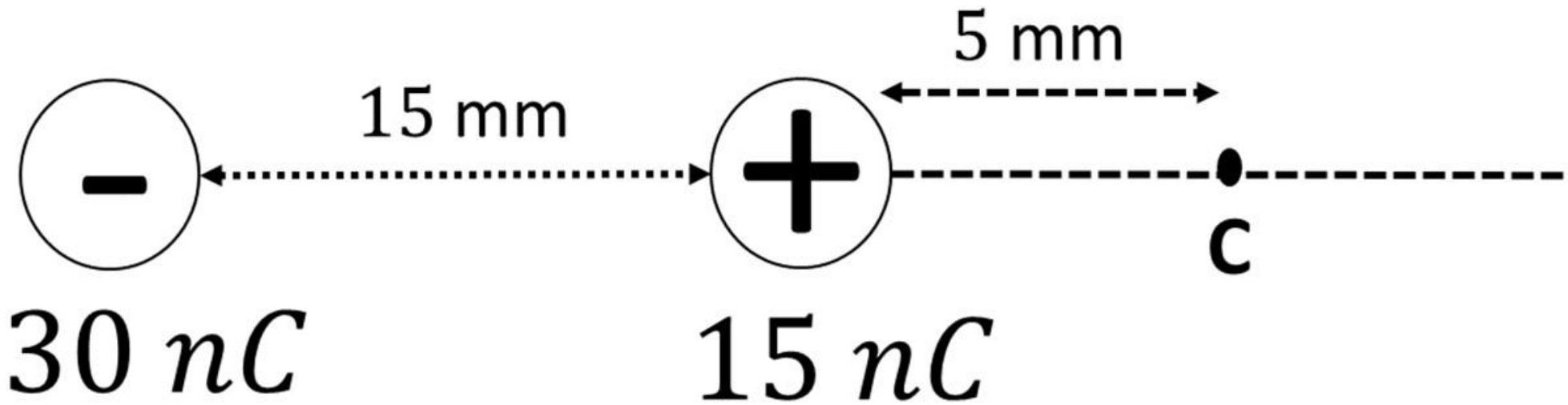
ADDITIONAL PROBLEM SHEETS

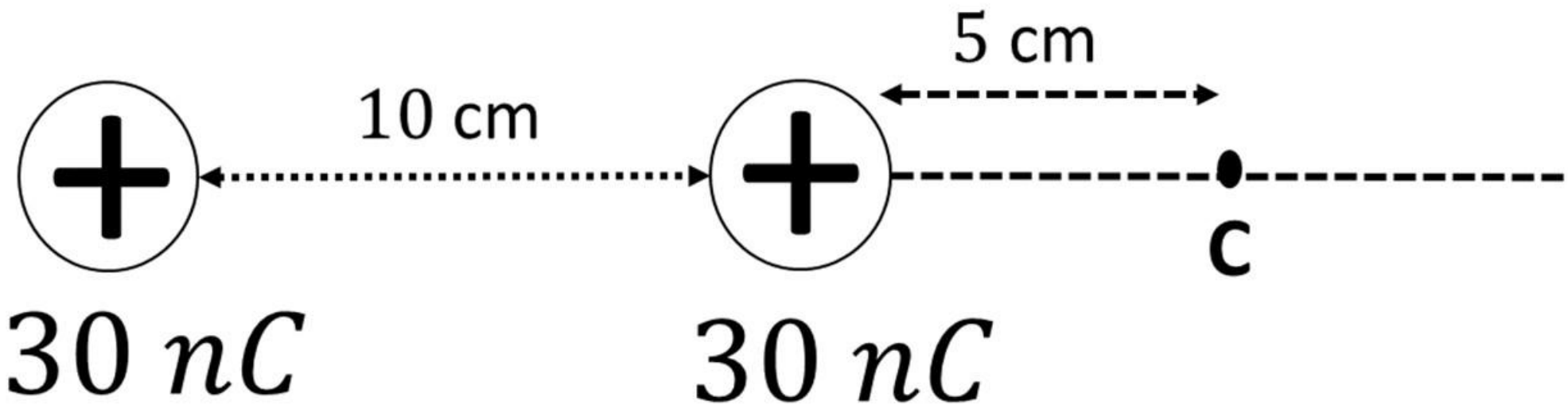
PHYSICS 1 [FINAL-TERM]

