



**Across**

1  $\Psi(x, y, z)$ , for example

6  $\nabla g(x, y, z) \equiv \frac{\partial g}{\partial x} \mathbf{i} + \frac{\partial g}{\partial y} \mathbf{j} + \frac{\partial g}{\partial z} \mathbf{k}$

7  $\nabla^2 \equiv \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2} + \frac{\partial^2}{\partial z^2}$

9 this quantity is equal to  $n^2$  for hydrogenlike wavefunctions

11 the process of constraining input from a continuous set of values to a discrete set

12  $-\frac{\hbar^2}{2m} \nabla^2 + V(x, y, z)$

13  $[A, B]$

14 the definite integral of this function has the factor  $\sqrt{\frac{\pi}{a}}$

**Down**

2  $-i\hbar \left( y \frac{\partial}{\partial z} - z \frac{\partial}{\partial y} \right), -i\hbar \left( z \frac{\partial}{\partial x} - x \frac{\partial}{\partial z} \right), -i\hbar \left( x \frac{\partial}{\partial y} - y \frac{\partial}{\partial x} \right)$

3  $k$  in  $\hat{A}f(x) = kf(x)$

4 if  $z = x + iy$ , what is  $x - iy$ ?

5 symmetric stretch is an example

8  $Y_l^m(\theta, \phi)$

10  $a_{n+2} = -\frac{c^2}{(n+1)(n+2)} a_n$

**1**