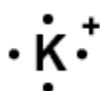


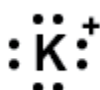
How many electrons does calcium donate to sulfur when calcium and sulfur form an ionic bond? **2**

Which is the correct Lewis structure for the K^+ ion?

☐ A.



☐ B.



☐ C.



☒ D.



There are **78** total electrons in the Pb^{4+} ion.

Lithium **loses 1** electron(s) to become Li^+

Sulfur **gains 2** electron(s) to become S^{2-} .

How many valence electrons are lost by Sr when forming SrI_2 ?

☐ A. one

☒ B. two

☐ C. three

☐ D. four

Characteristic properties of metals, such as malleability and high conductivity, are due to

☒ A. The ability of valence electrons to flow freely.

☐ B. The rigid crystalline structure of metals.

☐ C. The presence of ionic bonding in metals.

☐ D. the high melting points of metals.

Which of the following substances contain metallic bonds? Select all that apply.

☒ A. cast iron

☐ B. sodium chloride

☒ C. copper

☐ D. zinc sulfide

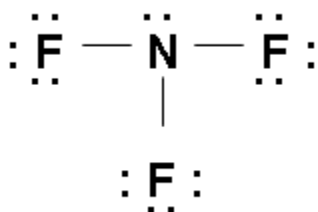
In covalent bonds, atoms share electrons so that _____. Select all that apply.

- ☒ A. each atom attains the stable electron configuration of a noble gas.
- ☐ B. positive and negative ions are formed.
- ☒ C. each atom obeys the octet rule.
- ☐ D. the positive and negative charges of the atoms cancel each other out.

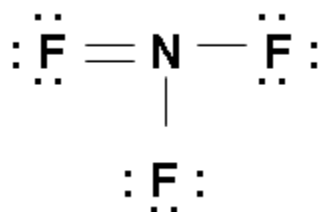
In a water molecule, the highly electronegative oxygen atom partially pulls the bonding electrons away from hydrogen, forming a polar covalent bond

Select the correct electron dot structure for a molecule of NF_3 .

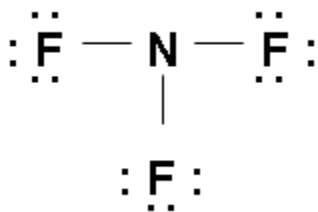
☒ A.



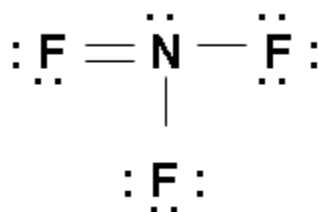
☐ C.



☐ B.



☐ D.



Sucrose has a low melting point. This compound exhibits relatively weak intermolecular forces.

CO_2 has a low boiling point of -78°C . What can be inferred about the strength of the intermolecular forces between molecules of CO_2 ?

- ☐ A. The intermolecular forces are strong.
- ☒ B. The intermolecular forces are weak.
- ☐ C. The intermolecular forces are ionic.
- ☐ D. The boiling point cannot help predict the forces present.

What is the formula for the compound calcium nitrate that forms when calcium ions react with the nitrate ions?

- ☐ A. CaNO_3
- ☒ B. $\text{Ca}(\text{NO}_3)_2$

- ☐ C. CaNO_2
- ☐ D. $\text{Ca}(\text{NO}_2)_2$

What is the name of the compound P_4O_{10} that forms when elemental phosphorus is exposed to oxygen?

- ☐ A. phosphorus oxide
- ☐ B. phosphorus decaoxide
- ☐ C. decaphosphorus tetraoxide
- ☒ D. tetraphosphorus decaoxide