SPRING 2021-2022

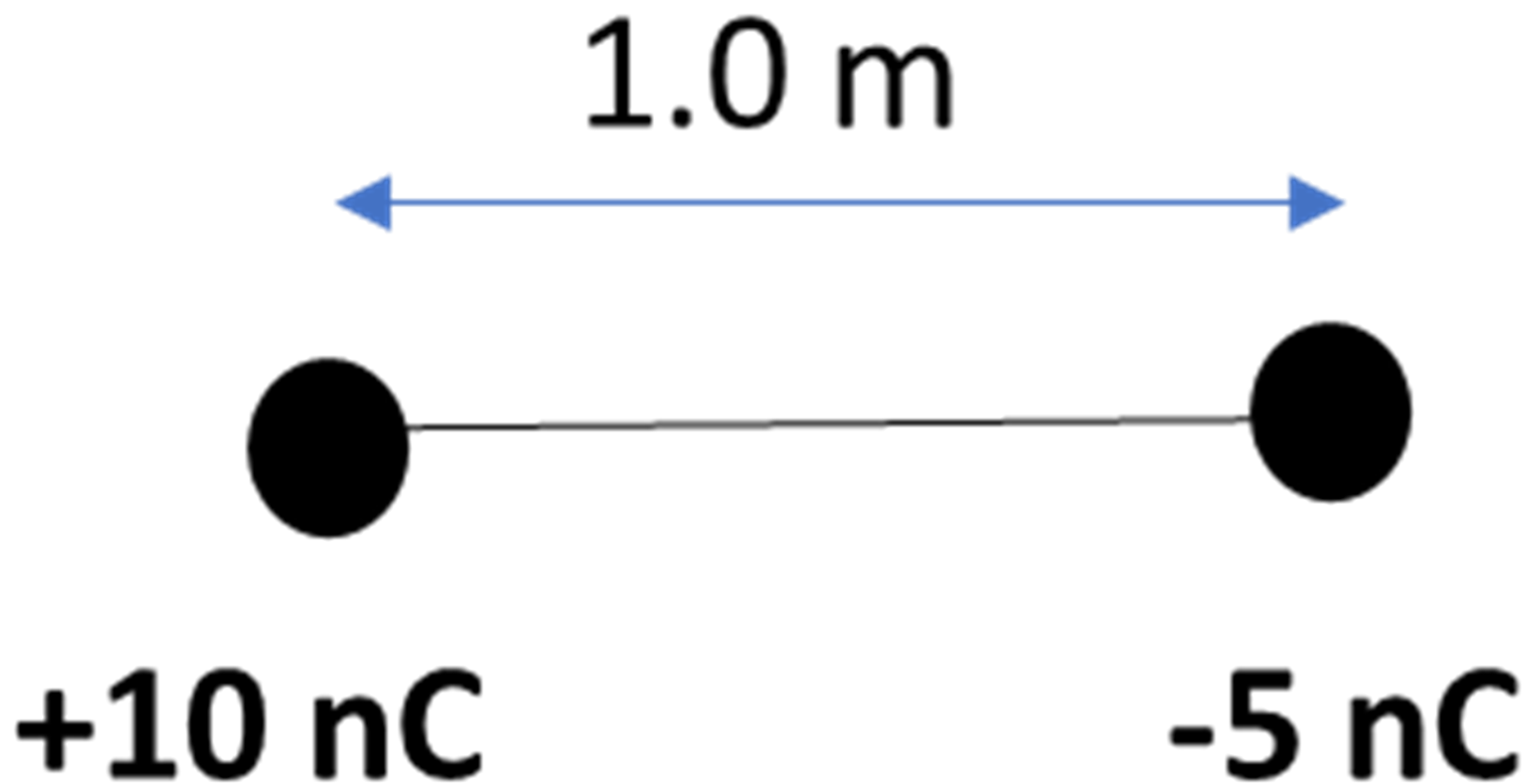
CALCULATE THE NET FIELD AT POINT C



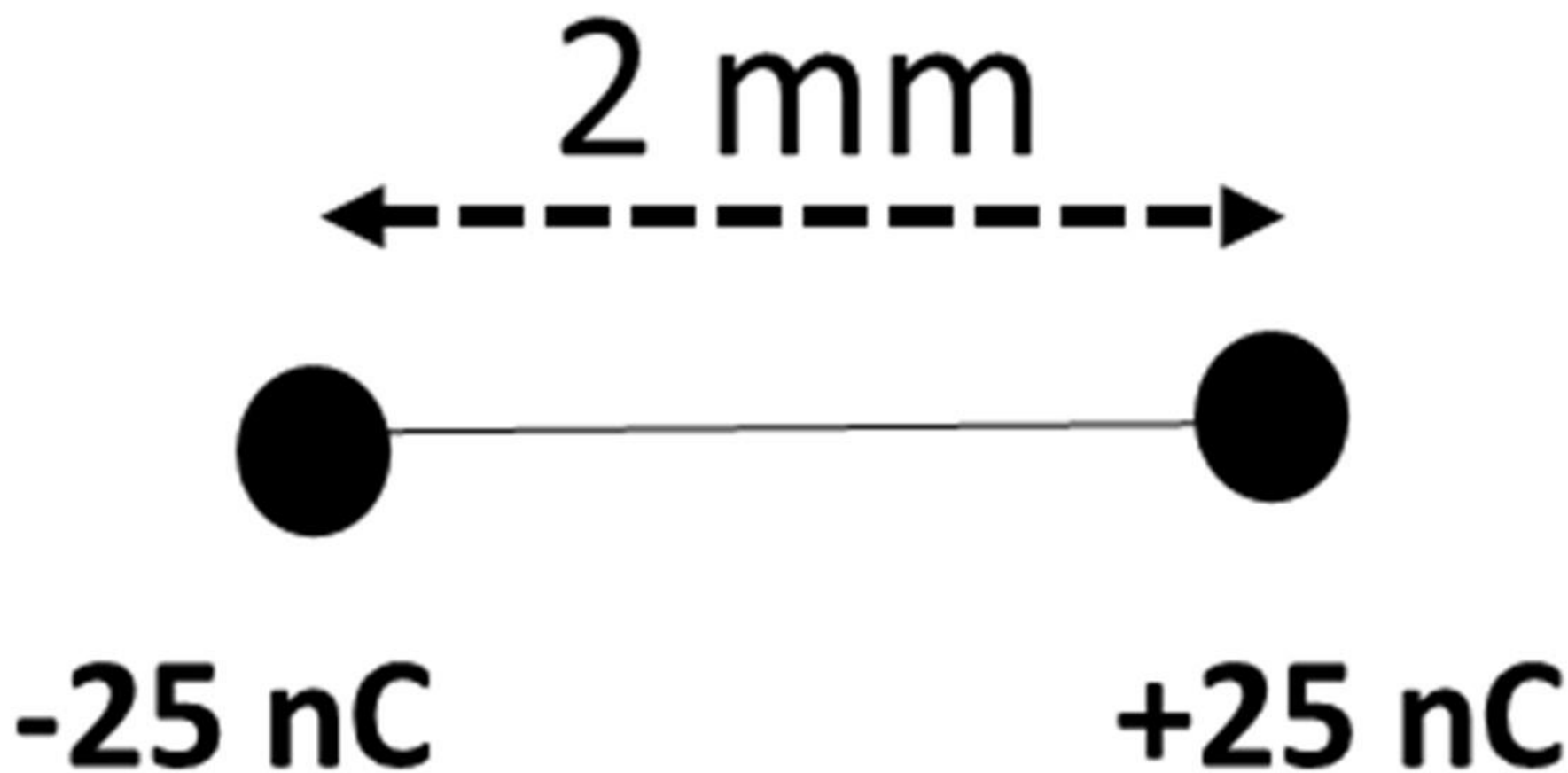
