

4.2 WORKED EXAMPLES

1. Complete the table below.

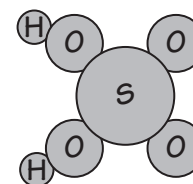
Atom	Name of element	Number of protons	Number of electrons	Number of neutrons
${}^1_1\text{H}$				
${}^{16}_8\text{O}$				
${}^{27}_{13}\text{Al}$				

Answer Analysis

Atom	Name of element	Number of protons	Number of electrons	Number of neutrons
${}^1_1\text{H}$	Hydrogen	1	1	0
${}^{16}_8\text{O}$	Oxygen	8	8	8
${}^{27}_{13}\text{Al}$	Aluminium	13	13	14

2. Sulphuric acid is a common laboratory acid. A molecule of this compound can be represented as shown in the diagram. Which of these statements about the sulphuric acid molecule are correct?

- I The molecule contains three elements.
 II The molecule contains four oxygen molecules.
 III There are seven atoms in this molecule.
 IV The elements present in this molecule are hydrogen, oxygen and sodium.



- A. I and II
 B. I and III
 C. I, II and III
 D. All of them

Answer Analysis

The correct answer is B.

Sulphuric acid, H_2SO_4 , contains the three elements hydrogen, sulphur and oxygen (eliminates IV). It contains two hydrogen atoms, one sulphur atom and four oxygen atoms (not molecules, which eliminates II). In total, there are seven atoms in this molecule.