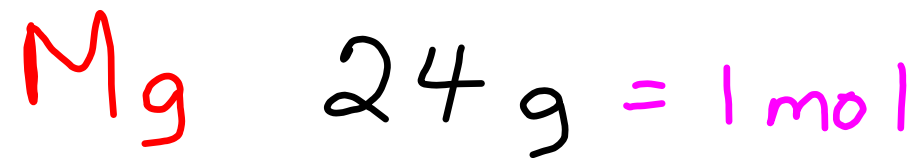


$\text{mol} = 6.02 \times 10^{23}$ atoms
molecules
compounds
particles



$$\text{N} = 23 \times 1 = 23$$

$$\text{Cl} = 35.5 \times 1 \quad \begin{array}{r} 35.5 \\ \hline 58.5 \text{ g} \end{array}$$



$$59 \text{ g/mol}$$

Mg $24\text{g} = 1\text{mol}$
atoms/mol

NaCl 58.5g/mol
Compounds/mol

Ni
 59g/mol
atoms/mol

$$\textcircled{1} \quad 84.5\text{g} \rightarrow \text{mol}$$

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

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

$$\begin{array}{l} \text{given} \\ \downarrow \\ 84.5\text{g} \times \frac{1 \text{ mol}}{111 \text{ g}} = .76126 \text{ mol} \end{array}$$

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

$$.761 \text{ mol}$$

$$7.61 \times 10^{-1} \text{ mol}$$

$$3. \quad 0.0054 \text{ mol} \longrightarrow \text{g}$$

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

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

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

$$\hline 158 \text{ g/mol}$$

$$\frac{0.0054 \text{ mol} \times 158 \text{ g}}{1 \text{ mol}} =$$

$$.8532 \text{ g}$$

$$.85 \text{ g}$$

$$8.5 \times 10^{-1} \text{ g}$$

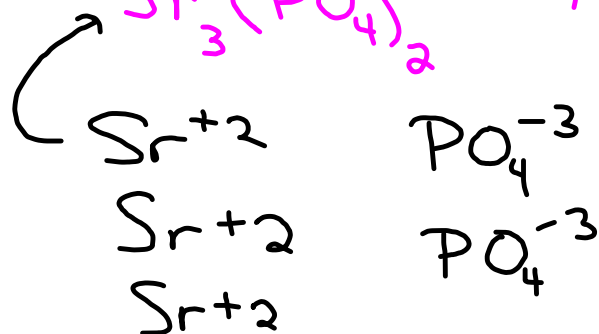
$$6. \quad 350 \text{ g} \rightarrow \text{mol}$$

$$\text{Sr} \quad 88 \times 3 = 264$$

$$\text{P} \quad 31 \times 2 = 62$$

$$\text{O} \quad 16 \times 8 = \underline{128}$$

$$\text{Sr}_3(\text{PO}_4)_2 \quad 454 \text{ g/mol}$$



$$\frac{350 \text{ g} \times 1 \text{ mol}}{454 \text{ g}} = .77092511 \text{ mol}$$

$$\begin{array}{l} .77 \text{ mol} \\ 7.7 \times 10^{-1} \text{ mol} \end{array}$$

In order to get a
molecular mass you
must add up all the atoms!

HW 2, 4, 5, 7

5. 35. g $\rightarrow$ mol

Ba 137 $\times 1 = 137$

N 14 $\times 2 = 28$

O 16 $\times 6 = 96$

261 g = 1 mol

$$\frac{35. \text{ g} \times 1 \text{ mol}}{261 \text{ g}} = .13 \text{ mol}$$

NaCl
metal/nonmetal
ionic

CO_2 N_2O_4 O_2
nonmetal/nonmetal
covalent

nonmetal w/charge
 NO_3^- Both

NaNO_3 Both

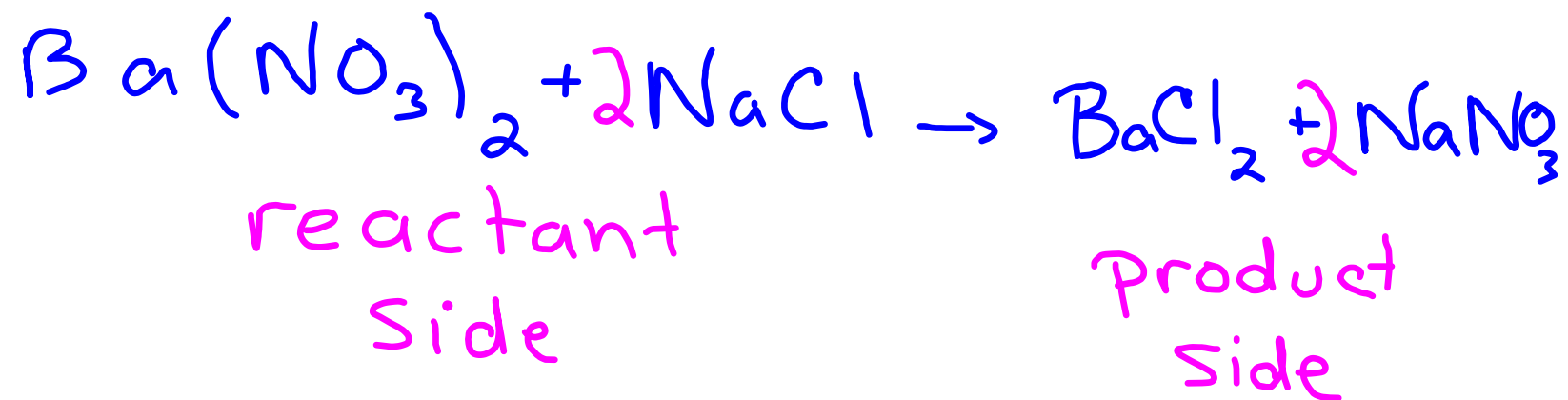
polyatomic ions
are Both.

