Chapter Summary Worksheet

Chapter 9
Oxidation and reduction: redox

Print out and complete this worksheet to generate a summary for Chapter 9.

1 Which is a redox reaction?

- ☐ **A** $H^+(aq) + OH^-(aq) \rightarrow H_2O(l)$
- ☐ **B** $2CrO_4^{2-} + 2H^+(aq) \rightarrow Cr_2O_7^{2-}(aq) + H_2O(l)$
- ☐ **C** $SnCl_2(aq) + 2FeCl_3(aq) \rightarrow SnCl_4(aq) + 2FeCl_2(aq)$
- ☐ **D** $CuO(s) + H_2SO_4(aq) \rightarrow CuSO_4(aq) + H_2O(l)$

2 Which is **not** a disproportionation reaction?

- ☐ **A** $2H_2O_2(l) \rightarrow 2H_2O(l) + O_2(g)$
- ☐ **B** $Cl_2(g) + H_2O(l) \rightarrow Cl^-(aq) + OCl^-(aq) + 2H^+(aq)$
- ☐ **C** $CuCl_2(aq) + Cu(s) + 2Cl^-(aq) \rightarrow 2CuCl_2^-(aq)$
- ☐ **D** $3MnO_4^{2-}(aq) + 2H_2O(l) \rightarrow MnO_2(s) + 2MnO_4^-(aq) + 4OH^-(aq)$

3 When iodine reacts with sodium thiosulfate, sodium tetrathionate, $Na_2S_4O_6$, is produced. The oxidation number of sulfur in the product is

- ☐ **A** +2
- ☐ **B** +2.5
- ☐ **C** +4
- ☐ **D** +6

4 The oxidation number of oxygen in potassium superoxide, KO_2, is

- ☐ **A** $-\frac{1}{2}$
- ☐ **B** −1
- ☐ **C** −2
- ☐ **D** −4

5 The value of *x* necessary to balance the following half-equation is

$MnO_4^-(aq) + xe^- + 8H^+(aq) \rightarrow Mn^{2+}(aq) + 4H_2O(l)$

- ☐ **A** 5
- ☐ **B** 3
- ☐ **C** 2
- ☐ **D** 1

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