

# Review: Compounds

## Part 1

① metal + non-metal

② two non-metals

③ a) ionic      sodium = metal      sulfur = non

b) covalent      phosphorus + chlorine = non

c) covalent      nitrogen + oxygen = non

d) ionic      zinc = metal      oxygen = non

e) ionic      magnesium = metal      iodine = non

f) ionic      sodium = metal      nitrate = polyatomic

g) covalent      carbon + hydrogen = non

h) ionic      potassium = metal      carbonate = polyatomic

## Part 2

④ two

⑤ three or more

⑥ a) polyatomic

3 elements: Na, N, O

b) polyatomic

3 elements: Mg, S, O

c) binary

2 elements: Na, Cl

d) binary

2 elements: Mg, Br

e) polyatomic

3 elements: K, C, O

f) polyatomic

4 elements: Na, C, H, O

g) binary

2 elements: Li, S

h) polyatomic

4 elements: N, H, S, O

- 7
- a)  $\text{CO}_3^{2-}$
  - b) sulfate
  - c) nitrate
  - d)  $\text{CO}_3^{2-}$

- e)  $\text{NO}_2^-$
- f) phosphate
- g) ammonium and hydroxide

Part 3 look up on table p. 3 of data booklet

- 8
- a) +1
  - b) -2
  - c) -1
  - d) +2
  - e) +2
  - f) -2
  - g) +1
  - h) -2
  - i) +3
  - j) -3
  - k) -3
  - l) +1
  - m) +4
  - n) -1
  - o) -1
  - p) +1
  - q) +2
  - r) -1

alkali metal (all +1)

alkaline earth metal (all +2)

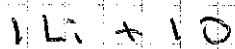
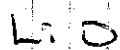
roman numeral = charge

N and P are both -3

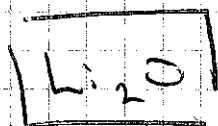
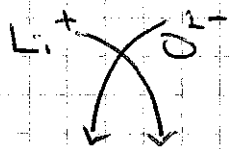
halogens (all -1)

Part 4

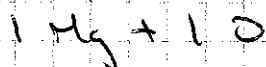
9) a)



$1(+1) + 1(-2) = -1$  not neutral  $\therefore$  wrong formula



b)  $\text{MgO}$



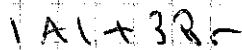
$1(+2) + 1(-2) = 0$  neutral  $\therefore$  correct

c)  $\text{K}_2\text{S}$



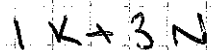
$2(+1) + 1(-2) = 0$  neutral  $\therefore$  correct

d)  $\text{AlBr}_3$

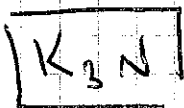
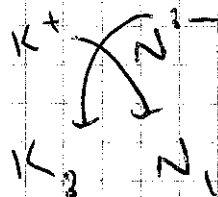


$1(+3) + 3(-1) = 0$  neutral  $\therefore$  correct

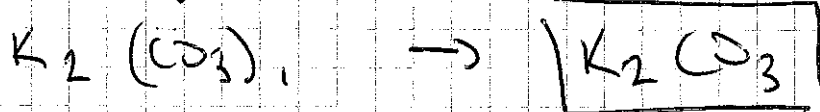
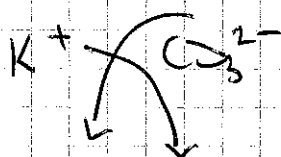
e)  $\text{K}_3\text{N}$



