

- 5 (a) Define *electric potential* at a point.

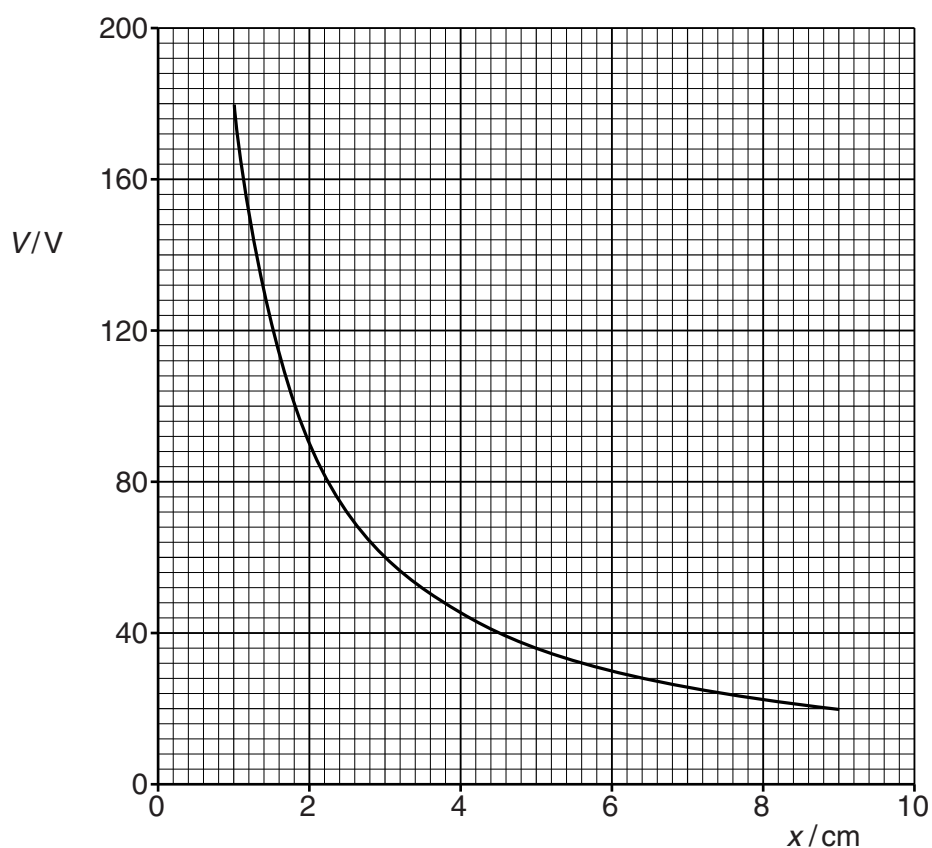
.....

.....

..... [2]

- (b) An isolated solid metal sphere is positively charged.

The variation of the potential  $V$  with distance  $x$  from the centre of the sphere is shown in Fig. 5.1.



**Fig. 5.1**

Use Fig. 5.1 to suggest

- (i) why the radius of the sphere cannot be greater than 1.0 cm,

.....

..... [1]

- (ii) that the charge on the sphere behaves as if it were a point charge.

[3]

- (c) Assuming that the charge on the sphere does behave as a point charge, use data from Fig. 5.1 to determine the charge on the sphere.

charge = ..... C [2]

