

1.

2.

3. In which of the following cases is a polar covalent bond formed?

- a. when an electron is transferred from one atom to another
- b. when the electrons of a bond are shared equally by the two atoms
- c. when the electrons of a bond are shared unequally by the two atoms
- d. when a metallic element forms a bond with a non-metallic element

4. In order to satisfy the octet rule, an atom with the following electron arrangement can

shell 1: 2 electrons shell 2: 8 electrons shell 3: 5 electrons

- a. gain three electrons.
- b. gain two electrons.
- c. gain one electron.
- d. lose three electrons.

5. Which of the following occurs when an ionic bond is formed?

- a. Electrons are transferred from the more electronegative element to the less electronegative element.
- b. Electrons are transferred from the metal to the nonmetal.
- c. Electrons are shared equally.
- d. Electrons are shared unequally.

6. Which of the following pairs of elements is most likely to form a covalent bond?

- a. Fe and H
- b. Cs and Br
- c. Cl and O
- d. Zn and S

7.

8.

9. Fill in the blanks

Formula	Name
CO	
CO ₂	
	diphosphorus pentoxide
	dinitrogen monoxide
PCl ₅	
CCl ₄	
	Sulfur hexafluoride
	dichlorine monoxide
NH ₃	

Fill in the formulas of the ionic compounds

	Li ⁺	Mg ²⁺	Al ³⁺	NH ₄ ⁺	Fe ²⁺	Pb ⁴⁺
Cl ⁻						
O ²⁻						
N ³⁻						
OH ⁻						
NO ₃ ⁻						
SO ₄ ²⁻						
PO ₄ ³⁻						

Answers

1. Removed question
2. Removed question
3. c
4. a
5. b
6. c
7. removed question
8. removed question

9.

Formula	Name
CO	Carbon monoxide
CO ₂	Carbon dioxide
P ₂ O ₅	diphosphorus pentoxide
N ₂ O	dinitrogen monoxide
PCl ₅	Phosphorus pentachloride
CCl ₄	Carbon tetrachloride
SF ₆	Sulfur hexafluoride
Cl ₂ O	dichlorine monoxide
NH ₃	ammonia

10.

	Li ⁺	Mg ²⁺	Al ³⁺	NH ₄ ⁺	Fe ²⁺	Pb ⁴⁺
Cl ⁻	LiCl	MgCl ₂	AlCl ₃	NH ₄ Cl	FeCl ₂	PbCl ₄
S ²⁻	Li ₂ O	MgS	Al ₂ S ₃	(NH ₄) ₂ S	FeS	PbS ₂
N ³⁻	Li ₃ N	Mg ₃ N ₂	AlN	(NH ₄) ₃ N	Fe ₃ N ₂	Pb ₃ N ₄
OH ⁻	LiOH	Mg(OH) ₂	Al(OH) ₃	NH ₄ OH	Fe(OH) ₂	Pb(OH) ₄
NO ₃ ⁻	LiNO ₃	Mg(NO ₃) ₂	Al(NO ₃) ₃	NH ₄ NO ₃	Fe(NO ₃) ₂	Pb(NO ₃) ₄
SO ₄ ²⁻	Li ₂ SO ₄	Mg SO ₄	Al ₂ (SO ₄) ₃	(NH ₄) ₂ SO ₄	Fe SO ₄	Pb(SO ₄) ₂
PO ₄ ³⁻	Li ₃ PO ₄	Mg ₃ (PO ₄) ₂	Al PO ₄	(NH ₄) ₃ PO ₄	Fe ₃ (PO ₄) ₂	Pb ₃ (PO ₄) ₄