Chemical Reactions

IDENTIFY THE TYPE OF REACTION AND BALANCE THE EQUATION:

1. Sb + I₂ → SbI₃
2. Li + H₂O → LiOH + H₂
3. AlCl₃ → Al + Cl₂
4. C₆H₁₂ + O₂ → CO₂ + H₂O
5. AlCl₃ + Na₂CO₃ → Al₂(CO₃)₃ + NaCl
6. HNO₃ + Ba(OH)₂ → Ba(NO₃)₂ + H₂O
7. Al + Pb(NO₃)₂ → Al(NO₃)₃ + Pb

IDENTIFY THE TYPE OF REACTION & WRITE A BALANCED EQUATION (INCL. STATES):

8. Aqueous solutions of ammonium chloride and lead(II) nitrate produce lead(II) chloride precipitate and aqueous ammonium nitrate.
9. Solid carbon disulfide burns in oxygen to yield carbon dioxide and sulfur dioxide gases.
10. Iron metal reacts with aqueous silver nitrate to produce aqueous iron(III) nitrate and silver metal.
11. Solid potassium nitrate yields solid potassium nitrite and oxygen gas.
12. Calcium metal reacts with chlorine gas to produce solid calcium chloride.
13. Fluorine gas added to aqueous potassium chloride produces aqueous potassium fluoride and chlorine gas.
14. Phosphorous reacts with oxygen gas to produce solid diphosphorous pentoxide.

IDENTIFY THE TYPE OF REACTION, PREDICT THE PRODUCTS (STATES NOT REQUIRED), AND BALANCE THE EQUATION:

15. Al(s) + NaOH(aq) →
16. C₂H₄(g) + O₂(g) →
17. FeCl₃(aq) + K₂S(aq) →
18. Ba(s) + O₂(g) →
19. NH₄NO₃(aq) + NaCl(aq) →
20. SO₂(g) →
21. Magnesium metal is added to aqueous hydrochloric acid.
22. Potassium metal is combined with chlorine gas.
23. Aqueous solutions of potassium bromide and silver nitrate are combined.
24. Solid mercury(II) oxide breaks down into its component elements.

CLASSIFY EACH REACTION AS EXOTHERMIC OR ENDOThERMIC:

25. PCl₃ + Cl₂ → PCl₅ + energy
26. P₄O₁₀ → P₄ + 5O₂
27. 2Sb + 3I₂ + heat → 2SbI₃
28. CaO + H₂O → Ca(OH)₂ + heat
29. CaCO₃ + energy → CaO + CO₂
30. 2C₆H₁₈ + 25O₂ → 16CO₂ + 18H₂O + heat