

Answers

Science 9 chp 2,3,4

Review WS

1. a) Elements are made up of compounds (atoms).
- b) non metals (metals) are shiny and good conductors
- c) protons (electrons) are negative particles in orbits around the nucleus
- d) the mass number is the number of neutrons (protons and electrons)
- e) A Bohr diagram shows protons (negative) in orbits.
- f) Elements in the same period (column) have the same properties
- g) noble gases are uncreative (un-reactive) liquids (solids)
- h) alkali metals include sodium, potassium, chlorine (lithium)
- i) Halogens include fluorine, bromine, argon (chlorine)

- 2.
- | | |
|-------------------|--------------------------|
| a) atom | j) alkali metal |
| b) pure substance | k) halogen |
| c) element | l) mixture |
| d) molecule | m) neutron |
| e) ion | n) heterogeneous mixture |
| f) protons | o) bond |
| g) solution | p) electron |
| h) valence | q) noble gas |
| i) matter | r) compound |

- 3.
1. All matter is made of tiny particles called atoms.
 2. All particles of one substance are the same different substances have different particles
 3. The particles are always moving
 4. There are attractive forces between particles the closer together they are the most attracted they are

4. hydrogen peroxide H_2O_2
water H_2O

carbon dioxide CO_2
carbon monoxide CO

5. a) left of the staircase line
b) right of the staircase line

6. a) solution c) solution
b) heterogeneous mixture d) heterogeneous mixture

7. a) Group 2 period 4 = Ca calcium
b) Group 17 period 4 = Br bromine
c) Group 18 period 3 = Ar argon
d) Group 8 period 4 = Fe iron

8. a) Cu_3PO_4 copper (Cu) = 3 atoms
phosphorous (P) = 1 "
oxygen (O) = 4 "

b) NaN_3 sodium (Na) = 1 atom
nitrogen (N) = 1 "
oxygen (O) = 3 atoms

c) $2\text{V}_2\text{O}_5$ vanadium (V) = 4 atoms
oxygen (O) = 10 "

d) 9MgSO_4 magnesium (Mg) = 9 atoms
sulphur (S) = 9 atoms
oxygen (O) = 36 "

e) $\text{Al}(\text{OH})_3$ aluminum (Al) = 1 atom
oxygen (O) = 3 "
hydrogen (H) = 3 "

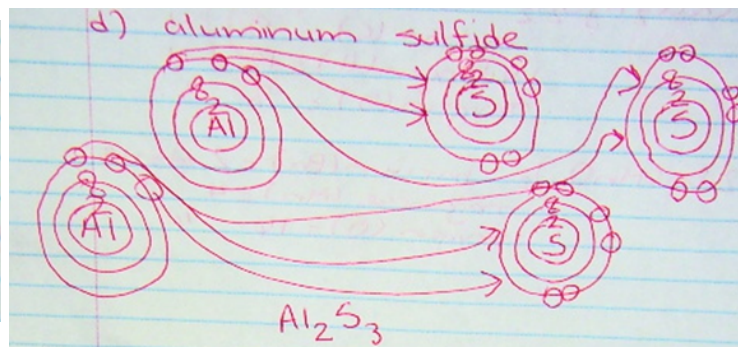
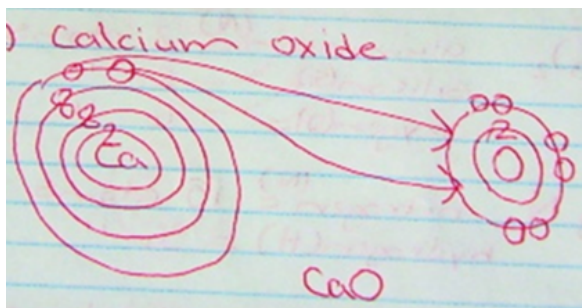
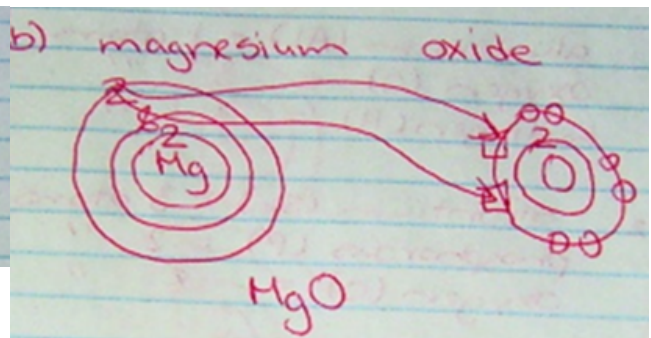
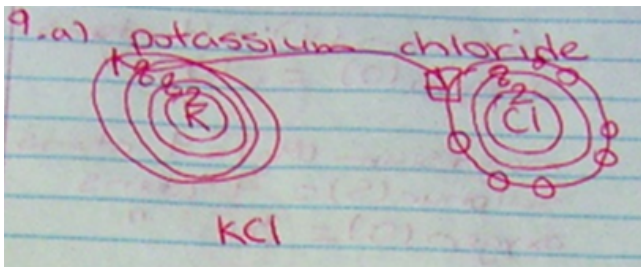
f) $\text{Sr}_3(\text{PO}_4)_2$ strontium (Sr) = 3 atoms
phosphorous (P) = 2 "
oxygen (O) = 8 "

g) $\text{Al}_2(\text{SiO}_3)_2$ aluminum (Al) = 2 atoms
silicon (Si) = 2 "
oxygen (O) = 6 "

h) $3(\text{NH}_4)_3\text{N}$ nitrogen (N) = 12 atoms
hydrogen (H) = 36 "

i) $2\text{Ca}(\text{C}_2\text{H}_3\text{O}_2)_2$ calcium = 2 atoms
carbon (C) = 8 "
hydrogen (H) = 12 "
oxygen (O) = 8 "

j) $2\text{Ba}(\text{MnO}_4)_2$ barium (Ba) = 2 atoms
manganese (Mn) = 4 "
oxygen (O) = 16 "



Element	Symbol	Atomic #	Mass #	Standard atomic notation	# of protons	# of electrons	# of neutrons
Helium	He	2	4	${}^4_2\text{He}$	2	2	2
Oxygen	O	8	16	${}^{16}_8\text{O}$	8	8	8
Sodium	Na	11	23	${}^{23}_{11}\text{Na}$	11	11	12
Chlorine	Cl	17	37	${}^{37}_{17}\text{Cl}$	17	17	20
Calcium	Ca	20	42	${}^{42}_{20}\text{Ca}$	20	20	22

