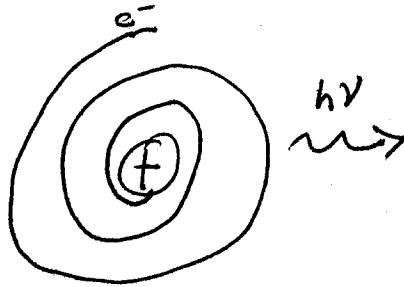


① Why doesn't the "solar system" model of the atom work?

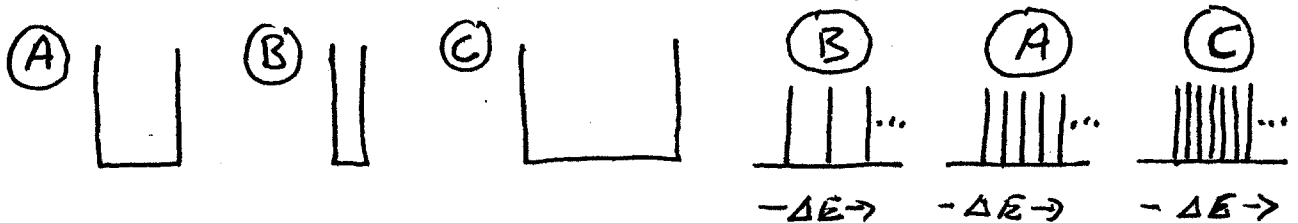


The oscillating dipole implied by the solar system model will emit radiation according to classical electrodynamics and the electron will spiral into the nucleus.

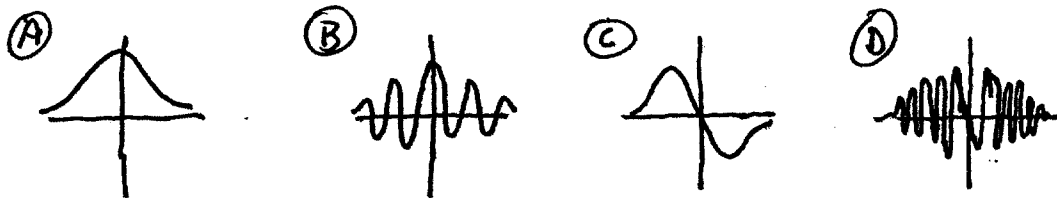
② Let's say $\psi(x)$ is a normalized wavefunction that describes a quantum object over $-\infty < x < \infty$. Write down the appropriate integral needed to calculate the probability of finding the object between $x = 2$ and $x = 5$.

$$\int_2^5 |\psi(x)|^2 dx$$

③ Match the spectrum with the appropriate box



④ Order following wave function according to increasing energy.



A < C < B < D