Cálculo Vectorial em $\mathbb{R}^3$

$\mathrm{grad}(\nabla)$

$(escalar \to vectorial)$

$$\int_A^B \mathrm{grad}\,\phi \cdot d\mathbf{g} = \phi(B) - \phi(A)$$

$\mathrm{rot}(\nabla\times)$

$(vectorial \to vectorial)$

$$\iint_S \mathrm{rot}\,\mathbf{A} \cdot \mathbf{n} = \oint_{\partial S} \mathbf{A} \cdot d\mathbf{g}$$

$\mathrm{div}(\nabla\cdot)$

$(vectorial \to escalar)$

$$\iiint_D \mathrm{div}\,\mathbf{F} = \oiint_{\partial D} \mathbf{F} \cdot \mathbf{n}$$

Mais Cálculo Vectorial em $\mathbb{R}^3$

$$\text{rot grad} = 0$$

$$(\text{rot} = 0 + \star \Rightarrow \text{grad})$$

$$\oint \text{grad}\,\phi \cdot d\mathbf{g} = 0$$

$$\text{div rot} = 0$$

$$(\text{div} = 0 + \star \Rightarrow \text{rot})$$

$$\oiint \text{rot}\,\mathbf{A} \cdot \mathbf{n} = 0$$