

Closed book. No calculators are to be used for this quiz.

Quiz duration: 10 minutes

Name:

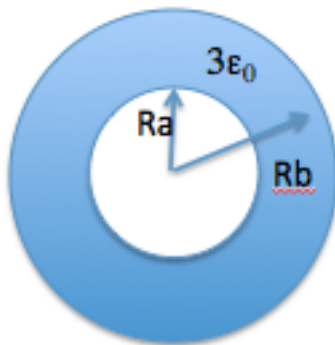
Student ID:

Signature:

Two concentric spherical conducting shells are separated by a dielectric

($\epsilon = 3\epsilon_0$). The inner shell has total charge $+Q$ and the outer shell has charge $-Q$.

Calculate the capacitance of this spherical capacitor.



Closed book. No calculators are to be used for this quiz.

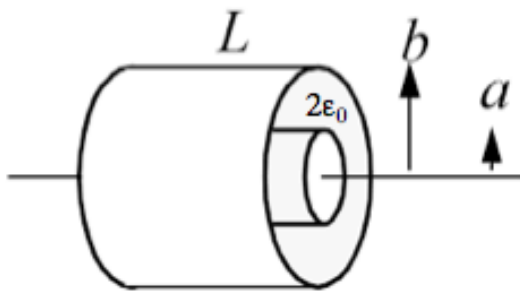
Quiz duration: 10 minutes

Name:

Student ID:

Signature:

Two concentric conducting cylinders are separated by a dielectric ($\epsilon = 2\epsilon_0$). The inner cylinder has linear charge density $+\lambda$ and the outer cylinder has linear charge density $-\lambda$. Calculate the capacitance of this cylindrical capacitor.



Closed book. No calculators are to be used for this quiz.

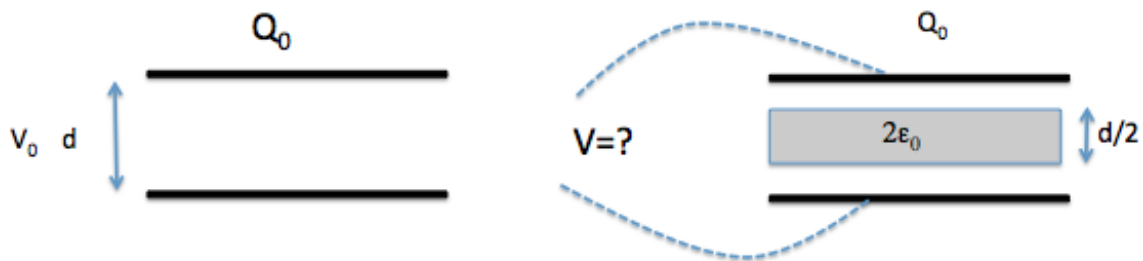
Quiz duration: 10 minutes

Name:

Student ID:

Signature:

A parallel plate capacitor is made from two conductive plates, separated by a distance d . The capacitor is charged to a potential difference V_0 using a battery. After charging, a battery is disconnected and a dielectric slab having thickness $d/2$ is inserted. Calculate the new potential difference between the plates in terms of V_0 .



Closed book. No calculators are to be used for this quiz.

Quiz duration: 10 minutes

Name:

Student ID:

Signature:

A parallel plate capacitor is made from two conductive plates, separated by a distance d . The capacitor is charged to a potential difference V_0 using a battery. After charging, a battery is disconnected and a metallic slab having thickness $d/2$ is inserted. Calculate the new potential difference between the plates in terms of V_0 .