CALCULATE THE NET FIELD AT POINT C



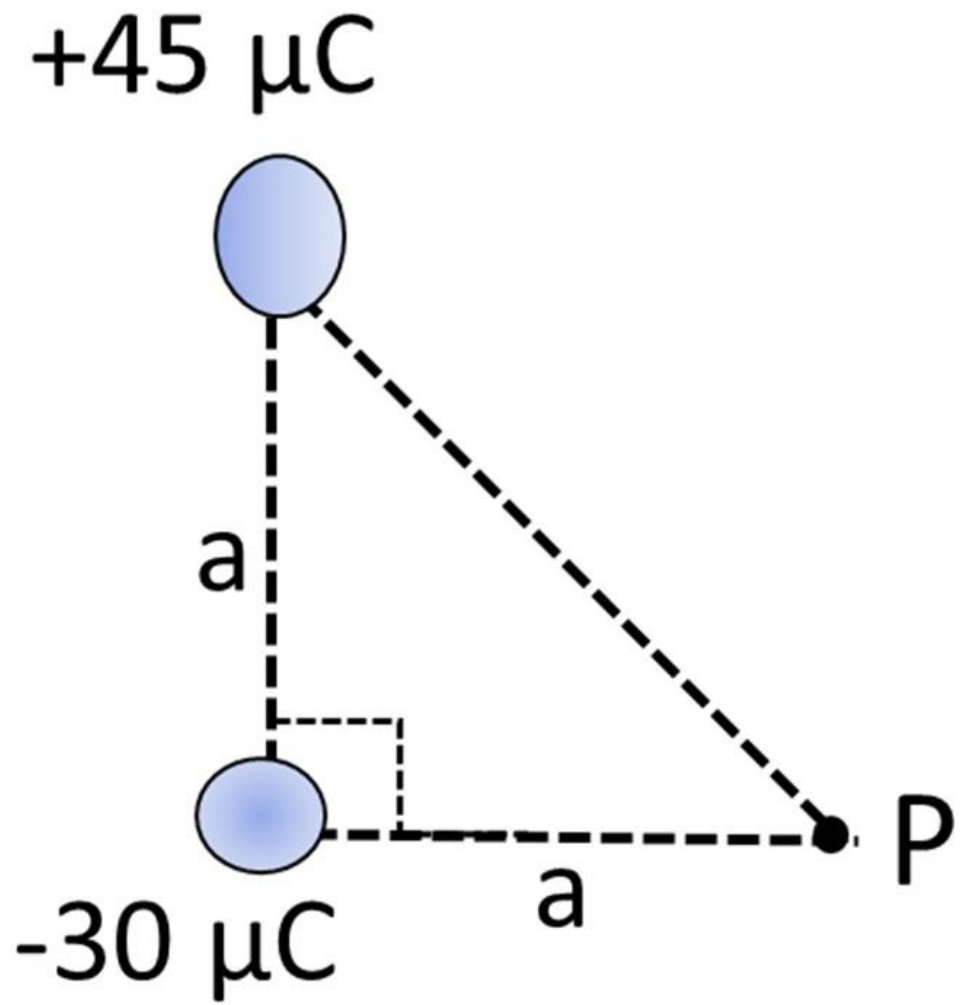
CALCULATE THE NET ELECTRIC FIELD AT THE MIDPOINT OF THE DISTANCE BETWEEN THE TWO CHARGES.



