

$$V = \frac{\mu_1 \mu_2}{4\pi\epsilon_0 r^3} \quad \text{constant.}$$

determine  $\frac{dV}{dr}$ .

$$V = \frac{\mu_1 \mu_2}{4\pi\epsilon_0} r^{-3}$$

$$\frac{dV}{dr} = -3 \frac{\mu_1 \mu_2}{4\pi\epsilon_0} r^{-4}$$

$$\boxed{\frac{dV}{dr} = -\frac{3\mu_1 \mu_2}{4\pi\epsilon_0 r^4}}$$