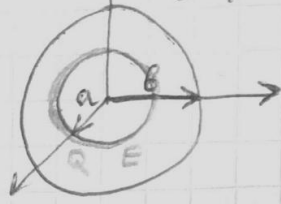


N5

C-?

$$C = \frac{Q}{U}$$



$$U = \Delta\psi = \frac{W}{Q} = \int_a^b \frac{F}{Q} dr = \int_a^b E dr$$

$$U = \int_a^b \frac{1}{4\pi\epsilon_0} \frac{Q}{r^2} dr = \frac{Q}{4\pi\epsilon_0} \left(-\left[\frac{1}{r} \right]_a^b \right)$$

$$U = \frac{Q}{4\pi\epsilon_0} \left(\frac{1}{a} - \frac{1}{b} \right) = \frac{Q}{4\pi\epsilon_0} \left(\frac{b-a}{ab} \right)$$

$$C = \frac{Q \cdot 4\pi\epsilon_0 \cdot a \cdot b}{Q(b-a)} = \frac{4\pi\epsilon_0 ab}{(b-a)}$$