

$\infty$  $\infty$ 

$$E_n = \frac{n^2\pi^2\hbar^2}{2mL^2} , \quad n = 1, 2, \dots$$

 $\psi_4(x)$  $E_4$ 

$$\psi_n(x) = \sqrt{\frac{2}{L}} \sin \frac{n\pi x}{L} , \quad 0 \leq x \leq L$$

 $\psi_3(x)$  $E_3$ 

$$-\frac{\hbar^2}{2m} \frac{d^2}{dx^2} \psi_n = E_n \psi_n , \quad 0 \leq x \leq L$$

 $\psi_2(x)$  $E_2$  $\psi_1(x)$  $E_1$ 

0

 $L$