

## Chapter 4 — Problem 39-42

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39. Assign oxidation numbers to each element in:

- (a)  $\text{NO} \rightarrow \text{N} = 2, \text{O} = -2$
- (b)  $\text{NH}_3 \rightarrow \text{N} = -3, \text{H} = 1$
- (c)  $\text{K}_2\text{O}_2 \rightarrow \text{K} = 1, \text{O} = -1$
- (d)  $\text{ClO}_3^- \rightarrow \text{Cl} = 5, \text{O} = -2$

40. Assign oxidation numbers to each element in:

- (a)  $\text{CH}_4 \rightarrow \text{H} = 1, \text{C} = -4$
- (b)  $\text{CO}_3^{2-} \rightarrow \text{C} = 4, \text{O} = -2$
- (c)  $\text{IO}_4^- \rightarrow \text{I} = 7, \text{O} = -2$
- (d)  $\text{N}_2\text{H}_4 \rightarrow \text{H} = 1, \text{N} = -2$

41. Assign oxidation numbers to each element in:

- (a)  $\text{ClO}_3^- \rightarrow \text{Cl} = 5, \text{O} = -2$
- (b)  $\text{H}_2\text{SO}_3 \rightarrow \text{H} = 1, \text{O} = -2, \text{S} = 4$
- (c)  $\text{K}_2\text{O}_2 \rightarrow \text{K} = 1, \text{O} = -1$
- (d)  $\text{Na}_3\text{N} \rightarrow \text{Na} = 1, \text{N} = -3$

42. Assign oxidation numbers to each element in:

- (a)  $\text{HIO}_3 \rightarrow \text{H} = 1, \text{O} = -2, \text{I} = 5$
- (b)  $\text{NaMnO}_4 \rightarrow \text{Na} = 1, \text{O} = -2, \text{Mn} = 7$
- (c)  $\text{SnO}_2 \rightarrow \text{Sn} = 4, \text{O} = -2$
- (d)  $\text{NOF} \rightarrow \text{O} = -2, \text{N} = 3, \text{F} = -1$
- (e)  $\text{NaO}_2 \rightarrow \text{Na} = 1, \text{O} = -\frac{1}{2}$