## Exercise 1

An electric dipole consisting of two charges $\pm 3.2 \times 10^{-19}$ C separated by a distance of $2 \times 10^{-9}$ m is in an equilibrium position in a uniform electric field of strength $5 \times 10^5$ N/C. Calculate the work done in rotating the dipole to a position in which the dipole is perpendicular to the field.

(Ans. $3.2 \times 10^{-32}$ J )