

### 9.9.9A: Total Electronic Energies

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Experimental values of the total energy for helium have been used throughout the chapter to gauge the accuracy of our approximation methods. The variation theorem allows us to predict the total energies of atoms by solving for the lowest possible calculated energy. Using the results of variation calculations, perturbation theory, Hartree-Fock calculations, and/or configuration interaction, we can solve for the total energies of atoms with excellent accuracy.

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