

**Answer on Question #45980, Physics, Electromagnetism**

Two charges  $Q_1=500\text{C}$  and  $Q_2=100\text{C}$  are located on the XY plane at the positions  $r_1=3j$  m and  $r_2=4i$  m. Find the force exerted on the Q2 Solution

Distance between charges is

$$r = \sqrt{4^2 + 3^2} = 5$$

Force is

$$F = k \frac{Q_1 Q_2}{r^2} = 9 \cdot 10^9 \frac{500 \cdot 10^{-6} \cdot 100 \cdot 10^{-6}}{25} = 18 \text{ N}$$

Force is 18 N directed along line connecting charges and pointed away from charge Q1