

AP WORKSHEET 04BEGHI: ANSWERS

1.

- (a) Electrolyte, soluble ionic compound produces lots of ions in solution
- (b) Non-electrolyte, molecular (covalent) compound that produces no ions in solution
- (c) Electrolyte, soluble ionic compound produces lots of ions in solution

2.

- (a) 0.238 M
- (b) 0.16 M, 0.24 M

3.

- (a) $\text{CuSO}_{4(aq)} + \text{Na}_2\text{CO}_{3(aq)} \rightarrow \text{CuCO}_{3(s)} + \text{Na}_2\text{SO}_{4(aq)}$
 $\text{Cu}^{2+}_{(aq)} + \text{CO}_3^{2-}_{(aq)} \rightarrow \text{CuCO}_{3(s)}$
- (b) NO REACTION, all potential products are soluble
- (c) $\text{AgNO}_{3(aq)} + \text{NaBr}_{(aq)} \rightarrow \text{NaNO}_{3(aq)} + \text{AgBr}_{(s)}$
 $\text{Ag}^+_{(aq)} + \text{Br}^-_{(aq)} \rightarrow \text{AgBr}_{(s)}$

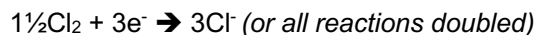
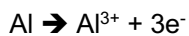
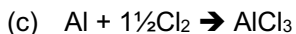
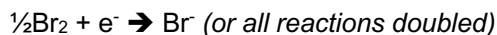
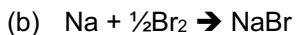
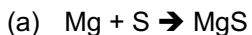
4.

- (a) $2\text{CsOH}_{(aq)} + \text{H}_2\text{SO}_{4(aq)} \rightarrow \text{Cs}_2\text{SO}_{4(aq)} + 2\text{H}_2\text{O}_{(l)}$
- (b) $2\text{Cs}^+_{(aq)} + 2\text{OH}^-_{(aq)} + 2\text{H}^+_{(aq)} + \text{SO}_4^{2-} \rightarrow 2\text{Cs}^+_{(aq)} + \text{SO}_4^{2-}_{(aq)} + 2\text{H}_2\text{O}_{(l)}$
- (c) $2\text{H}^+_{(aq)} + 2\text{OH}^-_{(aq)} \rightarrow 2\text{H}_2\text{O}_{(l)}$

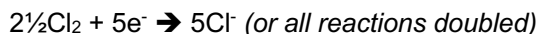
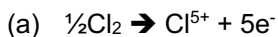
5.

- (a) +2, group 2 always +2
- (b) +4, oxygen usually -2
- (c) $-\frac{1}{2}$, group 1 always +1
- (d) -3, hydrogen usually +1

6.



7.



(b) Yes, simultaneous oxidation and reduction of the same species

8.



(Then remove excess water's and H^+ 's if you want to)



(b) 0.0130 L

9.

(a) Double displacement, precipitation

(b) Double displacement, acid base

(c) Redox, combustion

(d) Decomposition, Redox

(e) Combination, Redox

(f) Single displacement, Redox