

1 Temp

When solving the problems finding the potential, one must notice a vital problem that the timing of using formula,

$$V(\mathbf{r}) = \int_V \frac{1}{4\pi\epsilon_0} \rho(\mathbf{r}) d\tau$$

Notice that in the cases when **charges tend to infinity**, this formula isn't valid because its derivation assume reference point is at infinity, that is, the assumption of **zero potential** at infinity, which is not the case.