Polyatomic Ions

Pick a polyatomic ion
balance it on both sides.

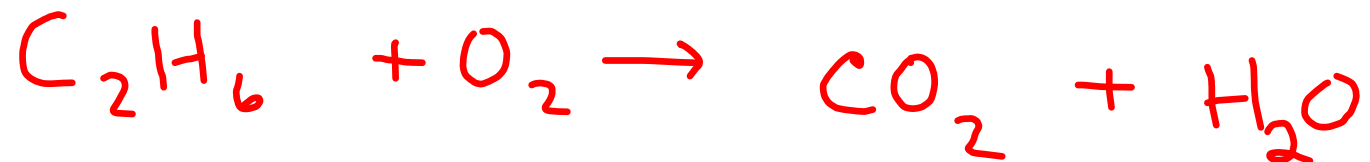
The polyatomic ion is
attached to something
balance that next etc...

8



Coefficients tell the #
of moles that the compound
has in the reaction

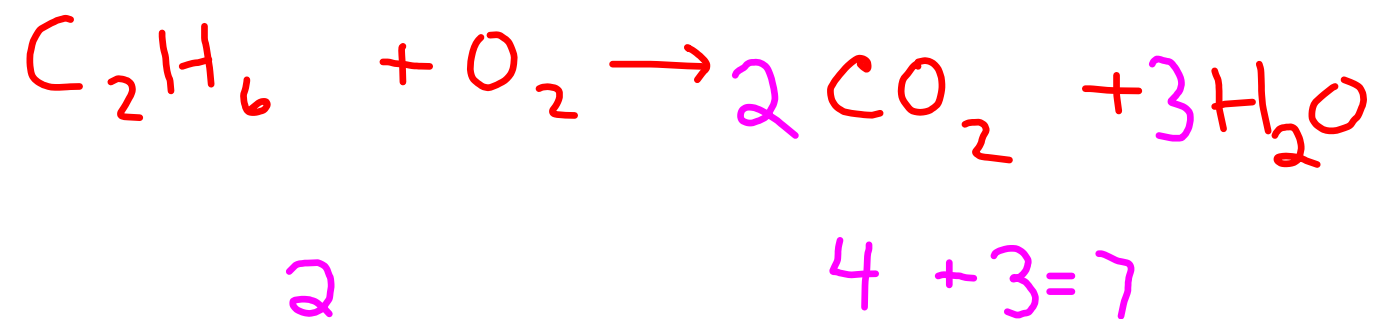
9.

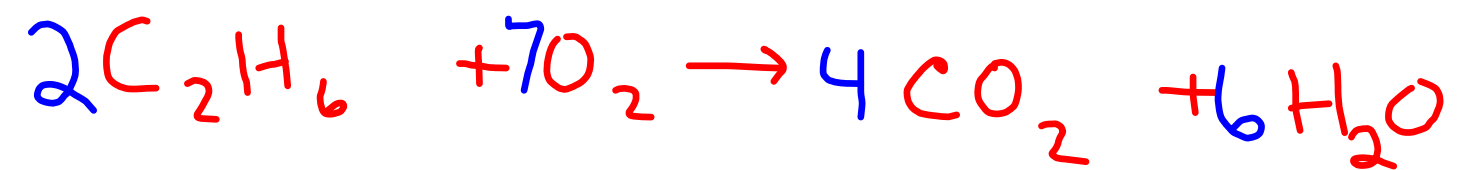


hydrocarbon b/c
it is hydrogen and carbon

- ① Balance the carbons
- ② Balance the hydrogens
- ③ Balance the oxygens

If the oxygens cannot be balance add a 2 in front of the hydrocarbon and go back to step 1

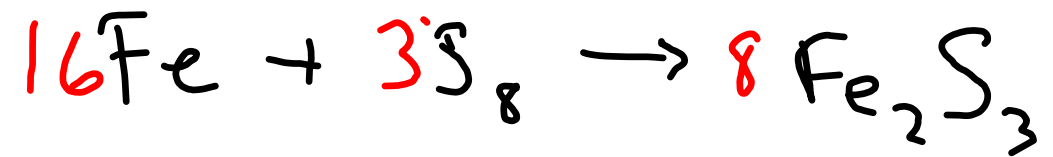




2

$$8 + 6 = 14$$

odd-even



15 Metal First



Already balanced

16.



6

$$3 + 2 + 1 = 6$$