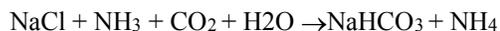


24. Which element consists of positive ions immersed in a "sea" of mobile electrons?
A) sulfur B) nitrogen C) calcium D) chlorine
25. Which substance contains particles held together by metallic bonds?
A) Ni(s) B) Ne(s) C) N₂(s) D) I₂(s)
26. Base your answer to the following question on the information below.

In 1864, the Solvay process was developed to make soda ash. One step in the process is represented by the balanced equation below.



Cl

In the space draw a Lewis electron-dot diagram for the reactant containing nitrogen in the equation.

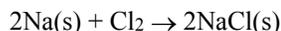
27. Base your answer to the following question on the information below.

**Physical Properties of CF₄ and NH₃
at Standard Pressure**

Compound	Melting Point (°C)	Boiling Point (°C)	Solubility in Water at 20.0°C
CF ₄	-183.6	-127.8	insoluble
NH ₃	-77.7	-33.3	soluble

In the space *in your answer booklet*, draw a Lewis electron-dot diagram for CF₄.

Base your answers to questions 28 and 29 on the balanced equation below.



28. Explain, in terms of electrons, why the bonding in NaCl is ionic.
29. Draw a Lewis electron-dot diagram for a molecule of chlorine, Cl₂.