

Redox Questions

1.) Calculate the oxidation number of the atom in **bold type**.

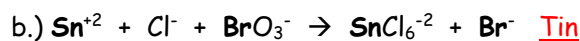
a.) $\text{HNO}_3$	<u>+5</u>	e.) $\text{NH}_4^+$	<u>+5</u>	i.) $\text{Al}(\text{OH})_4^-$	<u>+11</u>	m.) $\text{HClO}_3$	<u>+3</u>	q.) $\text{K}_2\text{UO}_4$	<u>+6</u>
b.) $\text{NO}_2^-$	<u>+3</u>	f.) $\text{N}_3^-$	$-\frac{1}{3}$	j.) $\text{S}_2\text{F}_{10}$	<u>+5</u>	n.) $\text{N}_2\text{H}_5^+$	<u>+3</u>	r.) $\text{C}_3\text{H}_6\text{O}$	$-\frac{4}{3}$
c.) $\text{CrO}_4^{2-}$	<u>+6</u>	g.) $\text{C}_2\text{H}_6$	<u>+3</u>	k.) $\text{N}_2\text{O}_3$	<u>+3</u>	o.) $\text{NH}_2\text{OH}$	<u>+3</u>	s.) $\text{S}_8$	<u>0</u>
d.) $\text{Cr}_2\text{O}_7^{2-}$	<u>+6</u>	h.) $\text{C}_3\text{H}_8$	$+\frac{8}{3}$	l.) $\text{HClO}_4$	<u>+7</u>	p.) $\text{C}_2\text{O}_4^{2-}$	<u>+3</u>	t.) $\text{C}_4\text{H}_6$	$+\frac{6}{4}$

2.) Assign oxidation numbers to the **bold species** in each of the following unbalanced reaction equations. Then determine which species undergoes oxidation in each reaction.



Answer - Cl = +4/+3 and C = 0/+4

Answer - Mn =  $+\frac{7}{+4}$  and C =  $+\frac{7}{2}/+4$

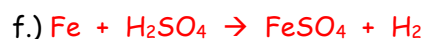
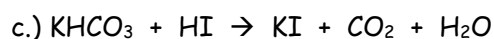
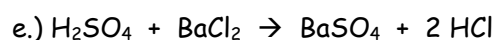
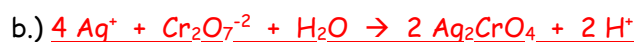


Answer - Sn = +2/+4 and Br = +5/-1

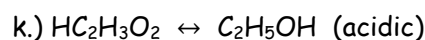
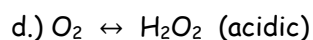
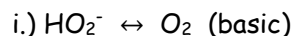
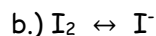
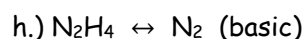
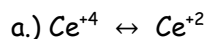


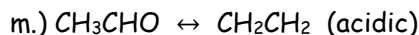
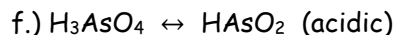
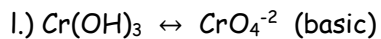
Answer - N = +5/+2 and Te = -2/+6

3.) Which of the following are redox reactions?



4.) Balance the following half-reactions.





5.) Balance the following redox equations.

