

ASSIGNING OXIDATION NUMBERS – WORKSHEET 1

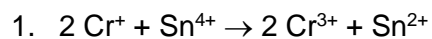
Part A:

In the following questions, give the oxidation number of the indicated atoms/ion.

1. N in N_2O_3 _____
2. S in H_2SO_4 _____
3. C _____
4. C in CO _____
5. Na in NaCl _____
6. H in H_2O _____
7. Ba in BaCl_2 _____
8. N in NO_2^- _____
9. S in Al_2S_3 _____
10. S in HSO_4^- _____
11. Cl in $\text{Fe}(\text{ClO}_2)_3$ _____
12. Fe in $\text{Fe}(\text{ClO}_2)_3$ _____
13. N in NO_3^- _____
14. Cu^{2+} _____
15. Zn^{2+} _____
16. C in CH_4 _____
17. Mn in MnO_2 _____
18. S in SO_3^{2-} _____
19. Mg^{2+} _____
20. Cl^- _____
21. O_2 _____
22. P_4 _____
23. Na in Na_2S _____
24. S in H_2S _____
25. Ca^{2+} _____
26. C in CN^- _____
27. H in OH^- _____
28. Mn in KMnO_4 _____
29. I in $\text{Mg}(\text{IO}_3)_2$ _____
30. C in $\text{C}_2\text{O}_4^{2-}$ _____

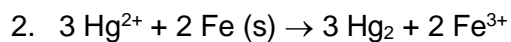
Part B:

Identify the species being oxidised and reduced in each of the following reactions and write their half reactions:



Oxidised: _____

Reduced: _____



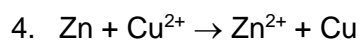
Oxidised: _____

Reduced: _____



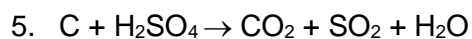
Oxidised: _____

Reduced: _____



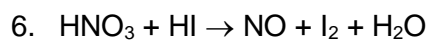
Oxidized: _____

Reduced: _____



Oxidised: _____

Reduced: _____



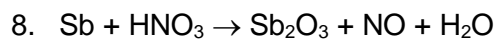
Oxidised: _____

Reduced: _____



Oxidised: _____

Reduced: _____

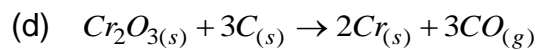
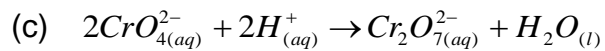
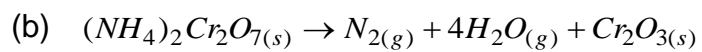
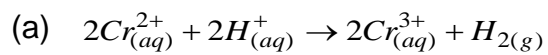


Oxidised: _____

Reduced: _____

Part C:

Which one of the following reactions is NOT a redox reaction?



As

ANSWERS

Part A:

1. +3
2. +6
3. 0
4. +2
5. +1
6. +1
7. +2
8. +3
9. -2
10. +6
11. +3
12. +3
13. +5
14. +2
15. +2
16. -4
17. +4
18. +4
19. +2
20. -1
21. 0
22. 0
23. +1
24. -2
25. +2
26. -4
27. +1
28. +7
29. +5
30. +3

Part B:

- | | |
|----------------------|---------------------|
| 1. Oxidised = Cr^+ | Reduced = Sn^{4+} |
| 2. Oxidised = Fe | Reduced = Hg^{2+} |
| 3. Oxidised = As | Reduced = Cl_2 |
| 4. Oxidised = Zn | Reduced = Cu^{2+} |
| 5. Oxidised = C | Reduced = H_2SO_4 |
| 6. Oxidised = HI | Reduced = HNO_3 |
| 7. Oxidised = HCl | Reduced = $KMnO_4$ |
| 8. Oxidised = Sb | Reduced = HNO_3 |

Part C:

(c) is not a redox reaction.