

Practice Sheet 8

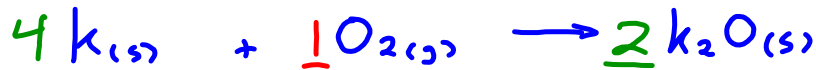
In the following exercises, recall that many of the non-metal elements exist as molecules, such as $H_{2(g)}$ or $S_{8(s)}$. Rewrite the following word equations as formula equations and then balance them:

a) solid sodium metal reacts with chlorine gas to produce solid sodium chloride



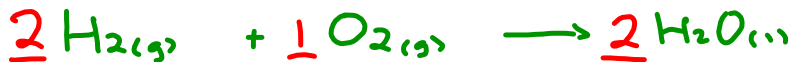
K_2O

b) solid potassium metal reacts with oxygen gas to produce solid potassium oxide



H_2O

c) hydrogen gas reacts with oxygen gas to produce liquid water



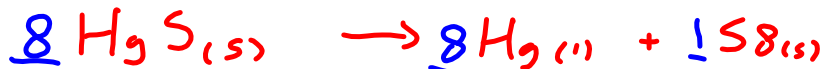
d) solid potassium chlorate decomposes into oxygen gas and solid potassium chloride



e) solid aluminium oxide is decomposed into solid aluminium and oxygen gas



f) mercury(II) sulfide is decomposed into liquid mercury and solid sulfur



g) aqueous cobalt(III) nitrate reacts with solid zinc to produce aqueous zinc nitrate and solid cobalt



h) fluorine gas reacts with aqueous lead(IV) iodide to produce aqueous lead(IV) fluoride and solid iodine



i) aqueous gold(III) bromide reacts with solid silver metal to produce solid silver bromide and solid gold metal



j) aqueous sodium sulfate reacts with aqueous strontium hydroxide to produce aqueous sodium hydroxide and solid strontium sulfate



k) aqueous thallium(I) hydroxide reacts with aqueous magnesium bromide to produce solid magnesium hydroxide and solid thallium bromide



l) methane gas reacts with oxygen gas to produce carbon dioxide gas and water vapour



H₂O
H₂O

Balance the following chemical equations:

