

Answers Physical Science 10

Chemistry Exam Review #1: Bohr Diagrams, Naming and Writing Formulas for Compounds, Balancing Equations

1. Explain the difference between an atom, element and compound giving an example of each.
An element is a pure substance that cannot be broken down i.e. H, C, O, N etc
A compound is a pure substance that contains two or more elements i.e. NaCl, MgO etc
A molecule is made up of at least two atoms different from each other or two atoms of the same element i.e. O₂, F₂, H₂O
1. Draw each of the following Bohr Diagrams
a) Al b) C c) Mg⁺² d) N³⁻ e) Cl¹⁻
2. Write the names of the following molecular compounds:
a) CO₂ carbon dioxide

b) N₂O₅ dinitrogen pentaoxide

c) PF₅ phosphorous pentafluoride

d) NH₃ ammonia or nitrogen trihydride

e) CCl₄ carbon tetrachloride
3. Write the formulas for the following molecular compounds:
a) dinitrogen monoxide N₂O

b) diphosphorous hexabromide P₂Br₆

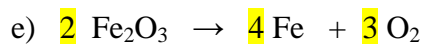
c) sulfur dioxide SO₂

d) silicon tetrahydride SiH₄

e) nitrogen diselenide NSe₂
4. Balance the following equations
a) **8** Br₂ + **8** K₂S → **16** KBr + S₈

b) **2** C₈H₁₈ + **25** O₂ → **16** CO₂ + **18** H₂O

c) **2** NaCl → **2** Na + Cl₂



5. Write the names of the following ionic compounds:

a) LiCl lithium chloride

b) Mg_3P_2 magnesium phosphide

c) $\text{Ba}(\text{NO}_3)$ barium nitrate

d) K_3PO_4 potassium phosphate

e) CsOH cesium hydroxide

f) $\text{Ca}_3(\text{PO}_4)_2$ calcium phosphate

g) FeO iron (II) oxide

h) PbO_2 lead (IV) oxide

6. Write the formulas for the following ionic compounds:

a) barium hydroxide $\text{Ba}(\text{OH})_2$

b) iron (II) fluoride FeF_2

c) calcium sulfide Ca_2S

d) copper (I) sulfate Cu_2SO_4

e) cobalt (III) iodide CoI_3

f) aluminum oxide Al_2O_3

g) sodium carbonate Na_2CO_3

h) iron (III) nitrate $\text{Fe}(\text{NO}_3)_3$