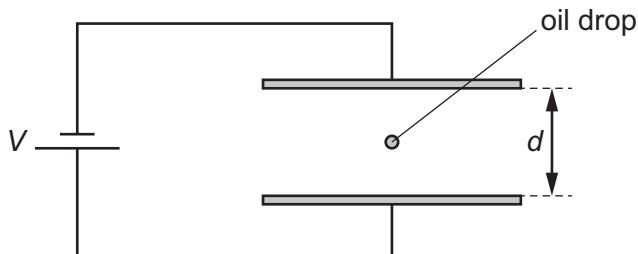


- 31 An oil drop has mass  $m$  and charge  $q$ . The drop is held stationary in an electric field between two parallel horizontal plates, a distance  $d$  apart, as shown.



The potential difference between the plates is  $V$  and the acceleration of free fall is  $g$ .

What is the charge-to-mass ratio  $\frac{q}{m}$  of the oil drop?

A  $\frac{gd}{V}$

B  $\frac{V}{dg}$

C  $\frac{gV}{d}$

D  $\frac{d}{Vg}$