

9-19

This exercise is exactly Problem 9.17 with $Z = 4$ so

(a) Equation (9.472) $\Rightarrow E = -\frac{4e^2}{a} \left(4 - \frac{5}{8}\right) = \frac{-27e^2}{2a}$

(b) Equation (9.483) $\Rightarrow E = -\left[1 - \frac{5}{4 \times 8} + \left(\frac{5}{16 \times 4}\right)^2\right] \frac{4e^2}{a} = \frac{-3481e^2}{256a}$

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