[mex106] Gravitational field of an inhomogeneous massive sphere

Consider a massive sphere of radius R with a spherical mass distribution. (a) Determine the mass density $\rho(r)$ which produces a gravitational field $g(r) = -\alpha = \text{const}$ for $0 < r < R$. (b) Determine the gravitational field $g(r)$ produced by that same sphere at $r > R$.

Solution: