

HW 4

Problem 15

$$1 \text{ eV} = 1.6 \times 10^{-19} \text{ J}$$

$$m_e = 9.11 \times 10^{-31} \text{ kg}$$

Φ = work function 1.05 eV

$$\lambda = 324 \text{ nm}$$

v

$$E = h\nu - h\nu_0$$

Φ

$$E = h \frac{c}{\lambda} - \Phi$$

$$c = \lambda \nu$$

Speed of light

$$\frac{1.05 \text{ eV}}{1 \text{ eV}} \left| \frac{1.6022 \times 10^{-19} \text{ J}}{1.6022 \times 10^{-19} \text{ J}} \right.$$

$$\frac{c}{\lambda} = \nu$$

$$E = \frac{1}{2} m_e v^2$$

* $\rightarrow \Phi = 1.68 \times 10^{-19} \text{ J}$

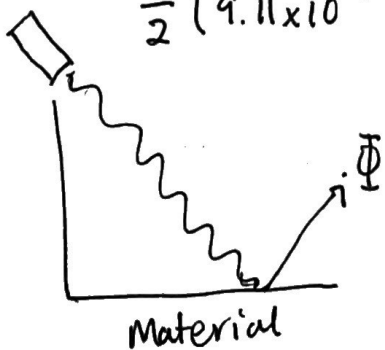
$$\lambda = 324 \times 10^{-9} \text{ m}$$

$$c = 3.00 \times 10^8 \frac{\text{m}}{\text{s}}$$

$$h = 6.626 \times 10^{-34}$$

$$m_e = 9.11 \times 10^{-31} \text{ kg}$$

$$\frac{1}{2} (9.11 \times 10^{-31} \text{ kg}) v^2 = \underbrace{6.626 \times 10^{-34} \frac{3.00 \times 10^8 \frac{\text{m}}{\text{s}}}{324 \times 10^{-9} \text{ m}} - 1.68 \times 10^{-19}}_{4.455 \times 10^{-19}}$$

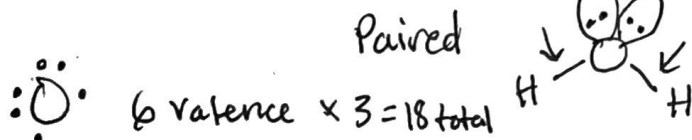
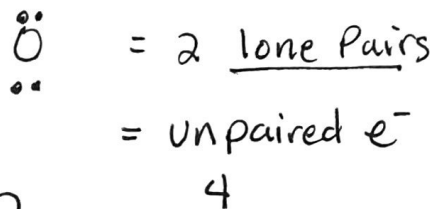


Homework 7

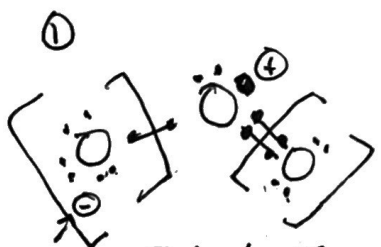
Problem 6



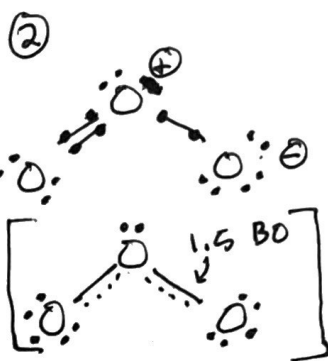
lone Pairs = :



