Part A: Balance each of the following skeleton equations.

1. LiOH + 
$$H_2CO_3 \rightarrow Li_2CO_3 + H_2O$$

2. 
$$K_2SO_4$$
 +  $BaCl_2$   $\rightarrow$   $KCl$  +  $BaSO_4$ 

3. Al + 
$$H_2SO_4 \rightarrow H_2 + Al_2(SO_4)_3$$

4. 
$$CH_3NO_2 + Cl_2 \rightarrow CCl_3NO_2 + HCl$$

5. 
$$Mg(ClO_3)_2 + NH_4Br \rightarrow NH_4ClO_3 + MgBr_2$$

<u>Part B</u>: Write a balanced chemical equation for each of the following word equations. Include states.

3. magnesium bromide + ammonium nitrate  $\rightarrow$  magnesium nitrate + ammonium bromide

4. potassium iodide + lead (II) nitrate → lead (II) iodide + potassium nitrate

5. iron (III) chloride + lithium hydroxide  $\rightarrow$  iron (III) hydroxide + lithium chloride

<u>Part C</u>: Write a balanced chemical equation for each of the following reactions. Include states.

- 1. Solutions of beryllium iodide and tin (IV) nitrate react to produce solutions of beryllium nitrate and tin (IV) iodide.
- 2. Water and gold are the products of the reaction between solid gold (III) oxide and hydrogen gas.
- 3. Water vapour and chlorine gas are produced when oxygen gas is added to gaseous hydrogen chloride.
- 4. Aqueous potassium chromate reacts with aqueous aluminum chloride to yield potassium chloride solution and solid aluminum chromate.
- 5. Solid xenon trioxide and hydrogen fluoride gas are the products of a violent reaction between gaseous xenon hexafluoride and water.
- 6. A solution of manganese (II) chloride and a precipitate of lead (IV) sulfide are produced when a solution of manganese (II) sulfide is added to a solution of lead (IV) chloride.

## Answers:

Part A:	1.	2, 1, 1, 2
	2.	1, 1, 2, 1

2. 1, 3, 3, 2