Consider a conducting sphere with a radius $R$, and charge $Q$. It is in electrostatic equilibrium.

Find the potential $V_A$ at $A$, $\overline{OA} = r < R$, and the potential $V_O$ at $O$.

A) $V_A = k \frac{Q}{r}$ and $V_O = \infty$.

B) $V_A = 0$ and $V_O = 0$.

C) $V_A = k \frac{Q}{R}$ and $V_O = k \frac{Q}{R}$.

D) $V_A = k \frac{Q}{R}$ and $V_O = \infty$. 
Being inside of an equipotential body, \( V_O = V_A = V_B = \frac{kQ}{R} \).

Answer C.

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