

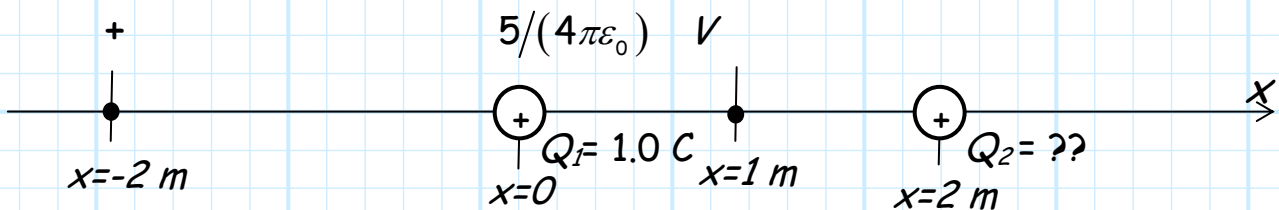
Special Problem 4-6.7

Two point charges are located in free space.

A point charge of $Q_1 = 1.0 \text{ C}$ is located at the origin.

A point charge of Q_2 is located on the x -axis at $x = 2$

The electric potential difference between point $x = -2, y = 0, z = 0$ and point $x = 1, y = 0, z = 0$ is $5.0/(4\pi\epsilon_0)$ volts.



Determine the value of charge Q_2 .

Hint1: $Q_2 \neq -1.0 \text{ C}$

Hint2: $V(x = -2) \neq 5/(4\pi\epsilon_0)$