Exercise 7.3
Reactions of Aluminium and Aluminium Oxide

1. Write the chemical formula for the anion formed when Al, Al_2O_3 or $Al(OH)_3$ reacts with concentrated $OH^-(aq)$.

2. Write a balanced chemical equation for each of the following reactions.
If no reaction occurs, write "NO REACTION" instead.
Include states of matter.

(a) Al reacts with concentrated HCl(aq)

(b) Al reacts with concentrated $HNO_3(aq)$

(c) Al reacts with concentrated NaOH(aq)

(d) Al reacts with concentrated KOH(aq)

3. Write a balanced chemical equation for each of the following reactions.
If no reaction occurs, write "NO REACTION" instead.
Include states of matter.

(a) Al_2O_3 reacts with concentrated HCl(aq)

(b) Al_2O_3 reacts with concentrated $HNO_3(aq)$

(c) Al_2O_3 reacts with concentrated NaOH(aq)

(d) Al_2O_3 reacts with concentrated KOH(aq)