Two charges of -10C and 30C are separated by 30 cm. What is the ratio of the forces acting on them?

Solution

The forces acting on both charges are the same, but are directed in different directions.

$$F_1 = F_2 = \frac{kq_1q_2}{r^2} = \frac{9 \cdot 10^9 10 \cdot 30}{(30 \cdot 10^{-2})^2} = 3 \cdot 10^{13}\ N$$

The ratio $=F_1/F_2=1$.