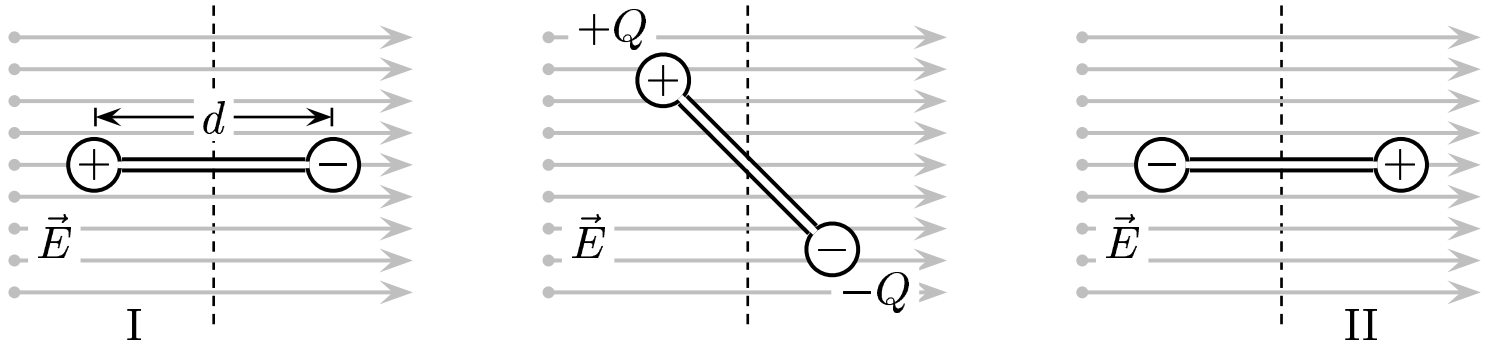


A dipole of $\pm Q$, with a separation d is placed in a uniform constant electric field \vec{E} .



Determine the potential energy released in flipping the dipole from I to II, while pivoting about its center.

- A) $|\Delta U| = Q E d.$
- B) $|\Delta U| = 2 Q E d.$
- C) $|\Delta U| = 3 Q E d.$
- D) $|\Delta U| = 4 Q E d.$

For $+Q$, the potential energy released $\Delta U = Q (V_I - V_{II}) = Q E d.$
 Thus the total potential energy released is $\Delta U = 2 Q E d.$
 Answer B.