1. What is the oxidation number of manganese in ${\rm KMnO_4}$ ?	7. What is the oxidation number assigned to manganese in KMnO <sub>4</sub> ?
A) +7 B) +2 C) +3 D) +4	A) +7 B) +2 C) +3 D) +4
2. Which polyatomic ion has a charge of 3–?	8. What is the oxidation state of nitrogen in NaNO <sub>2</sub> ?
A) chromate ion B) oxalate ion	A) +1 B) +2 C) +3 D) +4
C) phosphate ion D) thiocyanate ion	9. In which compound does chlorine have the highest
3. What is the oxidation state of nitrogen in the	oxidation number?
compound NH4Br?	A) NaClO B) NaClO <sub>2</sub>
A) $-1$ B) $+2$ C) $-3$ D) $+4$	C) NaClO <sub>3</sub> D) NaClO <sub>4</sub>

4. What is the oxidation number of sulfur in Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> ?

A) -1 B) +2 C) +6 D) +4

5. Given the balanced equation representing a reaction:

 $2KClO_3(s) \rightarrow 2KCl(s) + 3O_2(g)$ The oxidation state of chlorine in this reaction changes from

A) -1 to +1

B) -1 to +5

C) + 1 to -1

D) +5 to -1

6. What is the oxidation number of chromium in the chromate ion, CrO4<sup>2–</sup>?

A) +6

B) +2

C) +3

D) +8

10. In which substance does chlorine have an oxidation number of +1?

A) Cl<sub>2</sub>

B) HCl

C) HClO

D) HClO<sub>2</sub>

11. What is the oxidation number of chromium in K<sub>2</sub>Cr<sub>2</sub> O<sub>7</sub>?

A) +12

B) +2

C) +3

D) +6

12. What is the oxidation number of hydrogen in CaH<sub>2</sub>?

A) +1

B) +2

C) -1

D) -2