which has the inverse

$$G_{jk}^{-1}(\boldsymbol{x}) = 8\pi\mu|\boldsymbol{x}|\left(\delta_{jk} - \frac{x_j x_k}{2|\boldsymbol{x}|^2}\right), \tag{5.16}$$

as can be seen from

$$\begin{aligned} G_{ij}G_{jk}^{-1} &= \left(\delta_{ij} + \frac{x_i x_j}{|\boldsymbol{x}|^2}\right)\left(\delta_{jk} - \frac{x_j x_k}{2|\boldsymbol{x}|^2}\right) \\ &= \delta_{ik} - \frac{x_i x_k}{2|\boldsymbol{x}|^2} + \frac{x_i x_k}{|\boldsymbol{x}|^2} - \frac{x_i x_j}{|\boldsymbol{x}|^2}\frac{x_j x_k}{2|\boldsymbol{x}|^2} \\ &= \delta_{ik} - \frac{x_i x_k}{2|\boldsymbol{x}|^2} + \frac{x_i x_k}{2|\boldsymbol{x}|^2} \\ &= \delta_{ik}. \end{aligned} \tag{5.17}$$