

Mole Mol

6.02×10^{23} particles
atoms
cmpds
molecules

Mg = 6.02×10^{23} atoms

Ni = 6.02×10^{23} atoms

NaCl = 6.02×10^{23} cmpds

molecules are only covalent
bonds.

Cmpd = molecule or an ionic bond

1. 10.81 amu

2. potassium carbonate

barium nitride

hydrobromic acid

NiO

H₂SO₄

$$(.1991)(10.01294) =$$

$$(.8009)(11.0093) =$$

1.993486759

8.81734837

10.81083513amu

10.81amu

$$\text{Ca } 40 \times 1 = 40$$

$$\text{Cl } 35.5 \times 2 = 71$$

$$111 \text{ g} = 1 \text{ mol}$$

$$\frac{84.5 \text{ g} \times 1 \text{ mol}}{111 \text{ g}} =$$

$$.761261261 \text{ mol}$$

$$.761 \text{ mol}$$

$$2. \quad \text{Na} \quad 23 \times 1 = 23$$

$$\text{Cl} \quad 35.5 \times 1 = \underline{35.5}$$

$$58.5 \text{ g} = 1 \text{ mol}$$

$$\frac{2.3 \times 10^6 \text{ g} \times 1 \text{ mol}}{58.5 \text{ g}} =$$

$$39316.23932 \text{ mol}$$

$$39000 \text{ mol}$$

$$3.9 \times 10^4 \text{ mol}$$

5

$$\text{Ba} \quad 137 \times 1 = 137$$

$$\text{N} \quad 14 \times 2 = 28$$

$$\text{O} \quad 16 \times 6 = 96$$

$$\underline{261 \text{ g}} = 1 \text{ mol}$$

$$\frac{35. \text{ g} \times 1 \text{ mol}}{261 \text{ g}} = \underline{.134099617} \text{ mol}$$

$$.13 \text{ mol}$$

$$7. \text{ Ca } 40 \times 1 = 40$$

$$\text{C } 12 \times 4 = 48$$

$$\text{H } 1 \times 6 = 6$$

$$\text{O } 16 \times 4 = \underline{64}$$

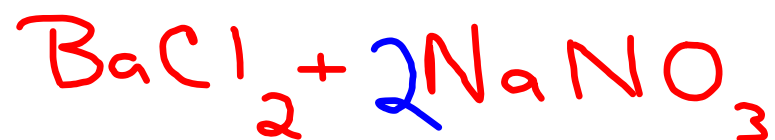
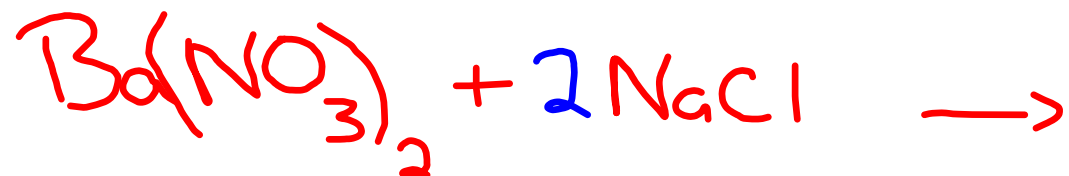
$$158 \text{ g} = 1 \text{ mol}$$

$$\frac{4400 \text{ mol} \times 158 \text{ g}}{1 \text{ mol}} = 695200 \text{ g}$$
$$7.0 \times 10^5 \text{ g}$$

- ① Polyatomic ion
- ② Odd Even
- ③ hydrocarbon

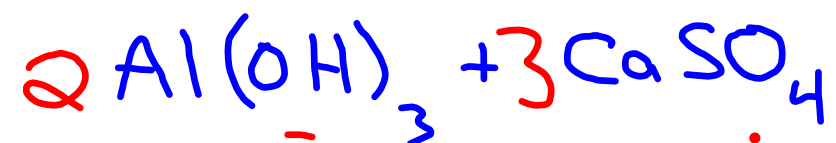
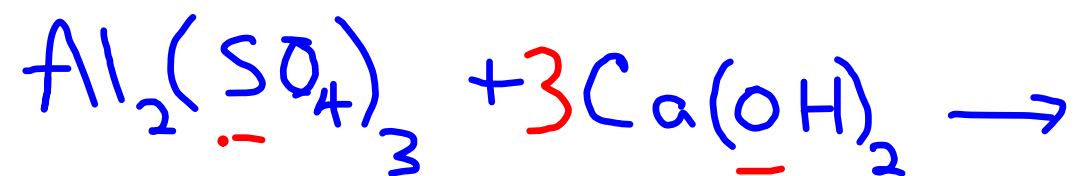
8.

reactants

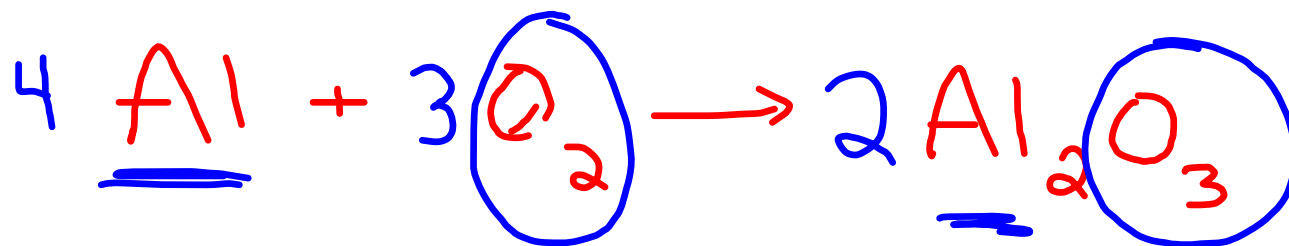


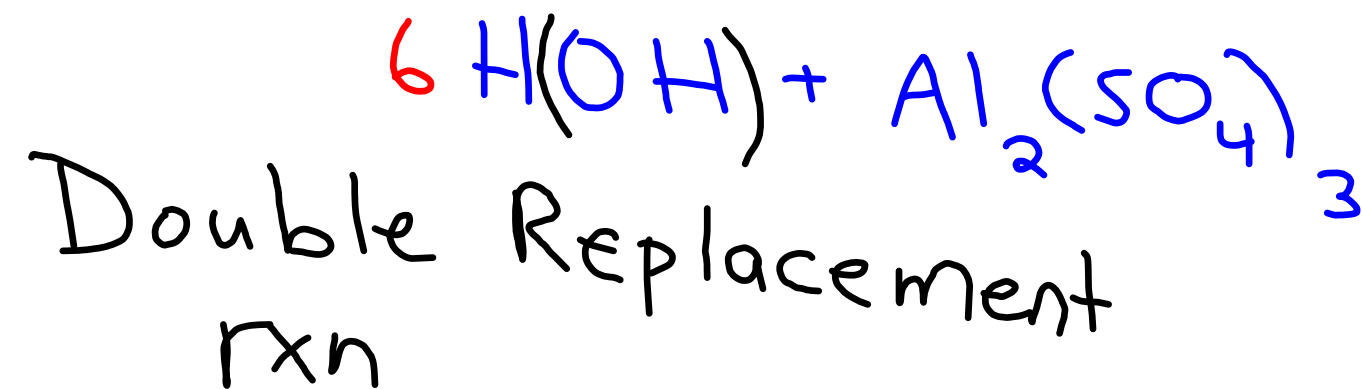
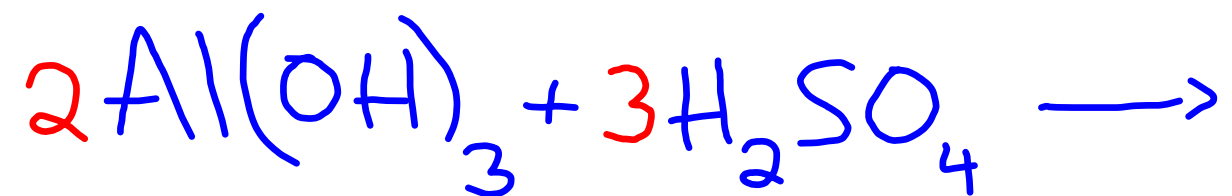
Products

11.



17.





3.

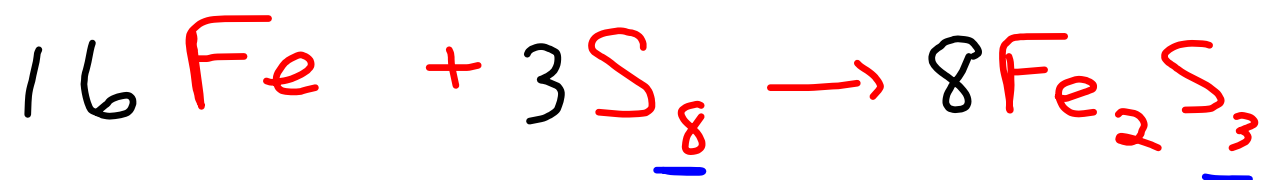
$$\text{K } 39 \times 1 = 39$$

$$\text{Mn } 55 \times 1 = 55$$

$$\text{O } 16 \times 4 = \underline{64}$$

$$158\text{g} = 1\text{mol}$$

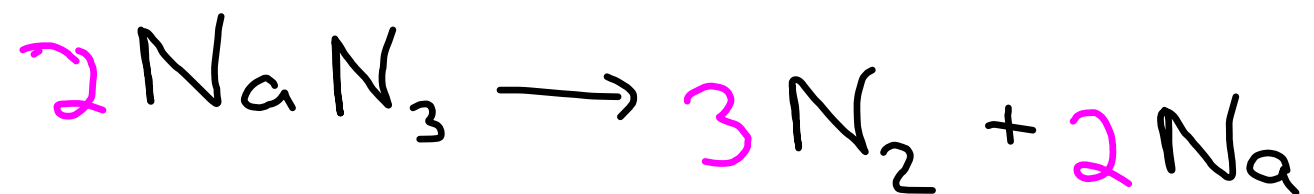
12.



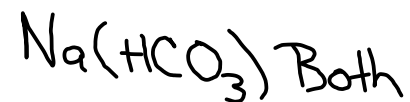
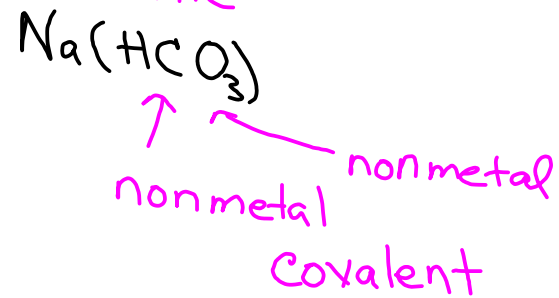
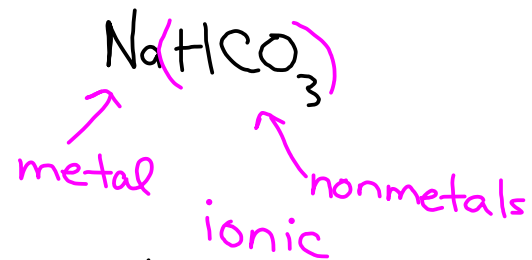
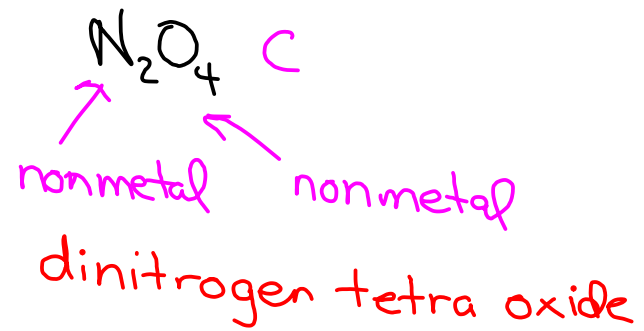
Combination
or

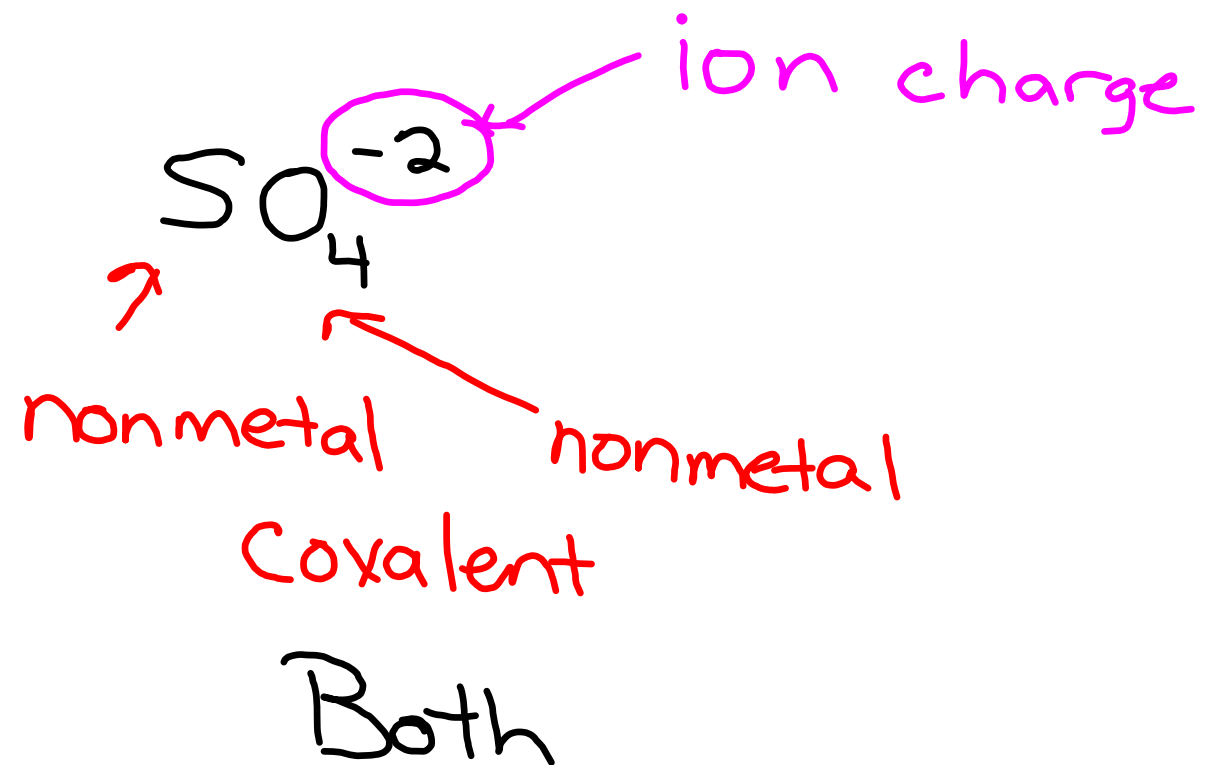
Synthesis rxn

13.

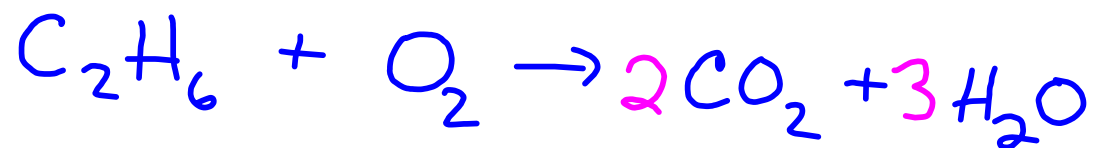


Decomposition
Rxn





9.



②

$$4 + 3 = 7$$

- ① Balance the Cs
- ② Balance the Hs
- ③ Balance the Os

* If you cannot balance the Os, add a 2 in front of the hydrocarbon and start a step 1.



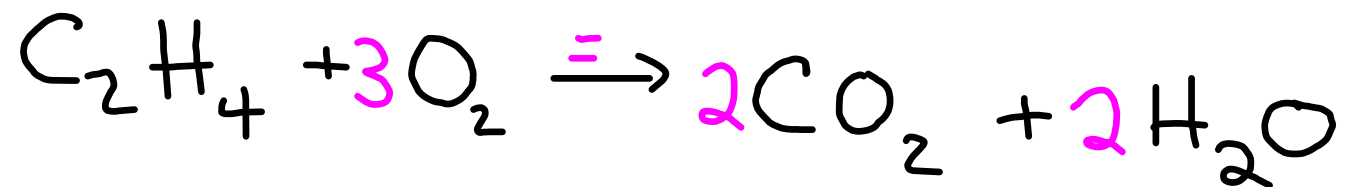
2

$$8 + 6 = 14$$

Combustion rxn

b/c there is an O_2
on the reactant side

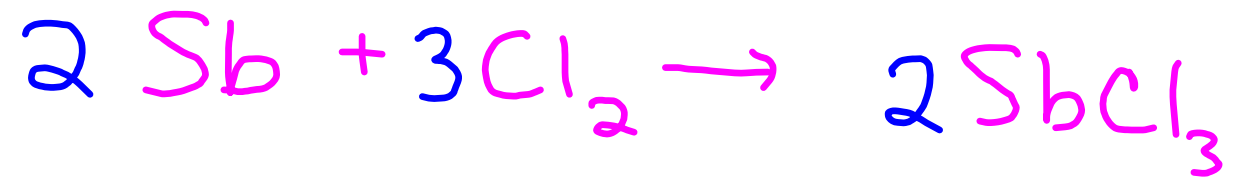
10.



2

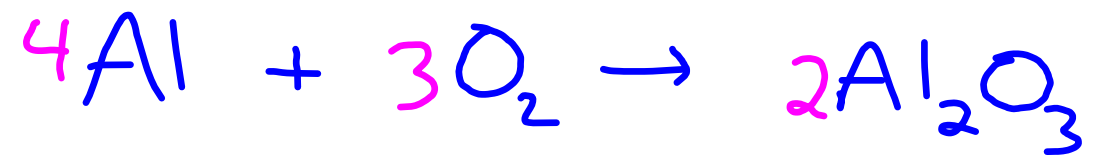
4 + 2 = 6

Combustion

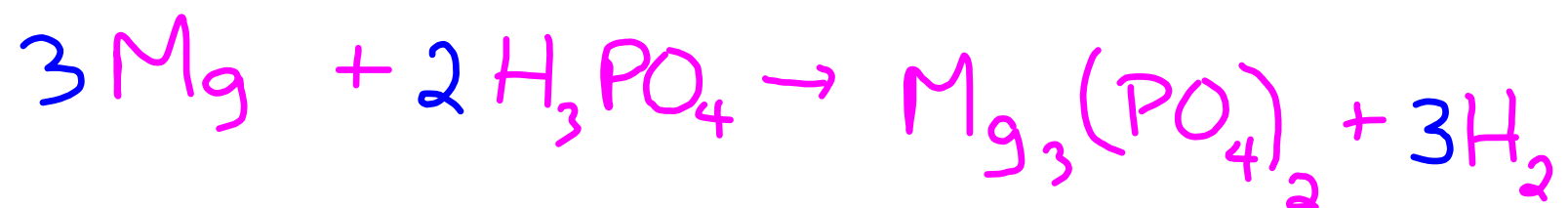


Synthesis
or
Combination

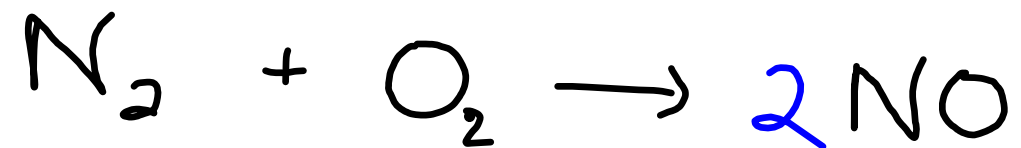
17.



Synthesis
combustion
Combination



Single replacement
rxn



Combination

Combustion

Synthesis

