

AP QUIZ 02C: Lewis, VSEPR, and Polarity

Name: _____

Question 1

Draw the Lewis electron-dot structures for NO_3^- , NO_2^+ , and CO (including any resonance structures where appropriate). Give the bond angles in each case. (8)

NO_3^-
NO_2^+
CO

Question 2

Consider these four molecules; SiF₄, XeF₄, C/F₃ and NF₃.

- (a) Draw a Lewis electron-dot structure for each molecule, and complete the remainder of the information. The answer to the question, 'Polar?', should be simply 'yes' or 'no'. (8)

SiF ₄		XeF ₄	
Bonding Pairs:	Lone Pairs:	Bonding Pairs:	Lone Pairs:
Hybridization:	Polar?	Hybridization:	Polar?
ATOM geometry:		ATOM geometry:	
C/F ₃		NF ₃	
Bonding Pairs:	Lone Pairs:	Bonding Pairs:	Lone Pairs:
Hybridization:	Polar?	Hybridization:	Polar?
ATOM geometry:		ATOM geometry:	

- (b) Give an example of a species that has the same TOTAL number of pairs of electrons around the central atom as XeF₄, but has different atom geometry. **Identify the different geometry.** (2)