HW6-3 Soln)

0.39 eV = 6.24×10^{-20} J

1 eV = 1.6×10^{-19} J

$$K = \frac{h^2}{8m_e L^2} - U_o$$

The diameter corresponds to the width of the well, L:

$$L = \sqrt{\frac{h^2}{8m_e(K + U_o)}} = \sqrt{\frac{(6.63 \times 10^{-34})^2}{8(9.11 \times 10^{-31})(6.24 \times 10^{-20} + 1.6 \times 10^{-19})}} = 5.21 \times 10^{-10} \text{m}$$

$$= 5.21\text{Å} \quad,$$

which is about what we obtained from other means.