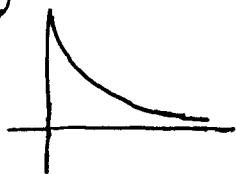


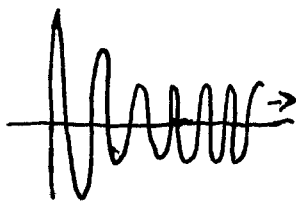
Practice Quiz

① State whether or not the following wavefunctions are valid. Take all space to be $0 \leq x < \infty$

Ⓐ



Ⓑ



Ⓒ



② Normalize $\psi(x) = e^{-x}$. Take all space to be $0 \leq x < \infty$

③ Write down the 1D Schrödinger equation for $V(x) = \frac{1}{2}kx^2$

④ Write out the integral that you would need to do to evaluate $\langle \hat{p}_x \rangle$ for ~~the~~ a system described by the wavefunction in problem 2 above.