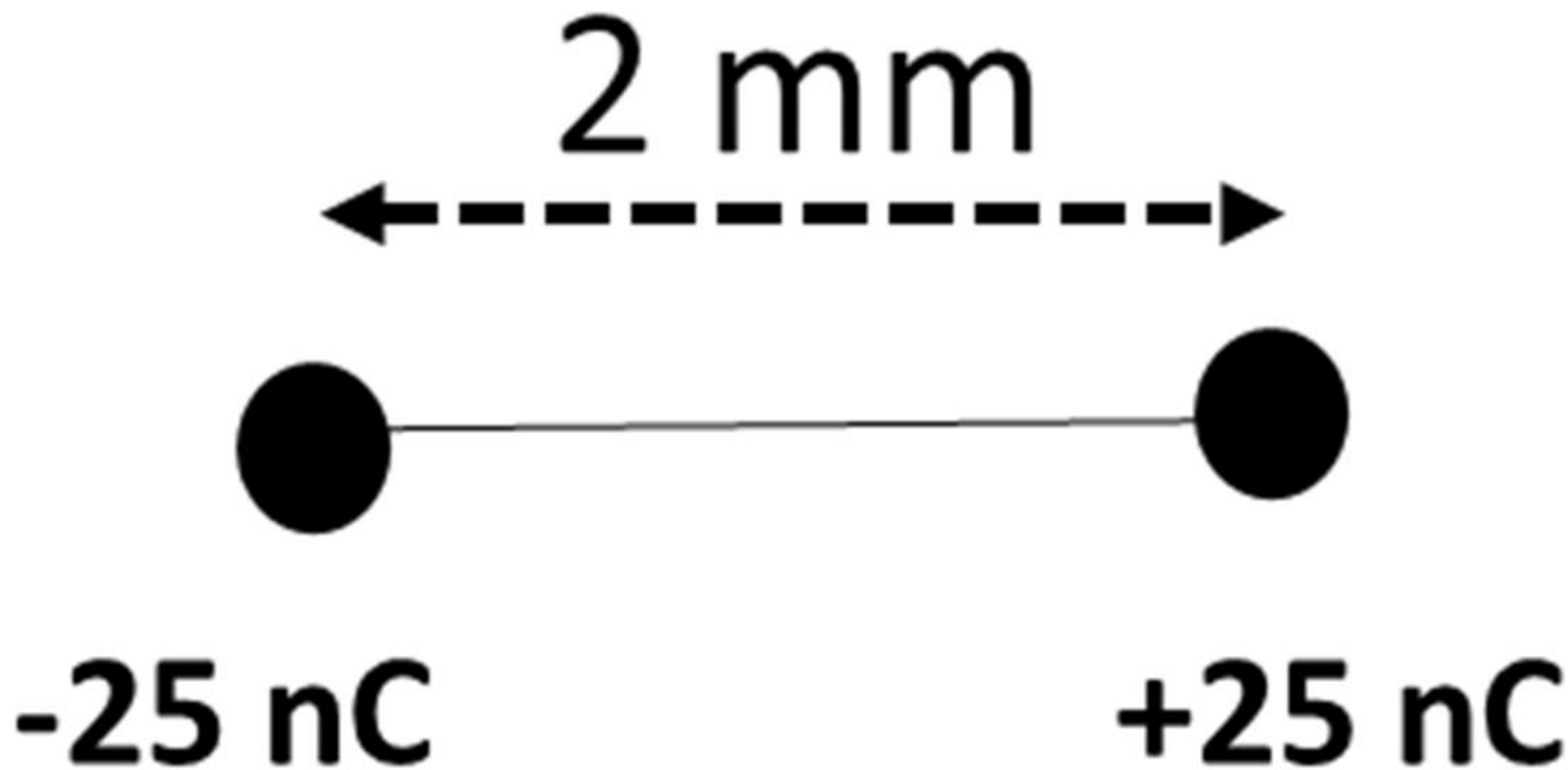
CALCULATE THE ELECTRIC DIPOLE MOMENT.



