$$d\vec{F}_{q} = k \frac{q \cdot dQ}{r_{12}^{2}} \hat{r}_{21}$$

$$= k \frac{q \cdot \lambda dL}{r_{12}^{2}} \hat{r}_{21}$$

$$= k \frac{q \cdot \lambda dL}{L^{2} + x^{2}} \hat{r}_{21}$$
(2)
$$= k \frac{q \cdot \lambda dL}{L^{2} + x^{2}} \hat{r}_{21}$$
(3)

$$=k\frac{q\cdot\lambda dL}{r_{12}^2}\hat{r}_{21} \tag{2}$$

$$=k\frac{q\cdot\lambda dL}{L^2+x^2}\hat{r}_{21}\tag{3}$$

$$dF_x = dF \frac{x}{\sqrt{x^2 + L^2}} \tag{5}$$

$$dF_x = dF \frac{x}{\sqrt{x^2 + L^2}}$$

$$dF_y = dF \cdot \frac{L}{\sqrt{x^2 + L^2}}$$
(5)