$1(+1) + 3(-3) = -8$  not neutral  $\therefore$  wrong formula



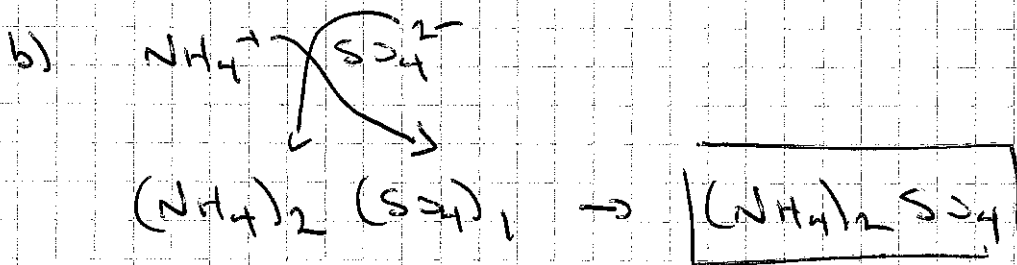
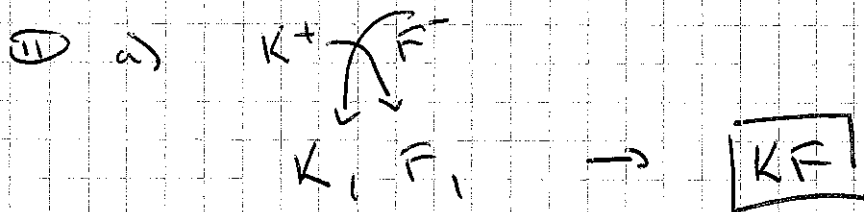
9) f)  $KCO_3$   
 $1 K^+ + 1 CO_3$   
 $1(+1) + 1(-2) = -1$  not neutral  $\therefore$  wrong formula