CALCULATE THE NET ELECTRIC POTENTIAL AT POINT P [ASSUME V= 0 AT INFINITY]

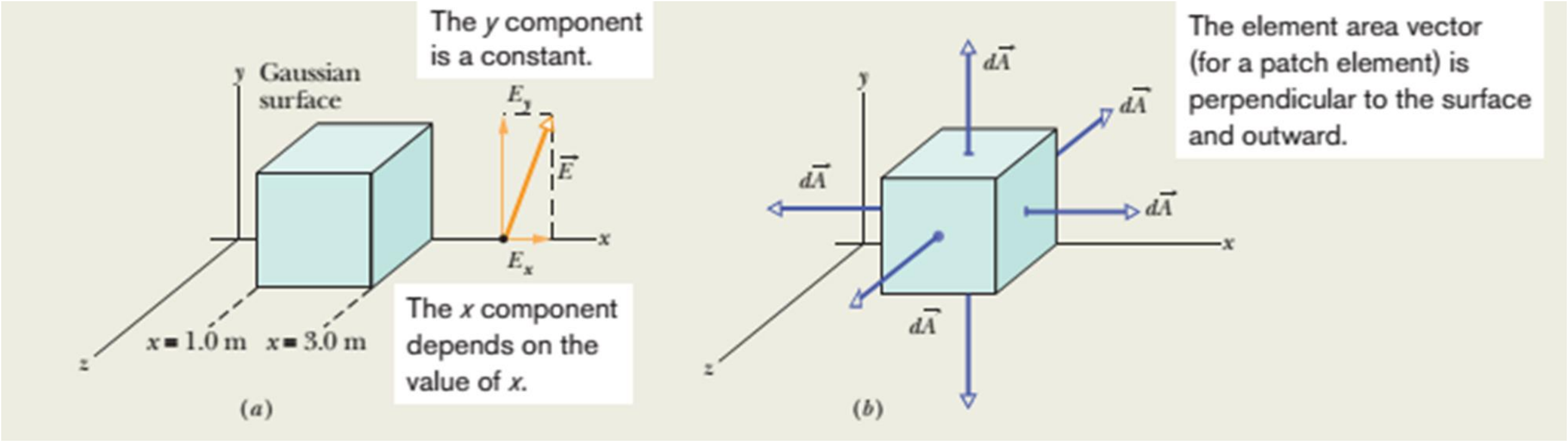


CALCULATE THE NET ELECTRIC POTENTIAL AT POINT MIDWAY BETWEEN THE CHARGES [ASSUME V= 0 AT INFINITY]

