

SC20F Warm-Up (Sept 14)

Determine the number of protons, electrons and neutrons in Sulphur.

#16

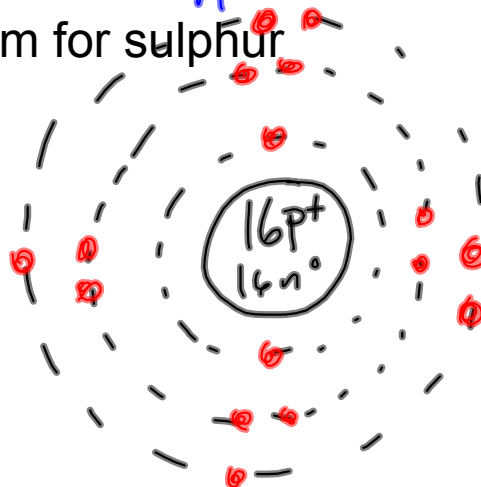
mass = 32

$p^+ = 16$

$e^- = 16$

$n^0 = 16$

Draw a Bohr diagram for sulphur



What family is sulphur in?

Chalcogens

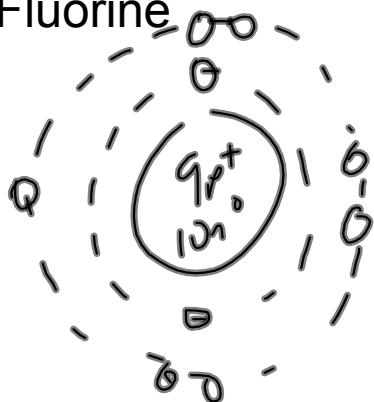
How could sulphur fill its valence shell?

gain $2e^-$

Warm-Up (Sept 15)

1. Draw the bohr diagram for the following atoms:

a) Fluorine



b) Beryllium



2. Draw the lewis dot diagram for the following atoms:

a) Fluorine



b) Beryllium



3. State whether the following would gain or lose electrons:

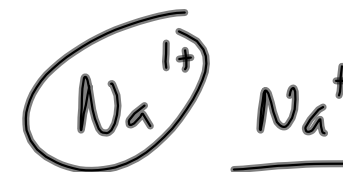
a) Fluorine

gain 1

b) Beryllium

lose 2

Warm-Up (Sept 16)



1. Complete the table:

Element	Draw the Lewis Dot Diagram	Will it Gain or Lose Electrons?	How many electrons will it gain or lose?	What will the charge be?
Sodium	Na	L	1	1+
Calcium	Ca	L	2	2+
Boron	B	L	3	3+
Phosphorus	P	G	3	3-
Oxygen	O	G	2	2-
Iodine	I	G	1	1-

Warm-Up (Sept 17)

1. What noble gas will each of the following ions have the same electron arrangement as?

a) Sr^{2+}

kr

b) Sb^{3-}

Xe

c) B^{3+}

He

d) Li^+

He

2. Identify the following as atoms or ions. State how many electrons were gained or lost (or none)

Symbol	Atom or Ion?	Amount of electrons gained or lost (or none)
Ag	A	\emptyset
Ag^+	I	L-1
As^{3-}	I	G-3
Pb^{4+}	I	L-4

Warm-Up (Sept 21)

1. Fill in the table

Bond Type	Is a Bond Between what kinds of elements?	Are electrons shared or Transferred?
Ionic	metals & non metals	Transferred
Covalent	non - metals	Shared

