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Question 1

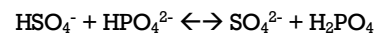
According to one acid-base theory, water acts as an acid when an H_2O molecule

- Accepts an H^+
- Donates an H^+
- Accepts an H^-
- Donates an H^-

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Question 2

Given the reaction:



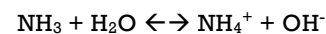
Which pair represents an acid and its conjugate base?

- HSO_4^- and SO_4^{2-}
- HSO_4^- and HPO_4^{2-}
- SO_4^{2-} and H_2PO_4^-
- SO_4^{2-} and HPO_4^{2-}

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Question 3

In the reaction



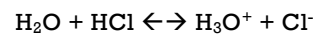
A conjugate acid-base pair is?

- NH_3 and H_2O
- NH_3 and OH^-
- H_2O and NH_4^+
- H_2O and OH^-

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Question 4

Given the reaction:



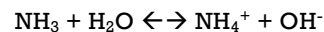
The Bronsted-Lowry base for the forward reaction is

- H_2O
- HCl
- H_3O^+
- Cl^-

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Question 5

Given the equilibrium system:



According to the Bronsted-Lowry theory, the H_2O acts as

- A base, by receiving a proton
- A base, by donating a proton
- An acid, by receiving a proton
- An acid, by donating a proton

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Question 6

In the reaction $\text{H}_2\text{S} + \text{NH}_3 \leftrightarrow \text{NH}_4^+ + \text{HS}^-$, the two Bronsted-Lowry bases are

- NH_3 and HS^-
- NH_3 and NH_4^+
- H_2S and NH_3
- H_2S and HS^-

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Question 7

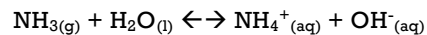
Which is the conjugate acid of HSO_4^- ?

- H_2SO_4
- H_3O^+
- HSO_3^+
- SO_4^{2-}

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Question 8

Given the reaction



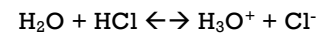
A conjugate acid-base pair is?

- $\text{H}_2\text{O}(\text{l})$ and $\text{NH}_4^+(\text{aq})$
- $\text{H}_2\text{O}(\text{l})$ and $\text{NH}_3(\text{g})$
- $\text{NH}_3(\text{g})$ and $\text{OH}^-(\text{aq})$
- $\text{NH}_3(\text{g})$ and $\text{NH}_4^+(\text{aq})$

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Question 9

Given the balanced equation representing a reaction:



The water molecule acts as a base because it

- Donates an H^+
- Accepts an H^+
- Donates an OH^-
- Accepts an OH^-

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Question 10

The conjugate base of NH_4^+ is

- NH_3
- OH^-
- H_2O
- H_3O^+

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Question 11

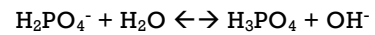
The conjugate acid of the HS^- ion is

- H^+
- S
- H_2O
- H_2S

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Question 12

In the reaction:



Which pair represents an acid and its conjugate base?

- a. H_2O and H_2PO_4^-
- b. H_2O and H_3PO_4
- c. H_3PO_4 and OH^-
- d. H_3PO_4 and H_2PO_4^-