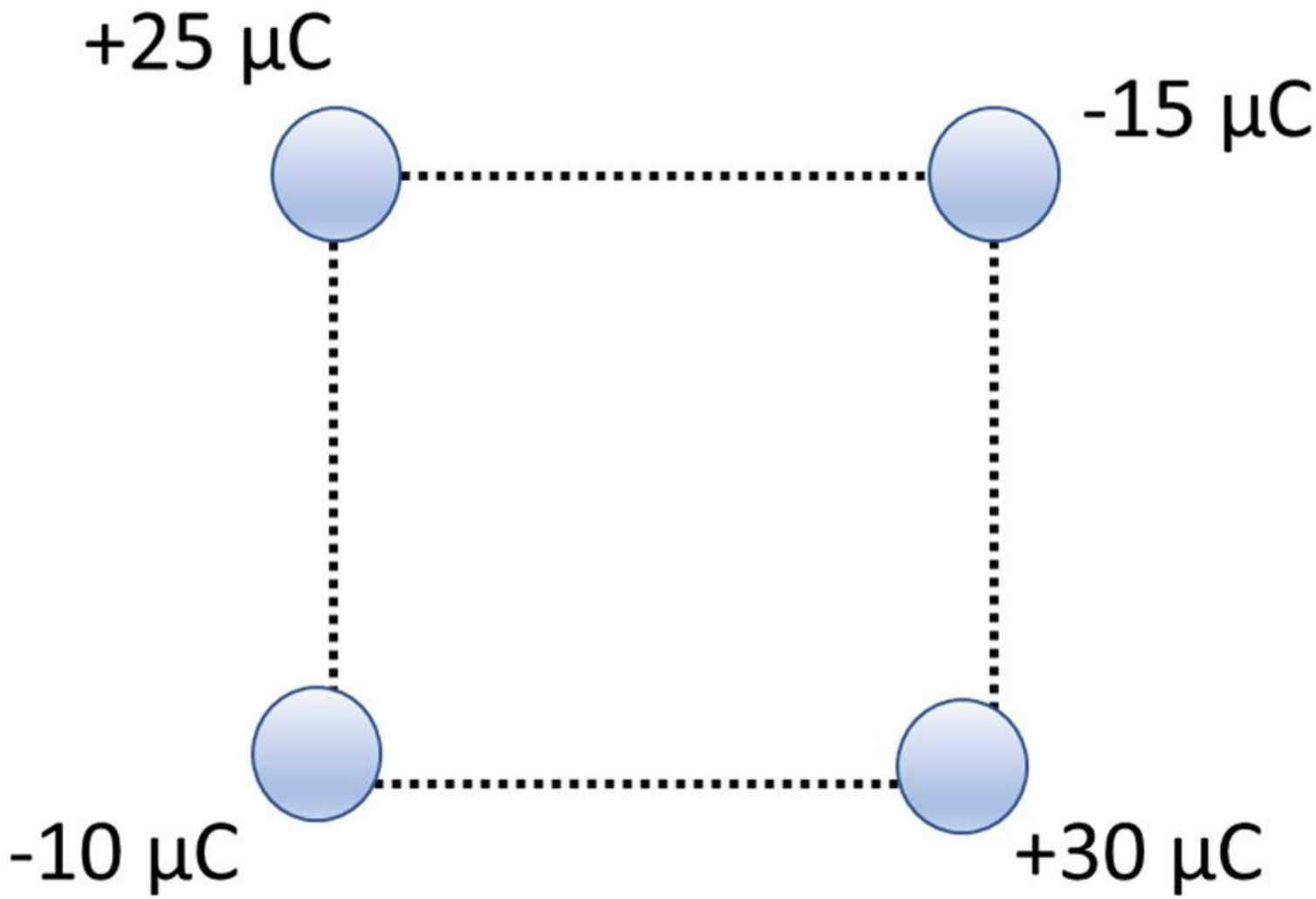


Book Chapter 23, Problem 2

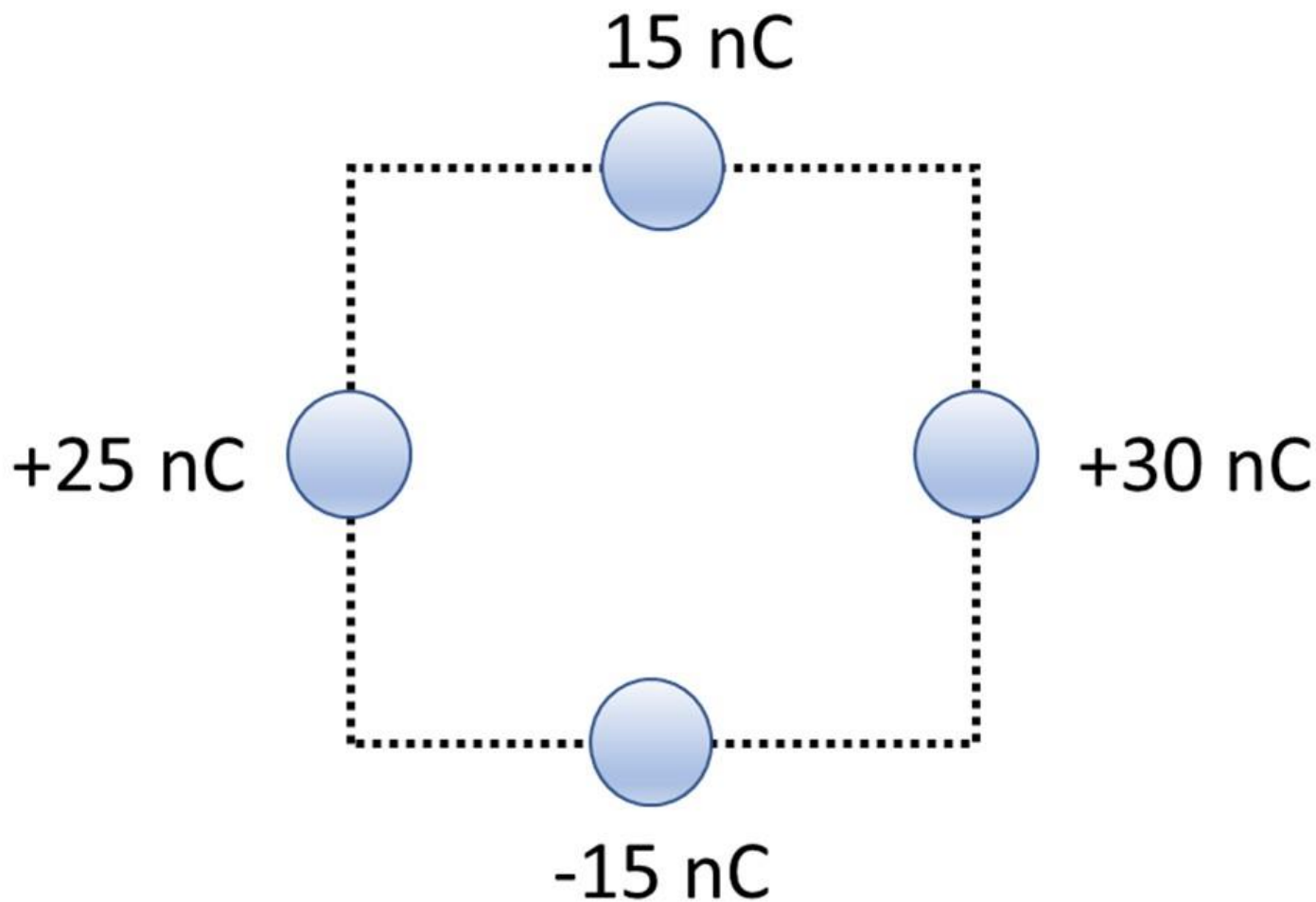
An electric field given by $\vec{E} = 4.0\hat{\imath} - 3.0(y^2 + 2)\hat{\jmath}$ pierces a Gaussian cube of edge length 2.0 m and positioned as shown in the Figure below. (The magnitude E is in newtons per coulomb and the position x is in meters.) What is the electric flux through the (a) top face, (b) bottom face, (c) left face, and (d) back face? (e) What is the net electric flux through the cube?