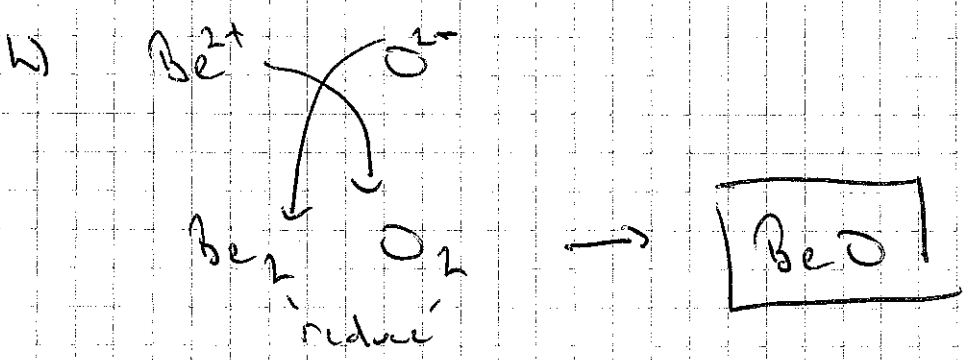
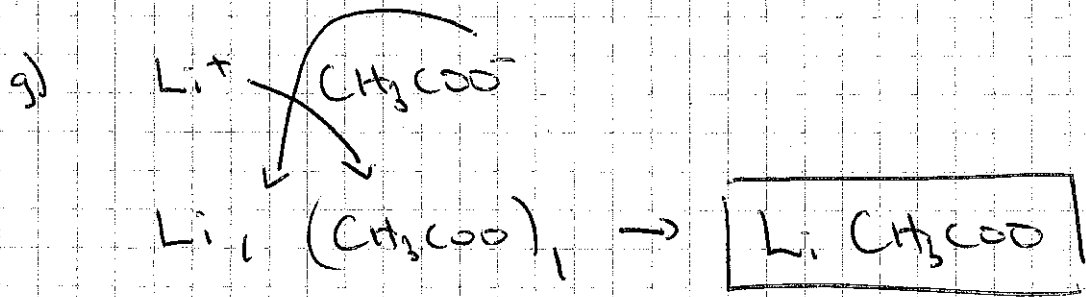
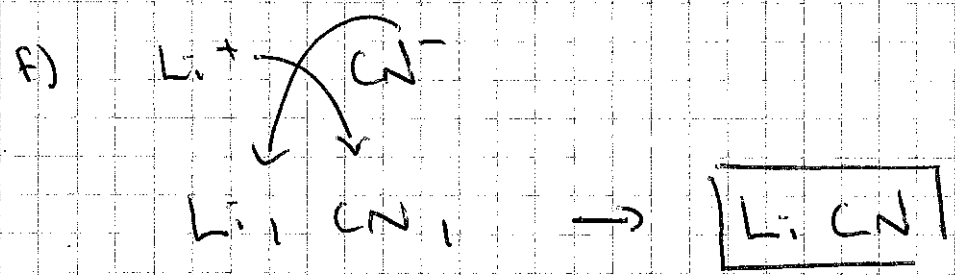
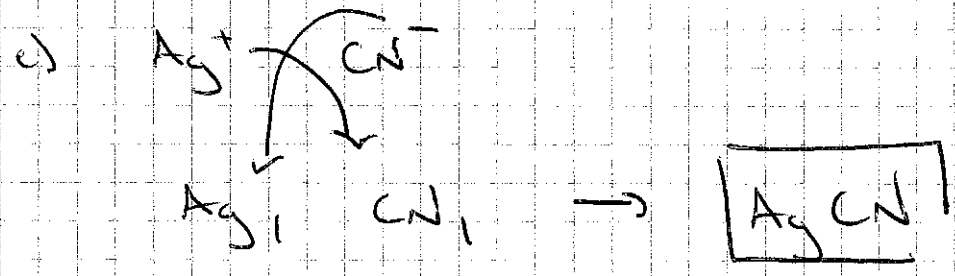
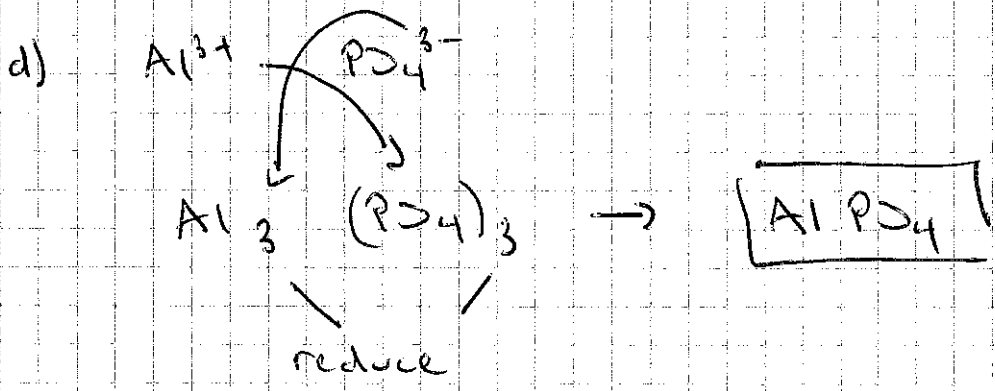
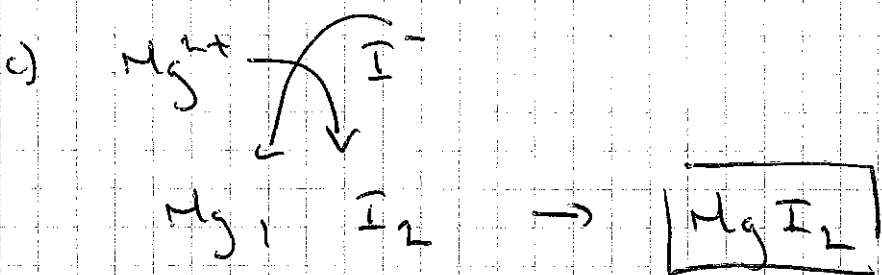
Part 5 memorize these

- |             |          |
|-------------|----------|
| 10) a) mono | f) hexa  |
| b) di       | g) hepta |
| c) tri      | h) octa  |
| d) tetra    | i) nona  |
| e) penta    |          |

Part 6

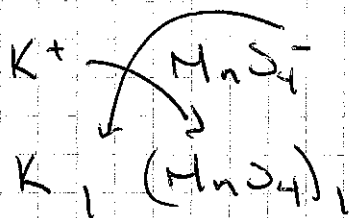


①

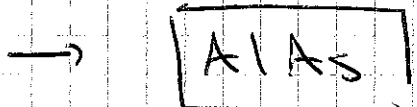
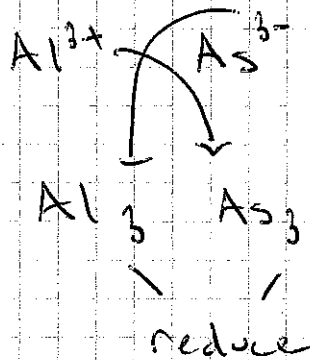