2. Identify the following as ionic or covalent bonds:

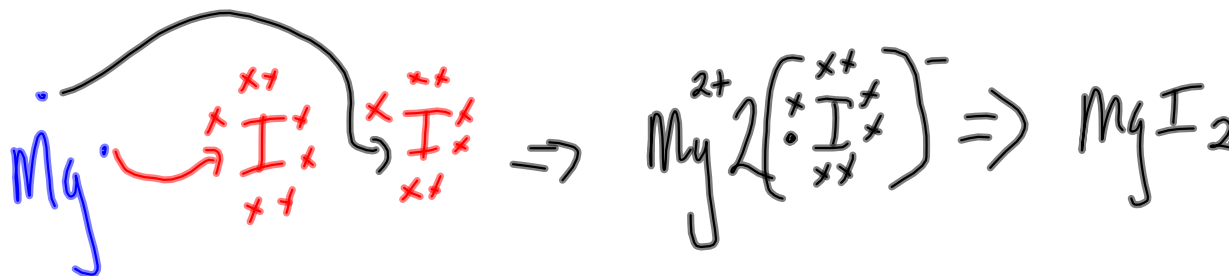
CaCl ₂	I	S ₂ O ₃	C
CO	C	<u>Pb</u> Cl ₄	I
H ₂ O	C	CH ₄	C
<u>Na</u> Cl	I	C ₂ <u>H</u> ₅ <u>O</u> H	C
<u>Na</u> ₂ O	I	<u>NO</u> ₃	C
<u>Li</u> F	I	<u>S</u> ₈	C
HBr	I	<u>Fe</u> ₂ O ₃	I

Warm-up (Sept 22)

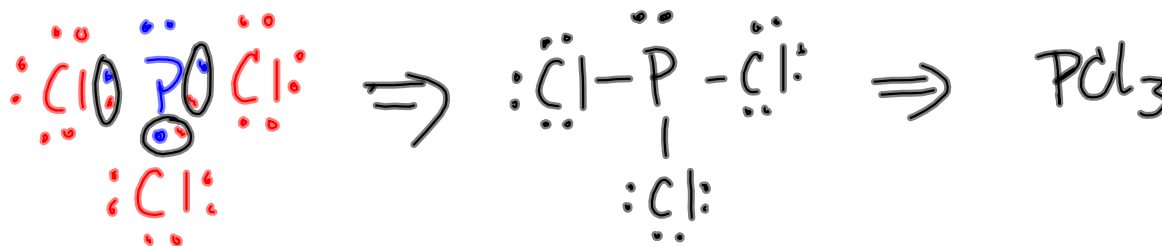
Identify the following as ionic or covalent. Use lewis dot diagrams to show how they will bond

a) Mg + I

I



b) P + Cl



Warm-up (Sept 23)

H in front = metal

H anywhere else = non metal

1. Identify the following as ionic or covalent:

a) HCl

I

b) NH₃

C

c) NaH

I

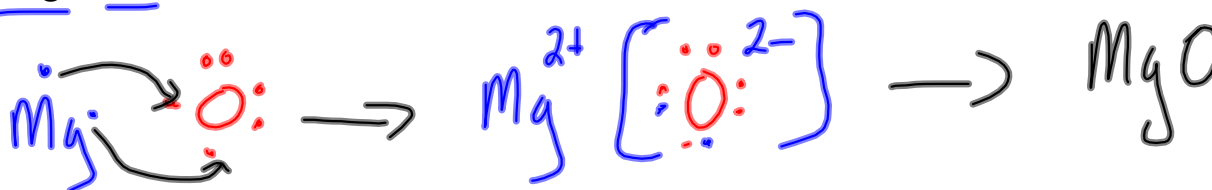
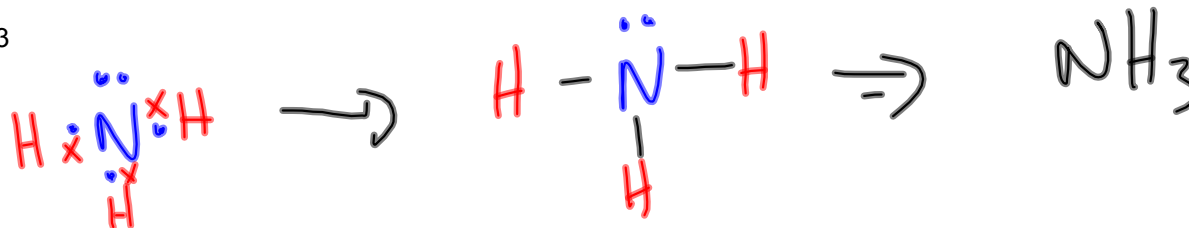
d) H₂O

