

Lewis Dot Structure Worksheet: Solutions. Don't cheat. Work the problems first.

CH ₄	H ₂ O	CO ₂	N ₂	BeCl ₂
C central atom, octet rule	O central atom, octet again	C central, famous double bond	Famous triple bond	Be is too small for octet
S/2/B = 1, single	S/2/B = 1, single	S/2/B = 2, double	S/2/B = 1, triple	S/2/B = 1, single
BF ₃	C ₂ H ₄	C ₂ H ₆	CO	O ₂
B is too small for octet	Multiple central, but C is octet	Multiple central, but C is octet	Another famous triple bond	Famous double bond
S/2/B = 1, single	not for multiple central atoms	not for multiple central atoms	S/2/B = 3, triple	S/2/B = 2, double
NO	NO ₂ ⁻	NO ₃ ⁻	NH ₃	NH ₄ ⁺
Odd ball, no octet	Is this odd? e ⁻ saves the day	Famous resonance	Famous tetrahedral, octet rule	Still tetrahedral even with H ⁺
S/2/B = 2.5, ???	S/2/B = 3/2, resonance	S/2/B = 4/3, resonance	S/2/B = 1, single	S/2/B = 1, single
O ₃	ClF ₃	SO ₄ ⁼	SF ₆	SF ₄
Why is this famous?	What the heck is this? Hard.	Famous for not being resonance	6 bonds, must be octahedral	This one is NOT like CH ₄
S/2/B = 3/2, resonance	S/2/B = 2/3, larger than octet	S/2/B = 1, single	S/2/B = 2/3, larger than octet	S/2/B = 3/4, larger than octet
I ₃ ⁻	XeCl ₂	PF ₅	CO ₃ ⁼	BrF ₅
Laude's favorite example	Do these make bonds?	5 bonds make trigonal pyramidal	Another famous resonance	Not 5 electron regions, but 6
S/2/B = _, larger than octet	S/2/B = _, larger than octet	S/2/B = 4/5, larger than octet	S/2/B = 4/3, resonance	S/2/B = 3/5, larger than octet

Lewis Dot Structure Worksheet: In the first box below the formula, write your first impression of the Lewis formula. In the second box, calculate S/2/B and identify bonding around central atom.

CH ₄	CCl ₄	CO ₂	N ₂	BeCl ₂
BF ₃	C ₂ H ₄	C ₂ H ₆	CO	O ₂
NO	NO ₂ ⁻	NO ₃ ⁻	NH ₃	NH ₄ ⁺
O ₃	ClF ₃	SO ₄ ⁼	SF ₆	SF ₄
I ₃ ⁻	XeCl ₂	PF ₅	CO ₃ ⁼	BrF ₅