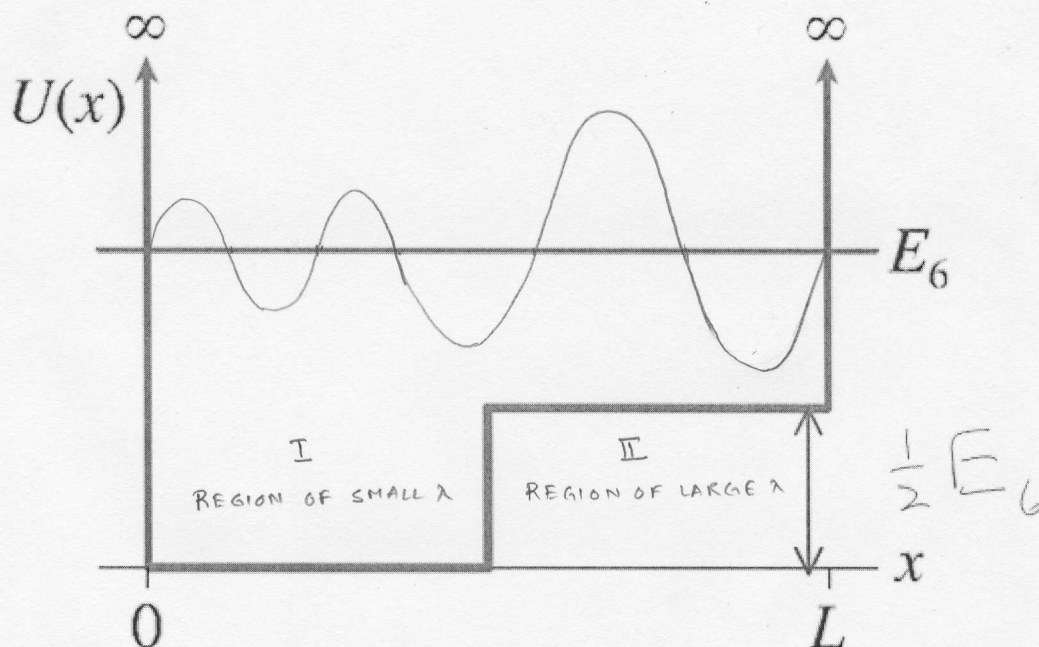


SOLUTION

NAME: _____ _____	Quiz #10d: Phys270 Section 0102
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1. [10 pts] Sketch the $n=6$ wave function for the potential energy shown below:



- ① we have kinetic energy

$$KE = \frac{\hbar^2 k^2}{2m} = (E - V)$$

$$k = \frac{2\pi}{\lambda}$$

$\lambda = \text{period of spacing of nodes}$

$$\therefore \lambda \propto \frac{1}{(E - V)^{1/2}}$$

$$\therefore \lambda_I < \lambda_{II}$$

- ② KE is small in region II
 hence particle has higher probability of existing in this region.
 Therefore amplitude of $\psi(x)$ is more.

- ③ E_6 corresponds to 6 antinodes