C

e) H₂S

I

2. Use lewis diagrams to show the bonding of the following:

I
a) Mg + OC
b) NH₃

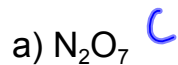
Warm-up (sept 24)

State the **noble gas** that the following ions will have the same electron arrangement as:

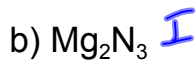
- a) Li^+ has the same arrangement as He.
- b) F^- has the same arrangement as Ne.
- c) Ca^{2+} has the same arrangement as Ar.
- d) S^{2-} has the same arrangement as Ar.
- e) Br^- has the same arrangement as Kr.
- f) Rb^+ has the same arrangement as Kr.
- g) Mg^{2+} has the same arrangement as Ne.
- h) N^{3-} has the same arrangement as Ne.
- i) Al^{3+} has the same arrangement as Ne.

Warm-up (sept 28) C I

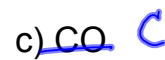
1. Determine if the following compounds are ionic or covalent, then name them:



dinitrogen heptoxide



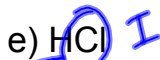
Magnesium nitride



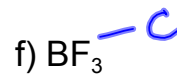
Carbon monoxide



Magnesium Bromide

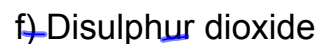
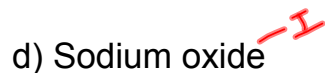
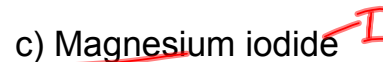
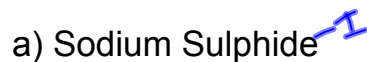


hydrogen chloride



Boron Trifluoride

2. Determine if the following compounds are ionic or covalent, then write the formula:



Aluminum Iodide



Warm-Up (sept 29)

1. Write the name for the following:



phosphorus
trichloride



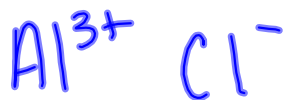
magnesium
phosphide



nitrogen
trioxide

2. Write the formula for the following:

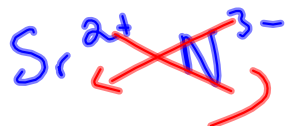
a) Aluminum chloride



b) Tetranitrogen heptoxide



c) Strontium nitride



Warm-up (sept 30)

1. Give the formula for the following:

a. Copper (II) sulphide



b. Lead (II) fluoride



c. Tin (IV) nitride



d. Chromium (III) chloride



2. Give the name, using the Stock System, for the following:

a. CuO

Copper(II) oxide

b. MnO_2

manganese(IV) oxide

c. PbI_4

Lead(IV) iodide

d. Cu_2O

Copper(I) oxide

Warm-up (Oct 1)

