$$\nabla = e_x \frac{\partial}{\partial x} + e_y \frac{\partial}{\partial y} + e_z \frac{\partial}{\partial z}$$

$$\bar{\nabla} = \frac{\partial}{\partial x} e_x + \frac{\partial}{\partial y} e_y + \frac{\partial}{\partial z} e_z$$

$$X = x e_x + y e_y + z e_z$$

$$v = v^x e_x + v^y e_y + v^z e_z$$

$$A = A^x e_x + A^y e_y + A^z e_z$$

$$v \cdot \nabla = v^x \frac{\partial}{\partial x} + v^y \frac{\partial}{\partial y} + v^z \frac{\partial}{\partial z}$$

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

$$v \cdot \nabla f = v^x \partial_x f + v^y \partial_y f + v^z \partial_z f$$

$$\nabla^2 f = \partial_x^2 f + \partial_y^2 f + \partial_z^2 f$$

$$\nabla^2 A = \left(\partial_x^2 A^x + \partial_y^2 A^x + \partial_z^2 A^x \right) e_x + \left(\partial_x^2 A^y + \partial_y^2 A^y + \partial_z^2 A^y \right) e_y + \left(\partial_x^2 A^z + \partial_y^2 A^z + \partial_z^2 A^z \right) e_z$$

$$\bar{\nabla} \cdot v = v^x \frac{\partial}{\partial x} + v^y \frac{\partial}{\partial y} + v^z \frac{\partial}{\partial z}$$

$$X \cdot \nabla = x \frac{\partial}{\partial x} + y \frac{\partial}{\partial y} + z \frac{\partial}{\partial z}$$

$$\bar{\nabla} \cdot X = x \frac{\partial}{\partial x} + y \frac{\partial}{\partial y} + z \frac{\partial}{\partial z}$$

$$\nabla^2 = \nabla \cdot \nabla = \frac{2}{r} \frac{\partial}{\partial r} + \frac{\cos(\theta)}{r^2 \sin(\theta)} \frac{\partial}{\partial \theta} + \frac{\partial^2}{\partial r^2} + r^{-2} \frac{\partial^2}{\partial \theta^2} + \frac{1}{r^2 \sin^2(\theta)} \frac{\partial^2}{\partial \phi^2}$$

$$\left(\nabla^2 \right) f = \frac{1}{r^2} \left(r^2 \partial_r^2 f + 2 r \partial_r f + \partial_\theta^2 f + \frac{\partial_\theta f}{\tan(\theta)} + \frac{\partial_\phi^2 f}{\sin^2(\theta)} \right)$$

$$\nabla \cdot (\nabla f) = \frac{1}{r^2} \left(r^2 \partial_r^2 f + 2 r \partial_r f + \partial_\theta^2 f + \frac{\partial_\theta f}{\tan(\theta)} + \frac{\partial_\phi^2 f}{\sin^2(\theta)} \right)$$