

32. (a) $F_e = Ee = (3.0 \times 10^6 \text{ N/C})(1.6 \times 10^{-19} \text{ C}) = 4.8 \times 10^{-13} \text{ N}.$
(b) $F_i = Eq_{\text{ion}} = Ee = 4.8 \times 10^{-13} \text{ N}.$