1. Name the following Chemicals:



2. Write the formula for the following Chemicals:

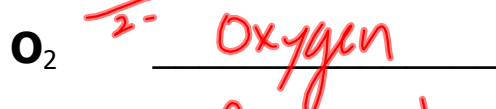
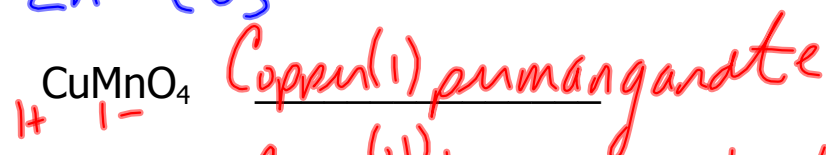
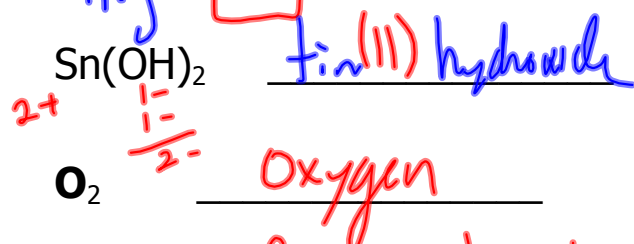
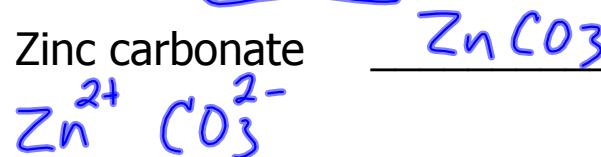
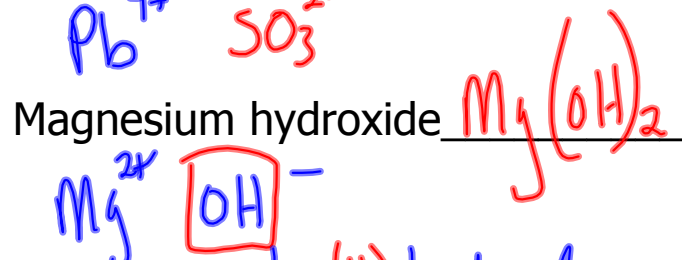
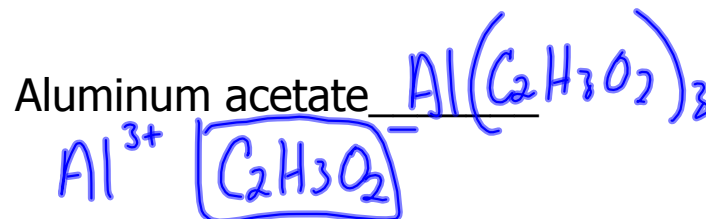
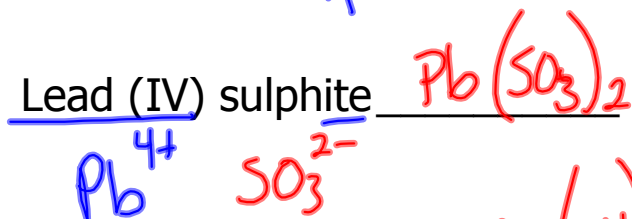
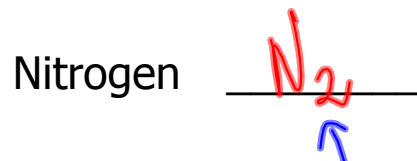
a) Dinitrogen pentoxide

b) Gold (III) oxide

c) Stronum nitride

d) Copper (I) sulphide

Warm-Up (Oct 5)



Warm-Up (Oct 6)

Iodine I_2 Iron Fe

Pb^{4+}
Lead (IV) oxide PbO_2
 O^{2-}

Aluminum chloride $AlCl_3$
 Al^{3+} Cl^{-} $Sn(OH)_2$ Tin(II) hydroxide $Fe(MnO_4)_2$ Iron(II) permanganate F_2 Fluorine Mg_3N_2 Magnesium nitride

Warm-up (Oct 7)

1) Name the following Chemicals:



*Nitrogen trihydride
(Ammonia)*



Calcium chloride

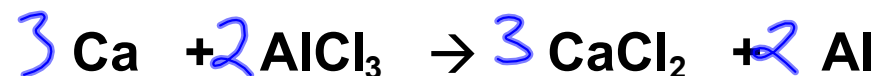
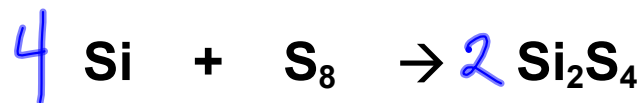


