$n = 1000$ $\quad r_{1000} = 0.0529 \times 10^{-9} \times (1000)^2 = 0.0529 \times 10^{-3}\, m$

$f_{1000} = 6.58 \times 10^{6}$ HZ

$n = 10\,000$ $\quad r_{10000} = 0.0529 \times 10^{-9} (10000)^2 = 0.0529 \times 10^{-1}\, m$

$f_{10000} = 6.58 \times 10^{3}$ HZ

) $n_i = n \longrightarrow n_f = n - 1$

$$f_n = \frac{\Delta E}{h} = \frac{13.6 \times 1.6 \times 10^{-19}}{6.63 \times 10^{-34}} \left[\frac{1}{(n-1)^2} - \frac{1}{n^2} \right] \quad (HZ)$$

$$= 3.285 \times 10^{15} \left(\frac{1}{(n-1)^2} - \frac{1}{n^2} \right)$$

0 $\quad f_{100} = 3.285 \times 10^{15} \left(\frac{1}{99^2} - \frac{1}{100^2} \right) = 6.67 \times 10^{9}$ HZ

000 $\quad f_{1000} = 3.285 \times 10^{15} \left(\frac{1}{999^2} - \frac{1}{1000^2} \right) = 6.58 \times 10^{6}$ HZ

0000 $\quad f_{10000} = 3.285 \times 10^{15} \left(\frac{1}{9999^2} - \frac{1}{10\,000^2} \right) = 6.57 \times 10^{3}$ HZ

t is clear from this example that when n becomes arge the classical frequency of revolution of the lectron calculated in (a) is equal to the quantum requency calculated in (b) $\Rightarrow$ the Bohr correpondence principale is valid.