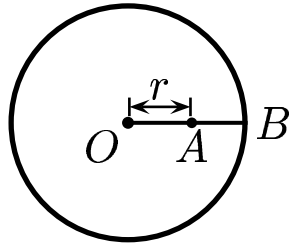


Consider a conducting sphere with a radius  $R$ , and charge  $Q$ . It is in electrostatic equilibrium.



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  $V_O = \infty$ .

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Being inside of an equipotential body,  $V_O = V_A = V_B = \frac{kQ}{R}$ .

Answer **C**.