[mex105] Gravitational field of a homogeneous massive sphere

(a) Calculate the gravitational field $\mathbf{g}(r)$ and the gravitational potential $\phi(r)$ at all $r > 0$ of a homogeneous sphere with mass M and radius R. (b) Assuming that the sphere made of a fluid in hydrostatic equilibrium, calculate the pressure $p(r)$ for $0 < r < R$.

Solution: