We are interested in the force on the 10 C charge.

(1) Draw and identify all the $\vec{F}$ vectors for the force on the 10 C charge.

(2) Find the x- and y-components of the net electrostatic force on the 10 C charge.

Do not forget to put units on your final answer. You do not need to put in a numerical value for the constant $K$. Use numerical values for everything else.

\[
\vec{F}_{-q} = k \frac{(10)(-9)}{3^2} \hat{\imath} - 10k \hat{\jmath}
\]

\[
\vec{F}_{q5} = k \frac{(10)(25)}{5^2} \hat{\imath} = 10k [-\frac{4}{5} \hat{\imath} + \frac{2}{5} \hat{\jmath}]
\]

\[
= -8k \hat{\imath} + 6k \hat{\jmath}
\]

\[
\vec{F}_{-q} + \vec{F}_{q5} = -10k \hat{\jmath} - 8k \hat{\imath} + 6k \hat{\jmath}
\]

\[
= [-8k \hat{\imath} - 4k \hat{\jmath}] N
\]