Synthesis Reaction Equations

1. Balance each equation for a synthesis reaction.

(a) K + O2 → K2O

(b) P4 + Cl2 → PCl5

(c) Cu + S8 → CuS

(d) Mg + O2 → MgO

(e) Fe + O2 → Fe2O3

(f) P4 + S8 → P2S5

(g) C + O2 → CO

(h) N2 + O2 → NO2

(i) Li + N2 → Li3N

(j) S8 + O2 → SO2

2. Write a balanced chemical equation to represent each reaction described below.

(a) Aluminum metal reacts with oxygen to form aluminum oxide.

(b) Metallic zinc combines with sulphur to form zinc sulphide.

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1. (a) 4K + O2 → 2K2O

(b) P4 + 10Cl2 → 4PCl5

(c) 8Cu + S8 → 8CuS

(d) 2Mg + O2 → 2MgO

(e) 4Fe + 3O2 → 2Fe2O3

(f) 4P4 + 5S8 → 8P2S5

(g) 2C + O2 → 2CO

(h) N2 + 2O2 → 2NO2

(i) 6Li + N2 → 2Li3N

(j) S8 + 8O2 → 8SO2

2. (a) 4Al + 3O2 → 2Al2O3

(b) 8Zn + S8 → 8ZnS