

Section A:

1. State the differences between ionic equations and half equations.

2. Write out the state symbols below.

(s) - _____

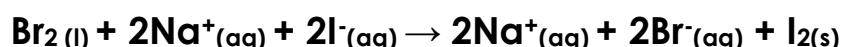
(l) - _____

(aq) - _____

(g) - _____

3. Write the definition of a redox reaction.

4. Below shows an ionic equation for a chemical reaction.

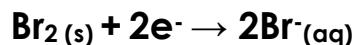


- (a) Is this a displacement reaction? Explain your answer.

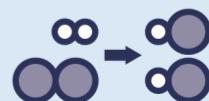
- (b) State what is being reduced and what is being oxidised in the reaction.

- (c) Is this a redox reaction? Explain your answer.

- (d) Below shows one half equation for this reaction.



Write the other half equation for this reaction.

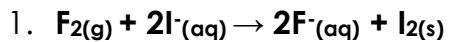


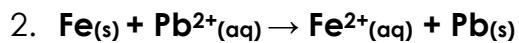
Section B

Using the information in the box, write out half equations for the following ionic equations.

Steps for writing half equations:

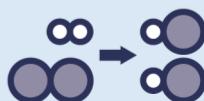
1. **Pick one element** that's on both sides of the equation
2. Write down **reactant → product**, copying from the equation exactly
3. **Balance the atoms and ions**
4. **Add up the charges** on both sides
5. **Balance the charges** with electrons







Section C



Fluorine, chlorine, and bromine are in Group 7, the halogens.

As you go down the Group 7 elements, reactivity decreases.

Chlorine reacts with a solution of potassium bromide to produce bromine.

1. Write the balanced chemical equation for this reaction.

2. Write the ionic equation for this reaction.

3. Write two half equations for this reaction.

4. Explain why this is a redox reaction.

5. Using the periodic table, state how many electron shells a chlorine atom and a bromine atom have.

6. Explain, in terms of electronic structure, why chlorine is more reactive than bromine.