⑩

i)

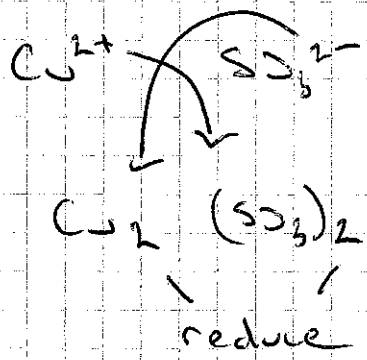


j)

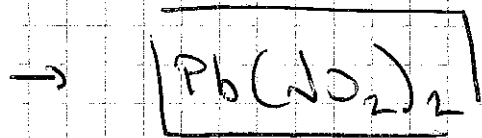
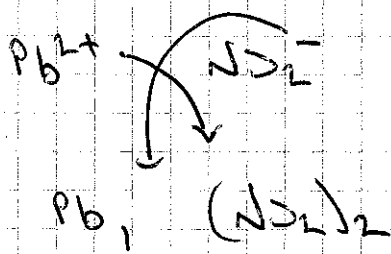


⑪

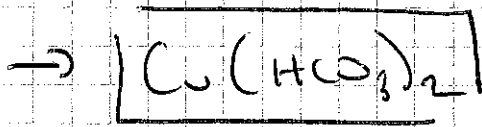
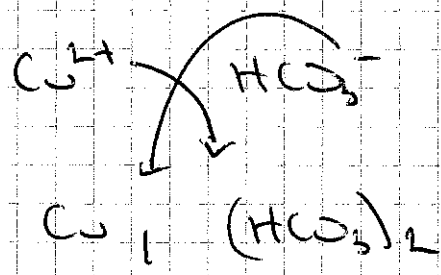
a)



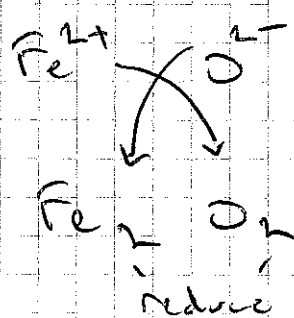
b)



