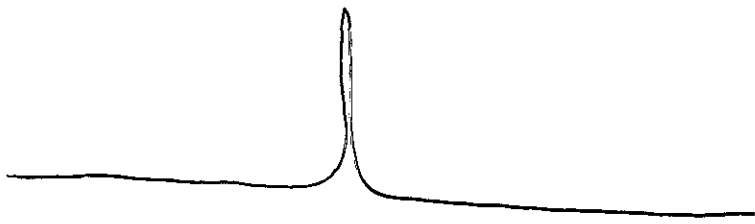


Which of the following wavefunctions represents an energy eigenstate?

A)



B)



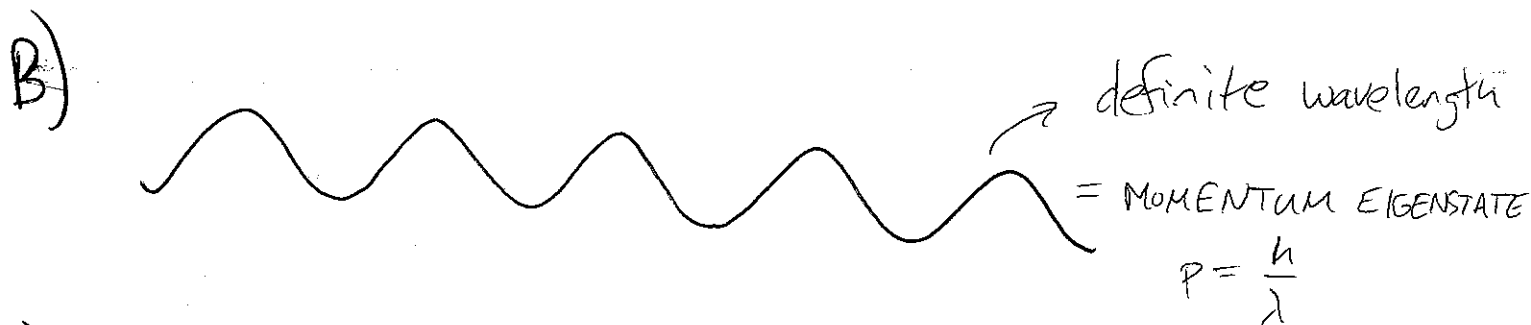
C)



D) Both B and C.

E) Not enough information.

Which of the following wavefunctions represents an energy eigenstate?



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ENERGY EIGENSTATE \Rightarrow definite frequency $E = hf$
(real & imaginary parts oscillate up & down w. freq $f = E/h$)

\rightarrow Probability density constant in time.

\therefore Need to see time dependence (or know potl energy $U(x)$ & solve time indep. S.E.) to tell if energy eigenstate.