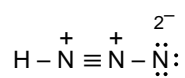


AP CHEMISTRY 2005

Practice Test Two

Question 70 from page 540



In the resonance form of the HN_3 molecule whose skeleton structure is shown above, the bond orders of bonds I and II are:

- (A) I = 2 and II = 1
- (B) I = 2 and II = 3
- (C) I > 2 and II < 2
- (D) I > 2 and II > 2
- (E) I < 2 and II < 2

Answer

70. B

When two atoms are joined by a triple bond, the bond order is 3. When there is a single bond between two atoms, the bond order is 1. The bond order for the first bond in this structure is 1, and the bond order for the second bond in this structure is 3.