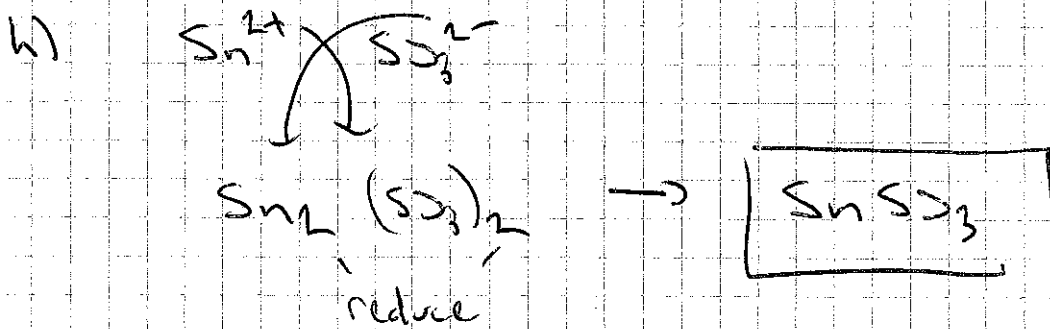
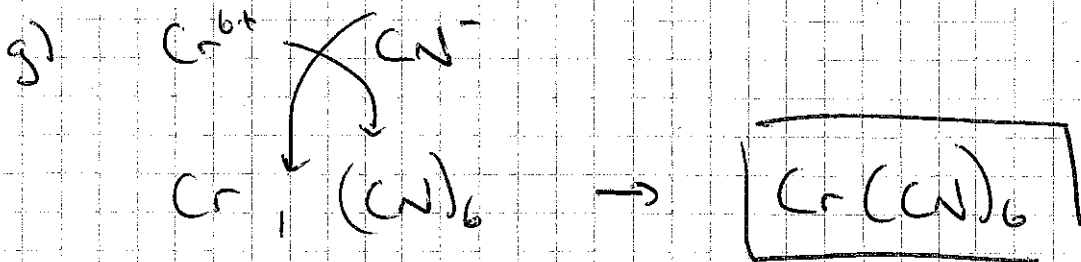
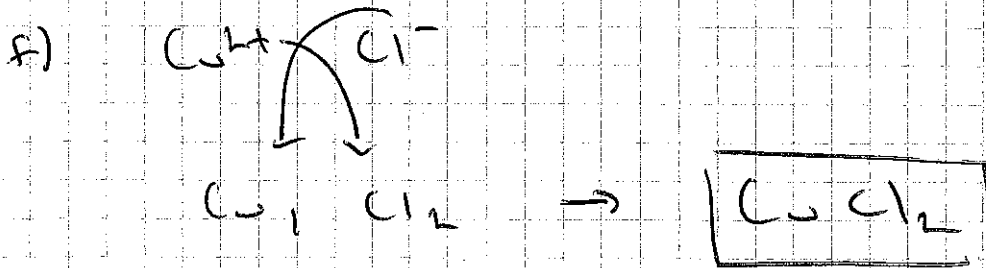
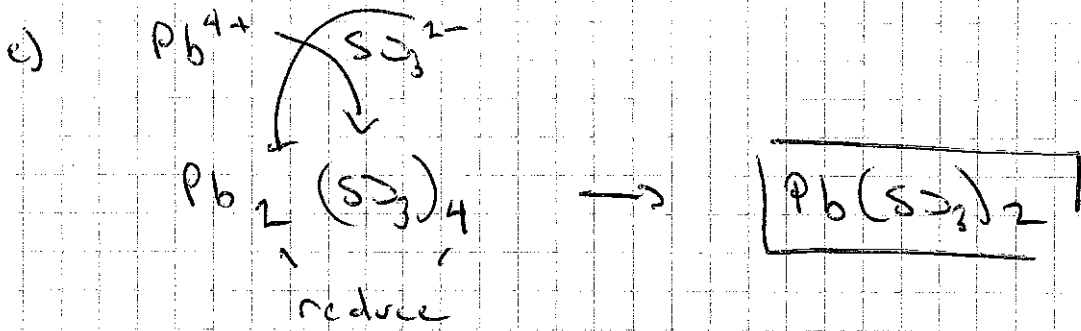
c)



d)



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Part 7

13

- a)  $H_2O$
- b)  $CO_2$
- c)  $CH_4$
- d)  $P_2O_5$

- e)  $ICl_3$
- f)  $NH_3$
- g)  $As_2O_5$
- h)  $N_2O_4$

Part 8

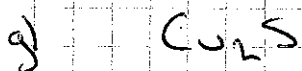
- 14
- a) magnesium fluoride
  - b) potassium fluoride
  - c) aluminum oxide
  - d) sodium nitrate
  - e) magnesium sulfate
  - f)  $\text{Fe}(\text{OH})_2$



$$1(x) + 2(-1) = 0$$

$$x = +2$$

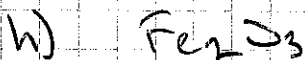
∞ iron (II) hydroxide



$$2(x) + 1(-2) = 0$$

$$x = +1$$

∞ copper (I) sulfide



$$2(x) + 3(-2) = 0$$

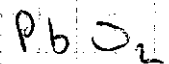
$$x = +3$$

∞ iron (III) oxide



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i)

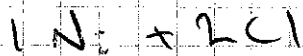


$$1(x) + 2(-2) = 0$$

$$x = +4$$

∴ lead (IV) oxide

j)

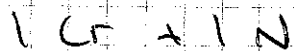


$$1(x) + 2(-1) = 0$$

$$x = +2$$

∴ nickel (II) chloride

k)

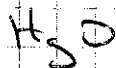


$$1(x) + 1(-3) = 0$$

$$x = +3$$

∴ chromium (III) nitride

l)



$$1(x) + 1(-2) = 0$$

$$x = +2$$

∴ mercury (II) oxide

Part 9

13

- a) carbon monoxide
- b) sulfur hexafluoride
- c) dinitrogen trioxide
- d) sulfur trioxide
- e) diarsenic pentoxide