On $\mathbb{R}^3$, let ω_k denote a k-form. Then

$T_1(d\omega_0) = \text{grad}(T_0(\omega_0))$,

$T_2(d\omega_1) = \text{curl}(T_1(\omega_1))$,

$T_3(d\omega_2) = \text{div}(T_2(\omega_2))$.

$T_0(\omega) = \omega$

If $\omega = f_1(x,y,z)dx + f_2(x,y,z)dy + f_3(x,y,z)dz$, then $T_1(\omega) = (f_1, f_2, f_3)$

If $\omega = f_1(x,y,z)dx\wedge dy + f_2(x,y,z)dx\wedge dz + f_3(x,y,z)dy\wedge dz$, then $T_2(\omega) = (f_3, -f_2, f_1)$

If $\omega = f(x,y,z)dx\wedge dy\wedge dz$, then $T_3(\omega) = f(x,y,z)$

$\omega_0 = f(x,y,z)$

$d\omega_0 = \frac{\partial f}{\partial x}dx + \frac{\partial f}{\partial y}dy + \frac{\partial f}{\partial z}dz$

$T_1(d\omega_0) = \left(\frac{\partial f}{\partial x}, \frac{\partial f}{\partial y}, \frac{\partial f}{\partial z}\right)$

$T_0(\omega_0) = f(x,y,z)$

$\text{grad}(T_0(\omega_0)) = \left(\frac{\partial f}{\partial x}, \frac{\partial f}{\partial y}, \frac{\partial f}{\partial z}\right)$

$\omega_1 = f_1(x,y,z)dx + f_2(x,y,z)dy + f_3(x,y,z)dz$

$d\omega_1 = \left(\frac{\partial f_2}{\partial x} - \frac{\partial f_1}{\partial y}\right)dx\wedge dy + \left(\frac{\partial f_3}{\partial x} - \frac{\partial f_1}{\partial z}\right)dx\wedge dz + \left(\frac{\partial f_3}{\partial y} - \frac{\partial f_2}{\partial z}\right)dy\wedge dz$

$T_2(d\omega_1) = \left(\left(\frac{\partial f_3}{\partial y} - \frac{\partial f_2}{\partial z}\right), -\left(\frac{\partial f_3}{\partial x} - \frac{\partial f_1}{\partial z}\right), \left(\frac{\partial f_2}{\partial x} - \frac{\partial f_1}{\partial y}\right)\right)$

$T_1(\omega_1) = (f_1, f_2, f_3)$

$\text{curl}(T_1(\omega_1)) = \left(\left(\frac{\partial f_3}{\partial y} - \frac{\partial f_2}{\partial z}\right), -\left(\frac{\partial f_3}{\partial x} - \frac{\partial f_1}{\partial z}\right), \left(\frac{\partial f_2}{\partial x} - \frac{\partial f_1}{\partial y}\right)\right)$

$\omega_2 = f_1(x,y,z)dx\wedge dy + f_2(x,y,z)dx\wedge dz + f_3(x,y,z)dy\wedge dz$

$d\omega_2 = (f_1 - f_2 + f_3)dx\wedge dy\wedge dz$

$T_3(d\omega_2) = f_1 - f_2 + f_3$

$T_2(\omega_2) = (f_3, -f_2, f_1)$

$\text{div}(T_2(\omega_2)) = f_3 - f_2 + f_1$