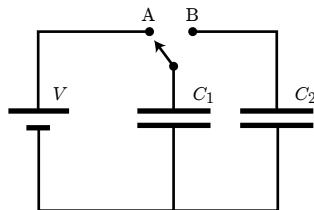


Score

For the next **three questions**, consider the following experiment: All capacitors start uncharged. Capacitor 1 with capacitance C_1 is charged to V using a battery. Once capacitor 1 is charged, it is disconnected from the battery and then used to charge capacitor 2 with capacitance C_2 . (I.e. the switch is connected first to terminal A and then to terminal B.)



11. [2 points] When the switch is initially in the A position, what is the charge on capacitor 1?

A. $Q_1 = C_1 V$, **B.** $Q_1 = C_2 V$, **C.** $Q_1 = 0$, **D.** $Q_1 = (C_1 + C_2) V$, **E.** $Q_1 = \frac{C_1 C_2}{C_1 + C_2} V$,

12. [2 points] When the switch is in the B position, what is the total charge on both capacitors Q ?

A. $Q = C_1V$, **B.** $Q = C_2V$, **C.** $Q = 0$, **D.** $Q = (C_1 + C_2)V$, **E.** $Q = \frac{C_1C_2}{C_1+C_2}V$,