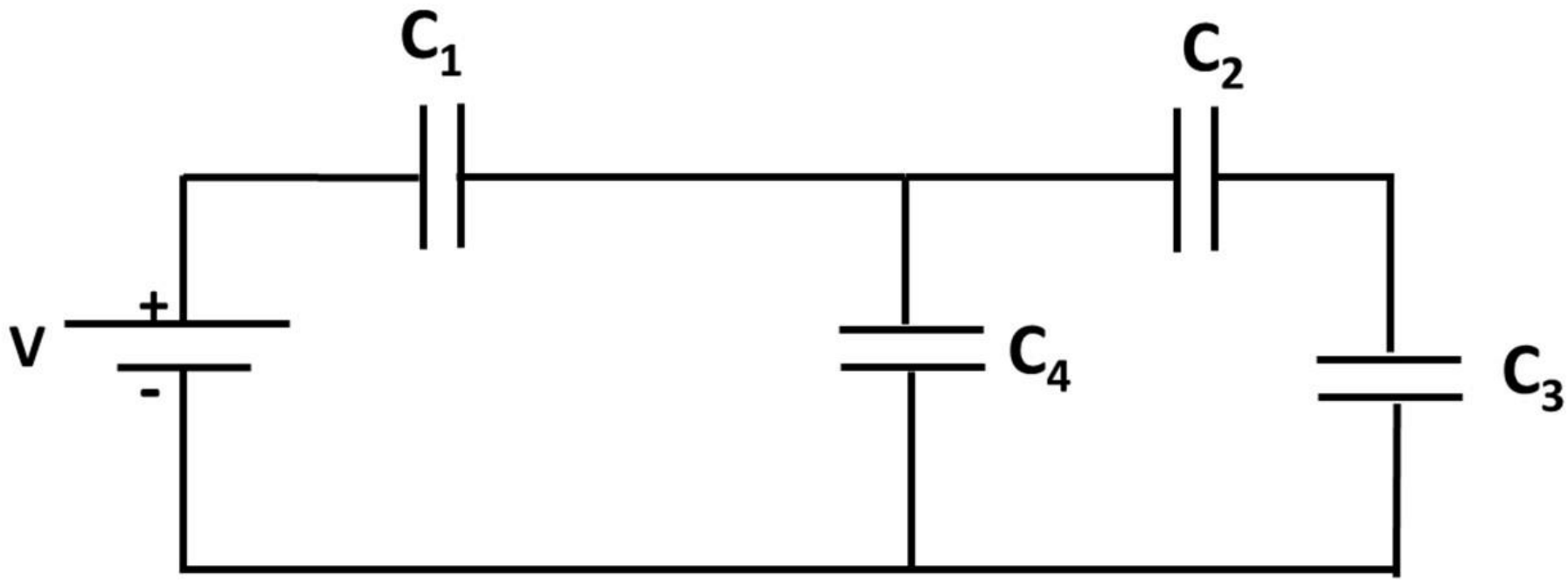
CALCULATE THE NET ELECTRIC POTENTIAL AT THE CENTER OF THE SQUARE IF THE LENGTH OF EACH SIDE OF THE SQUARE IS 5.0 CM [ASSUME V= 0 AT INFINITY] .



CALCULATE THE NET ELECTRIC POTENTIAL AT THE CENTER OF THE SQUARE IF THE LENGTH OF EACH SIDE OF THE SQUARE IS 8.0 CM. [ASSUME V= 0 AT INFINITY]

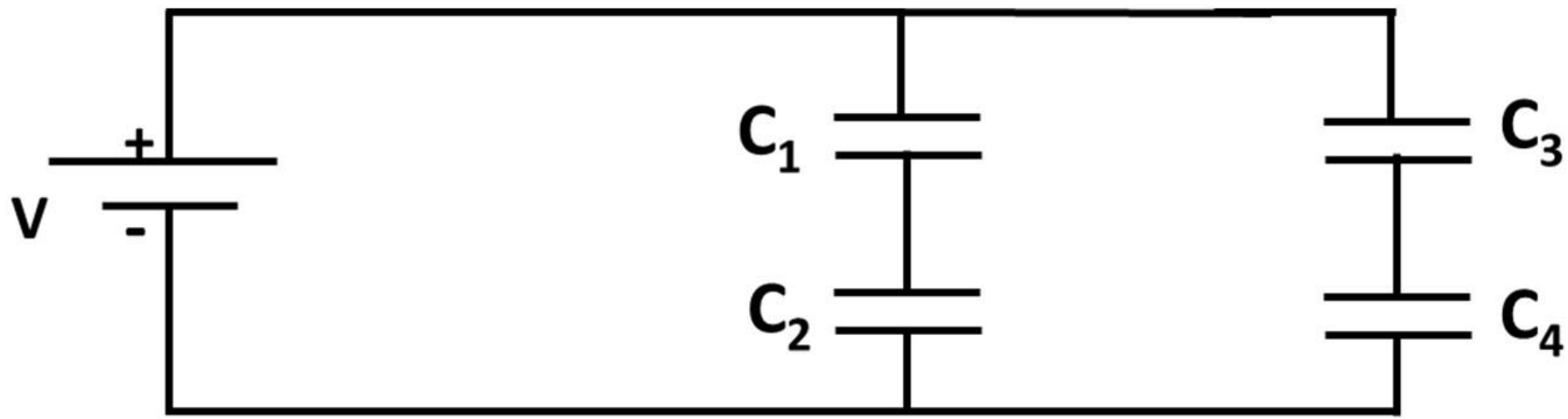


CALCULATE THE EQUIVALENT CAPACITANCE.



