 |

Which is **true**?

- (A) Each atom is a different element.
  - (B) Only atoms 3 and 4 are the same element.
  - (C) Atom 3 is a different element from all the others.
  - (D) Atom 4 is a different element from all the others.
- 5 A scientist is examining two atoms. One has a nucleus with five protons and five neutrons surrounded by five electrons. The other has a nucleus with five protons and six neutrons surrounded by five electrons. What can the scientist conclude about these two atoms?
- (A) They have different charges.
  - (B) They are the same element.
  - (C) They are not made of matter.
  - (D) They cannot form compounds.