Coulomb's Law (Two charges)

A proton and an electron are 2.0×10^{-10} m apart. Calculate the magnitude of the electrostatic force between them.

The charge of a proton is $q_1 = 1.6 \times 10^{-19}$ C.
The charge of an electron is $q_2 = -1.6 \times 10^{\boxed{}}$ C.
The Coulomb constant is approximately $k = \boxed{}.0 \times 10^9$ N $\cdot$ m^2/C^2.

By Coulomb's law, the electrostatic force is:
$$F = k\frac{|q_1 q_2|}{\boxed{}^2}$$

Plugging in values, the magnitude of the force is:
$$F = 5.\boxed{} \times 10^{-} \text{ N}$$