

Chapters 2 & 3: Atoms, Elements, Compounds, Mole

1. How many moles of oxygen atoms are present in one mole of aluminum sulfate, $\text{Al}_2(\text{SO}_4)_3$?
 - A) 4
 - B) 8
 - C) 12
 - D) 7.23×10^{24}
 - E) 4.82×10^{24}
2. How many protons, neutrons, and electrons are in one ion of $^{36}\text{S}^{2-}$?
 - A) 16 protons, 20 neutrons, and 18 electrons.
 - B) 20 protons, 16 neutrons, and 16 electrons.
 - C) 16 protons, 20 neutrons, and 14 electrons.
 - D) 16 protons, 20 neutrons, and 16 electrons.
 - E) 0 protons, 36 neutrons, and 18 electrons.
3. Which two elements are likely to form an ionic compound with the formula M_3X ?
 - A) Li and I
 - B) Na and N
 - C) Al and Br
 - D) Ca and P
 - E) K and O
4. Which compound is named *correctly*?
 - A) CaO – Calcium (II) monoxide
 - B) P_2O_5 – Diphosphorus pentoxide
 - C) Al_2S_3 – Dialuminum trisulfide
 - D) PbI_4 – Lead iodide
 - E) H_2S – Sulfuric Acid
5. Determine the molecular formula of a compound that has a molecular weight of 183 g/mol and an empirical formula of $\text{C}_2\text{H}_5\text{O}_2$.
 - A) $\text{C}_3\text{H}_7\text{O}_3$
 - B) $\text{C}_6\text{H}_{15}\text{O}_6$
 - C) $\text{C}_4\text{H}_{10}\text{O}_4$
 - D) $\text{C}_2\text{H}_5\text{O}_2$
 - E) $\text{C}_8\text{H}_{20}\text{O}_8$