UNIT 5B PRACTICE QUIZ 1 – OXIDATION AND REDUCTION

Consider the following reactions and use them to answer Questions 1 – 7:

Reaction V	**$H_2SO_4 + 8HI \rightarrow H_2S + 4I_2 + 4H_2O$**
Reaction W	**$Na_2S_2O_3 + 2HCl \rightarrow S + SO_2 + H_2O + 2NaCl$**
Reaction X	**$H_2SO_4 + K_2CO_3 \rightarrow K_2SO_4 + CO_2 + H_2O$**
Reaction Y	**$MnO_4^- + 8H^+ + 5Fe^{2+} \rightarrow Mn^{2+} + 4H_2O + 5Fe^{3+}$**
Reaction Z	**$C_2H_6 + 3.5O_2 \rightarrow 2CO_2 + 3H_2O$**

1.	Which of the above reactions is not a redox reaction?
2.	What is the oxidation number of S in $Na_2S_2O_3$ (Reaction W)?
3.	What happens to the oxidation number of S in Reaction V?
4.	What is reduced in Reaction Y?
5.	What is the reducing agent in Reaction Z?
6.	In which reaction does the oxidation number of one atom increase by 7?
7.	Which reaction is a disproportionation reaction?

8.	Which of the following is a correct reduction half-equation?	
	A	$2I^- + 2e^- \rightarrow I_2$
	B	$I_2 \rightarrow 2I^- + e^-$
	C	$2I^- \rightarrow I_2 + 2e^-$
	D	$I_2 + 2e^- \rightarrow 2I^-$
	E	$I_2 + e^- \rightarrow 2I^-$

9.	When the following half-equations: $V \rightarrow V^{3+} + 3e^-$, $Cu^{2+} + 2e^- \rightarrow Cu$ are combined, what is the redox reaction obtained?	
	A	$V + Cu^{2+} \rightarrow V^{3+} + Cu$
	B	$V + Cu^{2+} \rightarrow V^{3+} + Cu + e^-$
	C	$2V + 3Cu^{2+} \rightarrow 2V^{3+} + 3Cu$
	D	$3V + 2Cu^{2+} \rightarrow 3V^{3+} + 2Cu$
	E	None of the above

10.	Consider the following redox reaction: $Zn + 2Fe^{3+} \rightarrow Zn^{2+} + 2Fe^{2+}$ Which of the following is the oxidation half-equation for this reaction?	
	A	$Zn \rightarrow Zn^{2+} + 2e^-$
	B	$Zn + 2e^- \rightarrow Zn^{2+}$
	C	$Fe^{3+} + e^- \rightarrow Fe^{2+}$
	D	$Fe^{3+} \rightarrow Fe^{2+} + e^-$
	E	$Zn \rightarrow Zn^{2+} + e^-$

Here is the link to the answer sheet