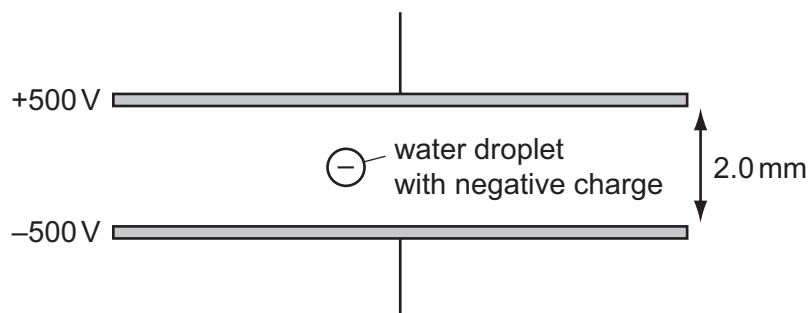
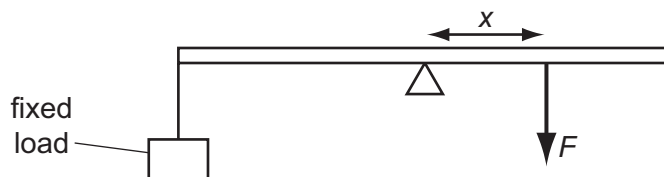


- 13** A small water droplet of mass $3.0\ \mu\text{g}$ carries a charge of $-6.0 \times 10^{-11}\text{ C}$. The droplet is situated in the Earth's gravitational field between two horizontal metal plates. The potential of the upper plate is $+500\text{ V}$ and the potential of the lower plate is -500 V .

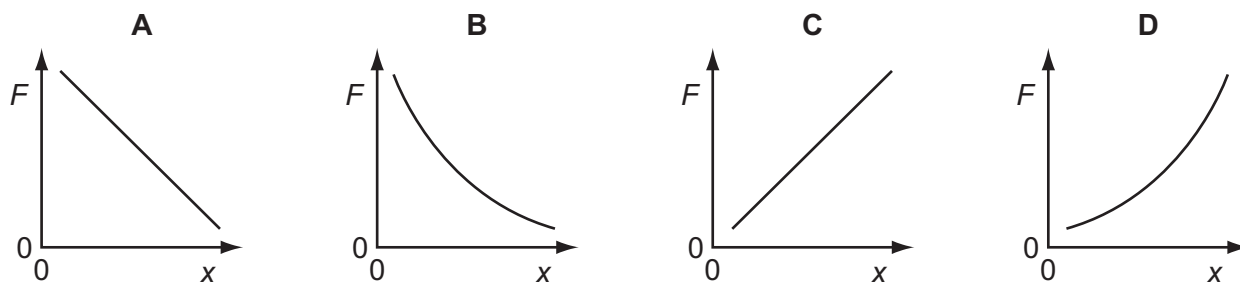


What is the motion of the droplet?

- A** It accelerates downwards.
 - B** It remains stationary.
 - C** It accelerates upwards.
 - D** It moves upwards at a constant velocity.
- 14** A horizontal bar is supported on a pivot at its centre of gravity. A fixed load is attached to one end of the bar. To keep the bar in equilibrium, a force F is applied at a distance x from the pivot.



How does F vary with x ?



Space for working