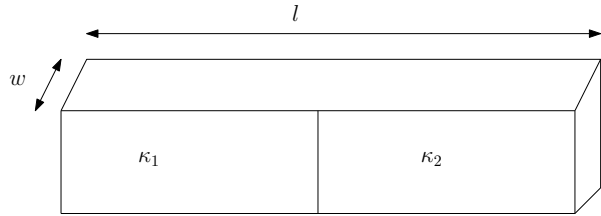


A parallel plate capacitor has two plates has a separation d and capacitance, C . If I charge it with a $+Q$ and a $-Q$ on the two plates, respectively, what is the electrostatic energy? What is it if I move the two plate closer together to $d/2$? How would the answer differ if I maintain a constant potential difference, ΔV between the two?

Consider the following parallel plate capacitor that is half-filled with two different dielectrics. The separation between the two capacitors is d . What is the equivalent capacitance if material k_1 fills $1/3$ the space of k_2 ?



Suppose a spherical capacitor that consists of two conducting shells of with radii a and b and $a > b$. If a charge $+Q$ is placed on the outer shell and $-Q$ on the inner shell, what is the electrostatic energy between the two shells.

Consider the following arrangements of identical capacitors, with capacitance C_0 . What is the equivalent capacitance between a and b?

