

# Chem Revs PART 1 Review.

## Key

① Isotopes: Atoms of the same element w/ different #'s of neutrons (different masses)

② See Notes / Research Assign.

③

$$\begin{array}{r} 69 \times 0.6 = 41.4 \\ 71 \times 0.4 = 28.4 \\ \hline \boxed{69.8 \text{ amu}} \end{array}$$

④ See Research Assign.

⑤ find % abundance:

$$\text{Cl-35} = \frac{7550}{10000} = 75.5\%$$

$$\text{Cl-37} = \frac{2450}{10000} = 24.5\%$$

$$35 \times 0.755 = 26.43$$

$$37 \times 0.245 = 9.07$$

$$\boxed{35.5 \text{ amu}}$$

⑥ a) ionic - transfer of  $e^-$ , metal & non metal  
 covalent - sharing of  $e^-$ , 2 non-metals.

b) } see notes.  
 c) }

d) ionic doesn't need prefixes  $\rightarrow$  charges determine amounts.

⑦ H, O, F, Br, I, N, Cl

- 8) a) Calcium iodide
- b) Carbon monoxide
- c) Nitrogen dioxide
- d) Sulphur dioxide
- e) Calcium Carbonate
- f) tetraphosphorus decoxide
- g) potassium bromide

- h) Calcium fluoride
- i) trihydrogen phosphide
- j) Calcium Phosphide
- k) Aluminum Sulphide
- l) Lead (IV) oxide
- m) tin (IV) fluoride
- n) Copper (I) iodide

- 9) a) ZnSe
- b) BeF<sub>2</sub>
- c) CdO
- d) Pb(SO<sub>5</sub>)<sub>2</sub>
- e) NaNO<sub>2</sub>

- f) Li<sub>2</sub>SO<sub>2</sub>
- g) K<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub>
- h) NaClO<sub>3</sub>
- i) Al<sub>2</sub>(CO<sub>3</sub>)<sub>3</sub>

10) See Balancing Sheet.

11) Notes / Demo

- 12) a) lit splint → "Pop"
- b) glowing splint → Re-lights.
- c) lit splint → goes out -

- 13) a) BaSO<sub>5</sub>
- b) Al(NO<sub>3</sub>)<sub>3</sub>
- c) CaSO<sub>2</sub>
- d) NaClO<sub>4</sub>

- e) Zinc Sulphite
- f) potassium Nitrate
- g) H<sub>2</sub>
- h) O<sub>2</sub>

- 14) a) 40.3 amu
- b) 256 amu
- c) 192.3 amu
- d) 58.5 amu

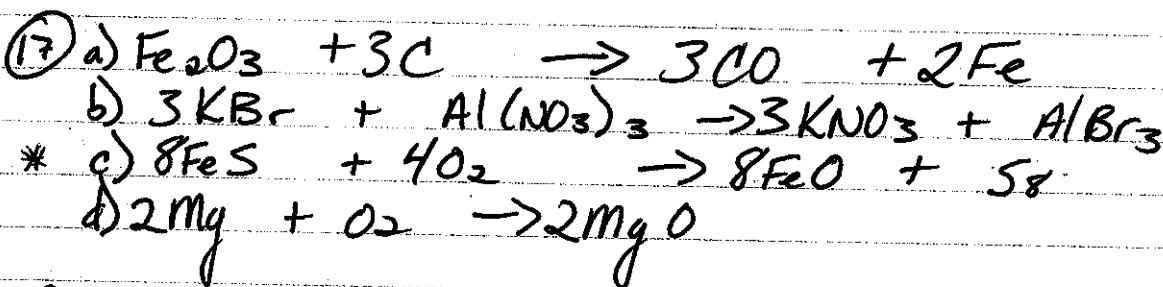
- e) 72.04 amu
- f) 101.1 amu
- g) 2.02 amu
- h) 32 amu

- ⑮ a) 293.9 g/mol
- b) 28 g/mol
- c) 46 g/mol
- d) ~~56~~ 64.1 g/mol
- e) 100.1 g/mol
- f) 284 g/mol
- g) 119 g/mol
- h) 78.1 g/mol