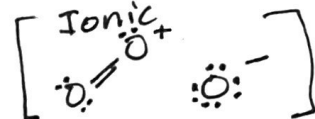
Bonding



Telectrons
 $- 6 \text{ electrons}$
 $\frac{6 e^-}{1 \text{ electron } \ominus}$

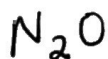


resonance



$6 = \text{electrons bonding}$
 $2 = \text{unpaired electrons}$

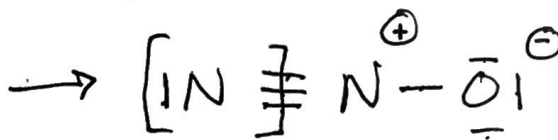
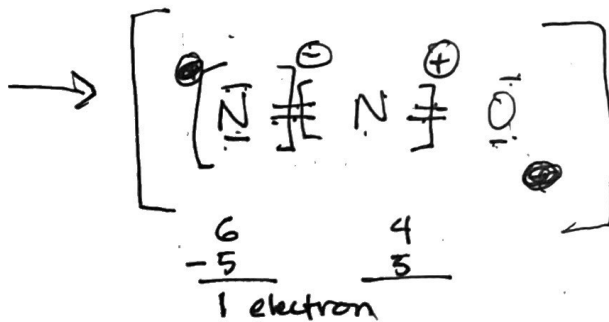
Problem 13



N = 5 ve⁻ × 2 = 10

O = 6 ve⁻ × 1 = 6

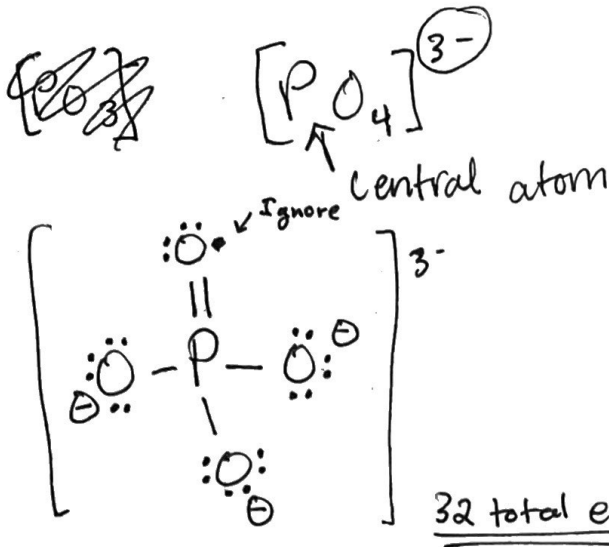
16 ve total



2 structures that work

②

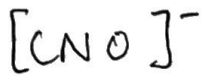
Problem 14



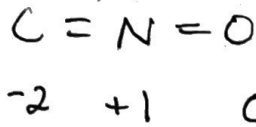
$$\begin{aligned} \text{P} &= 5 \cdot \text{ve}^- \times 1 = 5 \\ \text{O} &= 6 \text{ve}^- \times 4 = 24 \\ 3^- \text{ electrons} &+ 3 \\ \hline &32 \text{ total} \end{aligned}$$

How many double bonds? 1

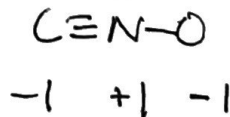
Problem 16



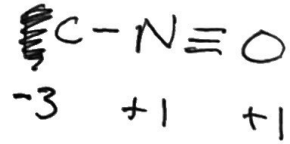
(A)



(B)



(C)



Has not been taught

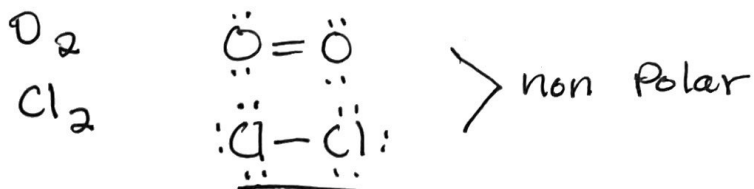
Will not be on Exam!!

- ① Oxygen likes -1 charge :) Because electro neg!
- ② C, P, → More okay w/ Positive charges
less electro neg
- ③ Compounds do not like > +/- 1 formal charge on an individual atom in general

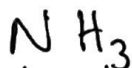
Compound B

Problem 21

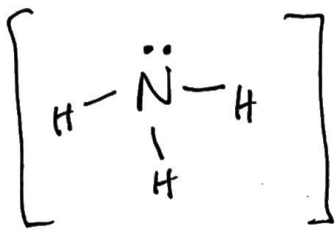
Same element = Non-Polar bond



Does the bond occur between two non metals?



non metals
Covalent Bond!



Metal — Non Metal

Ionic



far distance
metal / non metal

Ionic