

Chapter 9 Answer  
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1.

2. content...

3.

$$\frac{\hbar^2}{2m} \left( \frac{\partial^2 \psi}{\partial x^2} + \frac{\partial^2 \psi}{\partial y^2} + \frac{\partial^2 \psi}{\partial z^2} \right) + V(x, y, z)\psi = E\psi \quad (1)$$

We expect that we can express  $\psi(x, y, z) = X(x)Y(y)Z(z)$

$$\frac{\hbar^2}{2m} (YZ\partial_{xx} + XZ\partial_{yy} + XY\partial_{zz}) + V(x, y, z)\psi = E\psi \quad (2)$$