Lead(IV) oxide



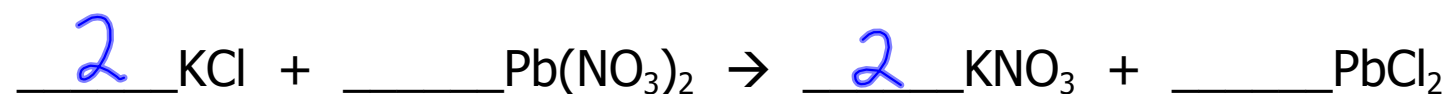
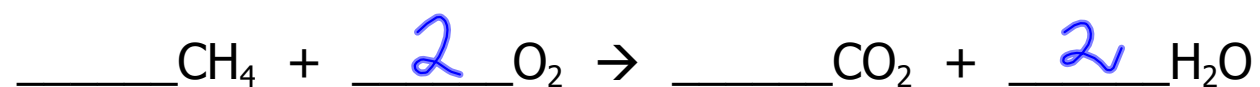
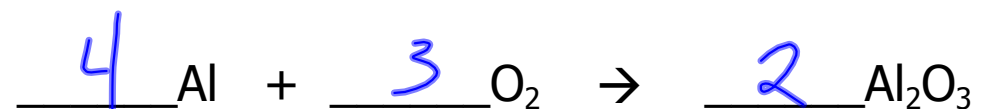
Nitrogen trisulphide

2. Balance the following reactions:



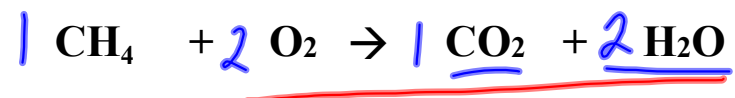
Warm-Up (Oct 8)

Balance the following reactions:



Warm-up (oct 13)

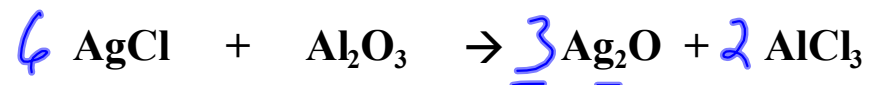
Rewrite the following reactions. Balance them and state the Type of reaction.



Comb



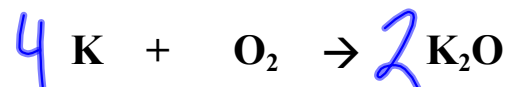
decomp.



D.R.



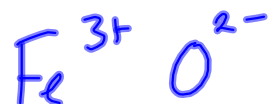
S.R.



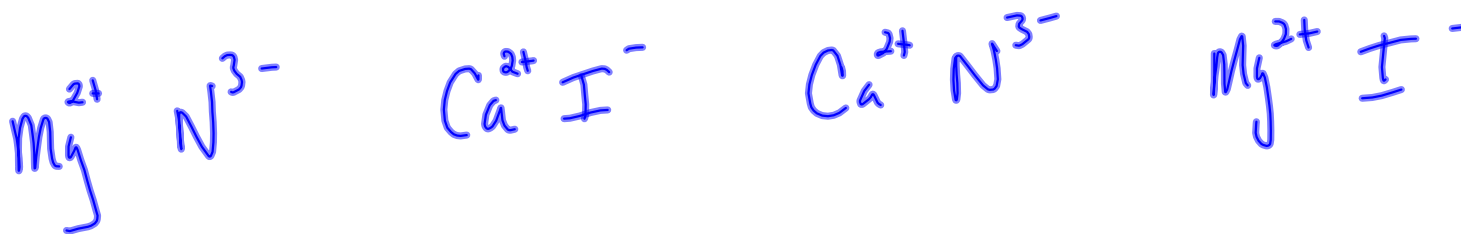
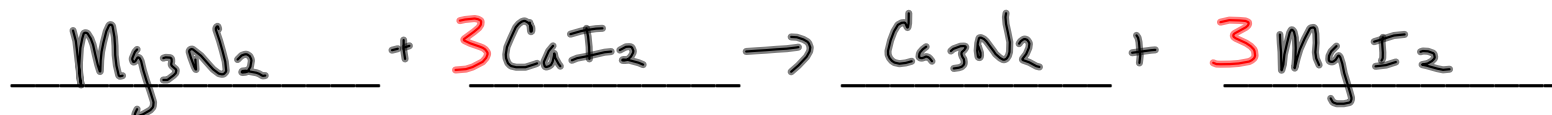
Synth

Warm-Up (Oct 14)

Write and balance the following reactions:

