Coulomb Force in Two Dimensions (1b)

- Components of resultant force:

$$F_x = F_{1,0}^x + F_{2,0}^x = 3.97 \times 10^{-7}\text{N}, \quad F_y = F_{1,0}^y + F_{2,0}^y = -2.77 \times 10^{-7}\text{N}.$$

- Magnitude of resultant force: $F = \sqrt{F_x^2 + F_y^2} = 4.84 \times 10^{-7}\text{N}$.
- Direction of resultant force: $\theta = \arctan\left(F_y/F_x\right) = -34.9°$.