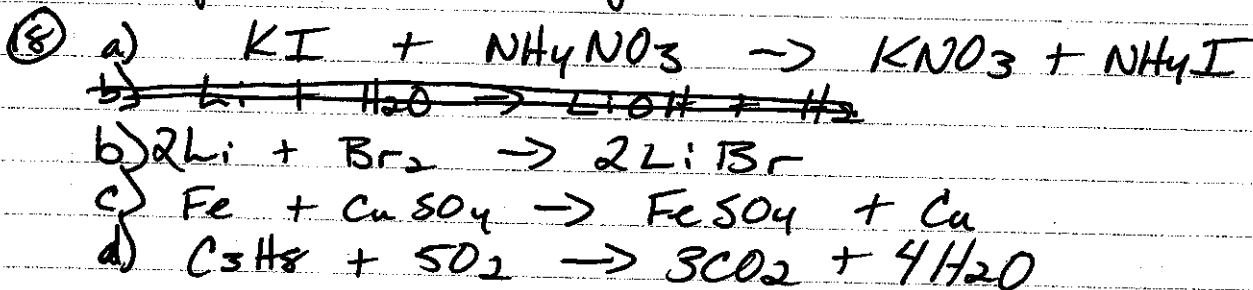
⑯  $6.02 \times 10^{23}$  of anything

↳ the # of atoms needed to have the molecular mass of an element in "g"

ex) it takes  $6.02 \times 10^{23}$  atoms of Carbon to have 12g of carbon.



see below \*



\* #17 c) could also be:  $2FeS + O_2 \rightarrow 2FeO + 2S$

## BALANCING EQUATIONS PRACTICE

1.  $2 \text{H}_2 + \text{O}_2 \rightarrow 2 \text{H}_2\text{O}$
2.  $2 \text{HgO} \rightarrow 2 \text{Hg} + \text{O}_2$
3.  $2 \text{Na} + 2 \text{H}_2\text{O} \rightarrow 2 \text{NaOH} + \text{H}_2$
4.  $4 \text{Si}_2\text{H}_3 + 11 \text{O}_2 \rightarrow 8 \text{SiO}_2 + 6 \text{H}_2\text{O}$
5.  $2 \text{C}_7\text{H}_6\text{O}_2 + 15 \text{O}_2 \rightarrow 14 \text{CO}_2 + 6 \text{H}_2\text{O}$
6.  $\text{Fe}_2\text{O}_3 + 3 \text{H}_2 \rightarrow 2 \text{Fe} + 3 \text{H}_2\text{O}$
7.  $2 \text{C}_2\text{H}_2 + 5 \text{O}_2 \rightarrow 4 \text{CO}_2 + 2 \text{H}_2\text{O}$
8.  $2 \text{H}_2\text{O}_2 \rightarrow 2 \text{H}_2\text{O} + \text{O}_2$
9.  $\text{C}_7\text{H}_{16} + 11 \text{O}_2 \rightarrow 7 \text{CO}_2 + 8 \text{H}_2\text{O}$
10.  $2 \text{KClO}_3 \rightarrow 2 \text{KCl} + 3 \text{O}_2$
11.  $4 \text{KClO}_3 \rightarrow 3 \text{KClO}_4 + \text{KCl}$
12.  $8 \text{H}_2\text{S} + 8 \text{Cl}_2 \rightarrow \text{S}_8 + 16 \text{HCl}$
13.  $3 \text{Fe} + 4 \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + 4 \text{H}_2$
14.  $\text{H}_2\text{SO}_4 + 8 \text{HI} \rightarrow \text{H}_2\text{S} + 4 \text{I}_2 + 4 \text{H}_2\text{O}$
15.  $2 \text{N}_2 + \text{O}_2 \rightarrow 2 \text{N}_2\text{O}$
16.  $\text{N}_2 + 3 \text{H}_2 \rightarrow 2 \text{NH}_3$
17.  $4 \text{Al} + 3 \text{O}_2 \rightarrow 2 \text{Al}_2\text{O}_3$
18.  $2 \text{H}_3\text{AsO}_4 \rightarrow \text{As}_2\text{O}_5 + 3 \text{H}_2\text{O}$
19.  $\text{P}_4 + 5 \text{O}_2 \rightarrow 2 \text{P}_2\text{O}_5$