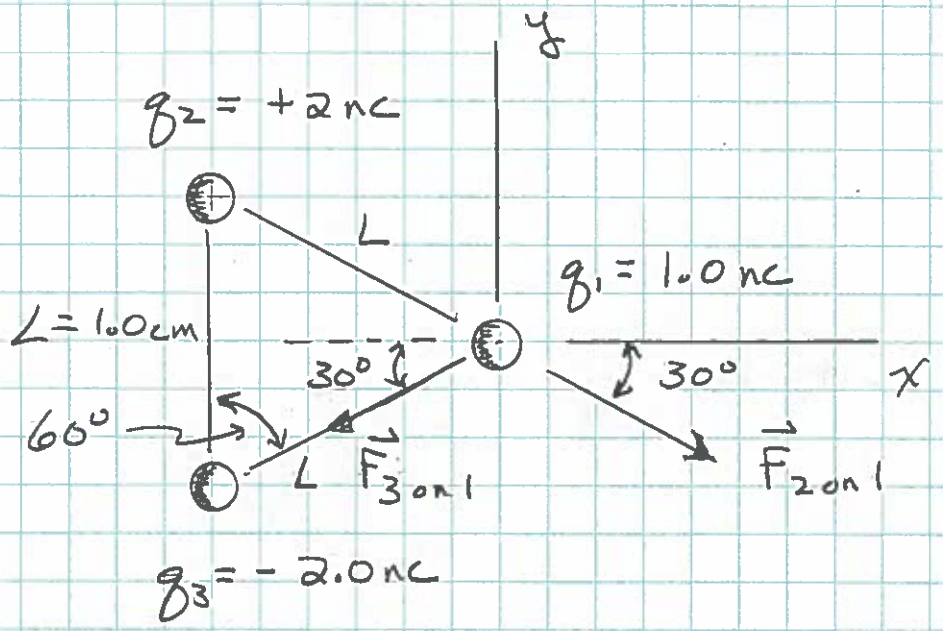

$$|\vec{F}_{2on1}| = \frac{K|q_1||q_2|}{L^2} = 1.798\times10^{-4}\,N$$

and, $\vec{F}_{2on1} = |\vec{F}_{2on1}|\cos 30^\circ \hat{i} - |\vec{F}_{2on1}|\sin 30^\circ \hat{j}$

Now:

$$|\vec{F}_{3on1}| = \frac{K|q_1||q_3|}{L^2} = 1.798\times10^{-4}\,N = |\vec{F}_{2on1}|$$

and, $\vec{F}_{3on1} = -|\vec{F}_{3on1}|\cos 30^\circ \hat{i} - |\vec{F}_{3on1}|\sin 30^\circ \hat{j}$

So: $\vec{F}_{NET} = \vec{F}_{2on1} + \vec{F}_{3on1}$

$= -2|\vec{F}_{2on1}|\sin 30^\circ \hat{j}$

$= -1.798\times10^{-4}\,\hat{j}\ N$

and $|\vec{F}_{NET}| = 1.798\times10^{-4}\,N$ 270° CCW from +x axis.