Assume that $C_1 = 4\ nF$, $C_2 = 5\ nF$, $C_3 = 9\ nF$ and $C_4 = 6\ nF$.

CALCULATE THE EQUIVALENT CAPACITANCE.

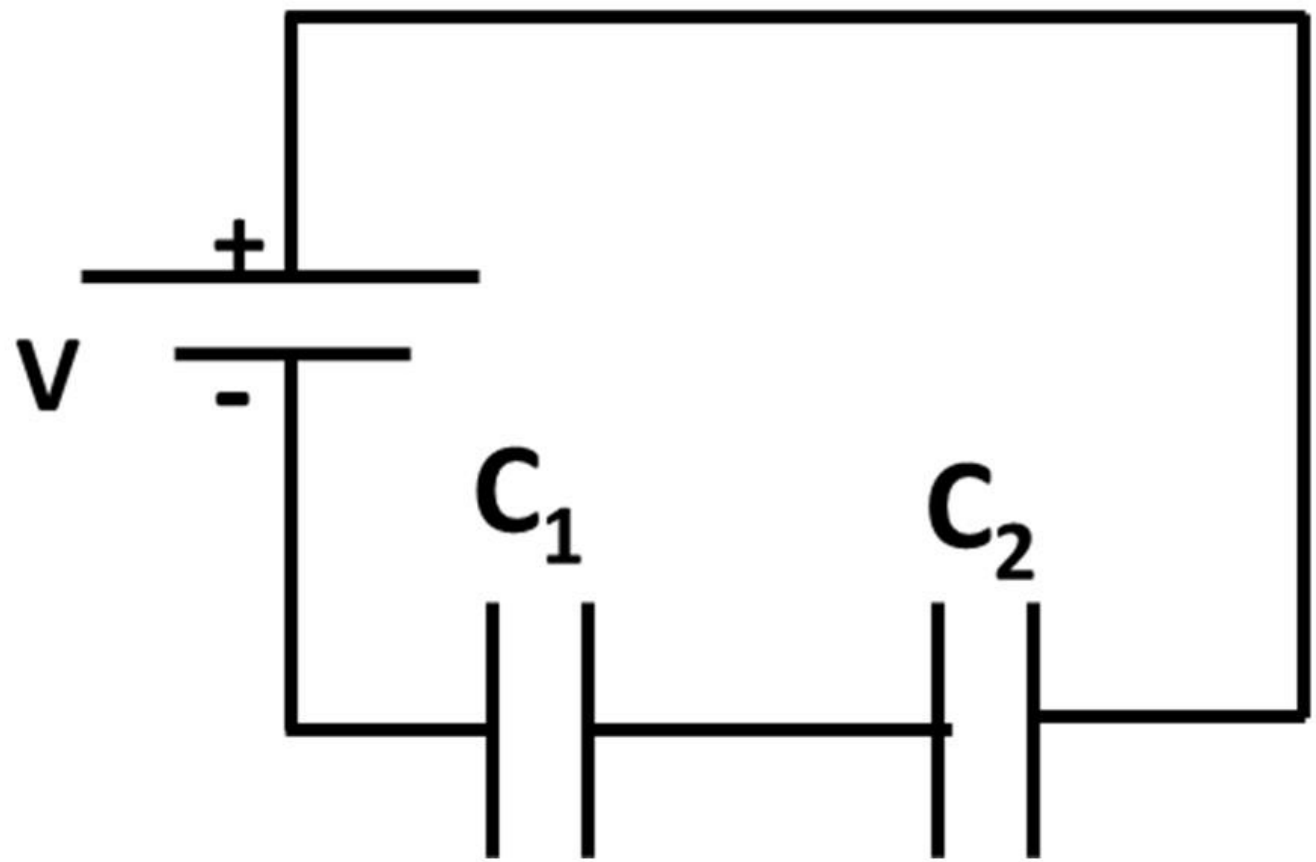


Assume that $C_1 = 2\ \mu F$, $C_2 = 4\ \mu F$, $C_3 = 6\ \mu F$ and $C_4 = 8\ \mu F$.

CALCULATE THE CHARGES ON C_1 AND C_2 .

Assume that $C_1 = 2\ \mu F$, $C_2 = 4\ \mu F$, and V = 8 V

CALCULATE THE CHARGES ON C_1 AND C_2 .



Assume that C_1= 3 μF, C_2= 6 μF, and V = 10 V

Thank you!