ΤΥΠΟΛΟΓΙΟ. Γενικός τύπος Green, $\phi(\vec{x}) = \int_V \rho(\vec{x}')G(\vec{x},\vec{x}')d\vec{x}' - \frac{1}{4\pi}\oint \phi(\vec{x}')\frac{\partial G}{\partial n'}da' + \frac{1}{4\pi}\oint G\frac{\partial \phi}{\partial n'}da'$

Green σφαιρικού φλοιού $G(\vec{x},\vec{x}') = \frac{1}{|\vec{x}-\vec{x}'|} - \frac{a}{x'\left|\vec{x}-\frac{a^2}{x'^2}\vec{x}'\right|}$.

Πολικές συντεταγμένες, $\vec{\nabla} = \frac{\partial}{\partial\rho}\hat{e}_\rho + \frac{1}{\rho}\frac{\partial}{\partial\phi}\hat{e}_\phi$, $\vec{\nabla}^2 = \frac{1}{\rho}\frac{\partial}{\partial\rho}\left(\rho\frac{\partial\phi}{\partial\rho}\right) + \frac{1}{\rho^2}\frac{\partial^2\phi}{\partial\phi^2} = 0$,

$\phi(\rho,\phi) = A_0 + B_0\ln\rho + \Sigma(A_\nu\rho^\nu + B_\nu\rho^{-\nu})(C_\nu\cos\nu\phi + D_\nu\sin\nu\phi)$ +

Σφαιρικές, $\vec{\nabla} = \hat{e}_r\frac{\partial}{\partial r} + \hat{e}_\theta\frac{1}{r}\frac{\partial}{\partial\theta} + \hat{e}_\phi\frac{1}{r\sin\theta}\frac{\partial}{\partial\phi}$. $\phi(r,\theta,\phi) = \sum_{\ell m}(A_{\ell m}r^\ell + B_{\ell m}r^{-(\ell+1)})Y_{\ell m}(\theta,\phi)$

πολυώνυμα Legendre, $P_0(x)=1$, $P_1(x)=x$, $P_2(x)=\frac{1}{2}(3x^2-1)$. $\int_{-1}^{1}P_\ell(x)P_{\ell'}(x)dx = \frac{2}{2\ell+1}\delta_{\ell\ell'}$

Σφαιρικές αρμονικές, $Y_{\ell m}(\theta,\phi) = \sqrt{\frac{2\ell+1}{4\pi}\frac{(\ell-m)!}{(\ell+m)!}}\,P_\ell^m(\cos\theta)e^{im\phi}$, $P_\ell^m(x) = (-1)^m(1-x^2)^{m/2}\frac{d^m}{dx^m}P_\ell(x)$.

Ορθοκανονικότητα $Y_{\ell m}$, $\int_0^{2\pi}d\phi\int_0^{\pi}\sin\theta d\theta\, Y^*_{\ell' m'}(\theta,\phi)Y_{\ell m}(\theta,\phi) = \delta_{\ell\ell'}\delta_{mm'}$

$\cos\gamma = \cos\theta\cos\theta' + \sin\theta\sin\theta'\cos(\phi-\phi')$.

Ορθοκανονικότητα καρτεσιανών,

$$\int_0^L \sqrt{\tfrac{2}{L}}\sin\left(\frac{n\pi x}{L}\right)\sqrt{\tfrac{2}{L}}\sin\left(\frac{m\pi x}{L}\right)dx = \delta_{nm}$$

πολικές, $\int_0^{2\pi}\sin(n\phi)\sin(m\phi)d\phi = \pi\cdot\delta_{nm}$.