The *first theorem of Green* is:

$$\iiint_{\mathcal{G}} \left[u \nabla^2 v + (\nabla u, \nabla v) \right] \mathrm{d}^3 V = \oiint_{\mathcal{S}} u \, \frac{\partial v}{\partial n} \, \mathrm{d}^2 A$$

The *second theorem of Green* is:

$$\iiint_{\mathcal{G}} \left[u \nabla^2 v - v \nabla^2 u \right] \mathrm{d}^3 V = \oiint_{\mathcal{S}} \left(u \, \frac{\partial v}{\partial n} - v \, \frac{\partial u}{\partial n} \right) \mathrm{d}^2 A$$