



GROUP 2 QUESTIONS

- 1) a) X = Ba (or Sr)
 $\text{Ba} + 2 \text{H}_2\text{O} \rightarrow \text{Ba}(\text{OH})_2 + \text{H}_2$ (or with Sr)
 $\text{Ba}^{2+} + \text{SO}_4^{2-} \rightarrow \text{BaSO}_4$ / $\text{BaCl}_2 + \text{Na}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + 2 \text{NaCl}$ (or with Sr)
- b) Y = Mg
 $\text{Mg}^{2+} + 2 \text{OH}^- \rightarrow \text{Mg}(\text{OH})_2$ / $\text{Mg}(\text{NO}_3)_2 + 2 \text{KOH} \rightarrow \text{Mg}(\text{OH})_2 + 2 \text{KNO}_3$
- c) atomic radius increases
more shells of electrons
- d) melting points decrease
weaker metallic bonding
metal ions (atoms) are larger
- e) lower ionisation energy
atomic radius greater
more shielding
weaker attraction between outer shell electrons and nucleus
- 2) a) i) radium hydroxide = soluble
ii) radium sulfate = insoluble
- b) i) more
ii) more shells of electrons
- c) i) less
ii) atomic radius greater
more shielding
weaker attraction between outer shell electrons and nucleus
- d) i) lower
ii) weaker metallic bonding
metal ions (atoms) are larger