1. iron (III) oxide + carbon → iron + carbon monoxide

2. Magnesium nitride + calcium iodide → calcium nitride + magnesium iodide



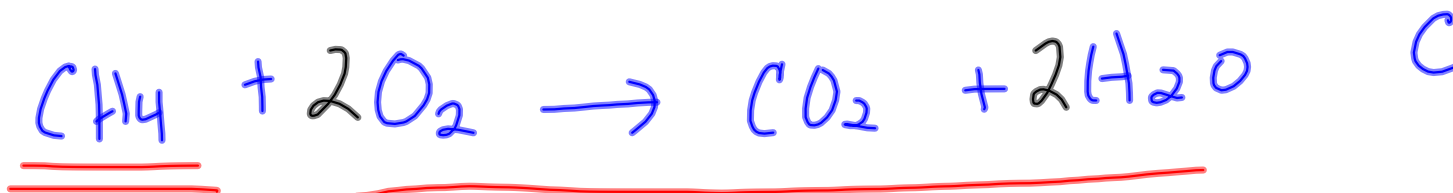
Warm-Up (Oct 15)

Write and balance the following reactions:

1. Lead ^{Pb²⁺} (II) ^{Cl⁻} chloride + sodium ^{Na⁺} ^{Cl⁻} → Lead + sodium chloride



2. Methane (CH₄) + oxygen gas → carbon dioxide + water

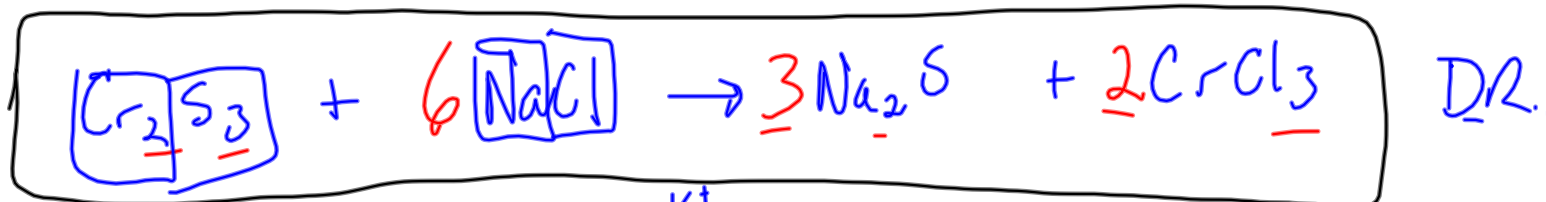


Identify the type of reaction for each of the above.

Warm-Up (Oct 2)

Write and balance the following reactions:

1. $\overset{3+}{\text{Cr}}_2 \overset{2-}{\text{S}}_3 + \text{Na}^+ \text{Cl}^- \rightarrow \text{Na}^+ \text{S}^{2-} + \overset{3+}{\text{Cr}} \text{Cl}^-$
 chromium(III) sulphide + sodium chloride \rightarrow sodium sulphide + chromium(III) chloride



2. Potassium + oxygen gas \rightarrow potassium oxide



Identify the type of reaction for each of the above.

Warm-up (oct 19)

1. Fill in the table with respect to acids and bases:

Property	Acids	Bases
Taste	Sour	Bitter
pH	< 7	> 7
Contains what ion?	H^+	OH^-
Caustic or corrosive?	Corrosive	Caustic
phenolphthalein colour?	Colourless	pink

2. Identify the following pH values as Acidic, Basic or Neutral:

a) 3.7

A

b) 6.9

A

c) 7.0

N

d) 7.1

B

e) 8.5

B

Warm-up (oct 20)

1. Identify whether the following are acidic, basic or neutral:

a) Tap water - pH = 5.5

A

d) pure water - pH = 7

N

b) Saliva - pH = 6.9

A

e) milk - pH = 7.1

B

c) Seawater - pH = 8.1

B

f) Pepsi - pH = 4.1

A

2. Bleach has a pH = 13, baking soda has a pH = 9. How many times more basic is bleach than baking soda?

$$13 - 9 = 4$$

10 000

$$10^1 \\ 10^2 = 100$$