For the arrangement shown below, what is the force on the -9 C charge? Be sure to show the \( \hat{r} \) directions for each pair of charges. Express your answer in terms of the x-component and y-component of the force (as opposed to magnitude and direction). Do not forget to put units on your final answer.

\[ \vec{F}_{(-9)(5)} = k \frac{(-9)(5)}{3^2} \hat{r}_5 = -5 \hat{r} \, \text{N} \]

\[ \vec{F}_{(-9)(16)} = k \frac{(-9)(16)}{4^2} \hat{r}_{16} = -9k \hat{r} \, \text{N} \]

\[ \vec{F}_{\text{Total}} = \vec{F}_{(-9)(5)} + \vec{F}_{(-9)(16)} \]

\[ = [-5k \hat{r} + 9k \hat{r}] \, \text{N} \]

\[ = [-4.5 \times 10^9 \, \hat{r} + 8.1 \times 10^9 \, \hat{r}] \, \text{N} \]