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Exercise 2.51

Tuesday, 1 September 2020

V_0(x,t) = \begin{pmatrix} 2a & \sqrt{4} & \sqrt{4} & \sqrt{2} & \sqrt{2
y = \sqrt{1 + \left(2i \cancel{k} at/m\right)}
                                        \Psi(x,t) = \Psi_0\left(2t \leq gt^2, t\right) \exp\left(-i\frac{mgt}{2}\left(x + fgt^2\right)\right)
                                                                        =\frac{\left(\frac{2a}{\sqrt{J}}\right)^{\frac{1}{4}}}{\sqrt{1+\left(2i\cancel{2}at/m\right)}}e^{-a\frac{\left(\frac{b+\frac{1}{3}gt^{2}}{2}\right)^{2}}{t}}e^{-a\frac{\left(\frac{b+\frac{1}{3}gt^{2}}{2}\right)^{2}}{t}}\left(\frac{-impt}{t}\left(\cancel{2}+\frac{1}{6}gt^{2}\right)\right)}
                                                                 \frac{d\psi}{dt} = \frac{\left(\frac{2a}{17}\right)^{\frac{1}{4}}}{\left(\frac{2i\ell at}{m}\right)^{\frac{3}{4}}} + \frac{1}{\sqrt{1+\frac{2i\ell at}{m}}} 2\left(-\frac{1+2i\ell at}{m}\left(\frac{gxt+g^2t^3}{m}\right) - \left(\frac{gxt+g^2t^3}{m}\right)^2 \frac{2i\ell a}{m}} - \frac{imgt}{2} \frac{1}{\sqrt{1+\left(\frac{2i\ell at}{m}\right)^{\frac{3}{4}}}} + \frac{1}{\sqrt{1+\frac{2i\ell at}{m}}} 2\left(-\frac{a\left(\frac{2x+gt^2}{m}\right)^{\frac{3}{4}} - \frac{imgt}{m}}{\sqrt{1+\frac{2i\ell at}{m}}} - \frac{imgt}{2}} - \frac{imgt}{2} \frac{1}{\sqrt{1+\frac{2i\ell at}{m}}} - \frac{imgt}{2} 
                                                        \frac{d^{2}\psi}{dx^{2}} = \left(\frac{2a}{\Im}\right)^{\frac{1}{4}} \frac{1}{\sqrt{1+\frac{2i\pi a^{2}}{m}}} \left(\frac{2a}{2\pi+gt^{2}} - \frac{imgt}{t}\right) \left(\frac{-2a}{1+\frac{2i\pi a^{2}}{m}}\right)
                                                                                                                                                                                                      i \frac{\partial \psi}{\partial t} = -\frac{t^2}{2m} \frac{\partial^2 \psi}{\partial x^2} + V \psi
\int 2ita \int \left(2itat \left(apt+q^2t^3\right)-\left(p+\frac{1}{2}qt^2\right)^2 2ita
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