Year 11 Chemistry
Equations, Water and Energy Revision Questions

1. Write the following as formulae and indicate solubility e.g. $Pb(NO_3)_{2(aq)}$

    (a) nickel oxide
    (b) lead fluoride
    (c) cobalt hydroxide
    (d) ammonium chloride
    (e) potassium nitrate
    (f) silver iodide

    (g) gold sulfide
    (h) tin sulfate
    (i) iron carbonate
    (j) potassium phosphate
    (k) sodium nitrate
    (l) magnesium bromide

2. An unknown ionic substance forms a precipitate with fluoride and sulphate but not with oxides or sulfides. Deduce the cation, and give reasons.

3. Write balanced ionic equations for the following:
    (a) chlorine gas plus calcium metal
    (b) solid lead carbonate plus hydrochloric acid
    (c) solid magnesium bicarbonate plus nitric acid
    (d) silver nitrate solution plus copper sulfate solution
    (e) sulfuric acid plus sodium hydroxide solution
    (f) phosphoric acid plus potassium metal
    (g) lithium metal plus water
    (h) combustion of propane gas (C_3H_8) in air

4. State the difference between the latent heat of fusion and the latent heat of vaporisation.

5. Find the temperature 100g of water will increase if 600J are absorbed. The specific heat capacity of water is 4.18 J/g/°C.

6. Using diagrams, explain how soaps and detergents work, and how each is affected by hardness of water.

7. Explain why aluminium sulfate is a good flocculant.