6 **(a)** State Coulomb's law.

....

....

.... [2]

(b) Fig. 6.1 shows an isolated hollow conducting sphere that is positively charged.
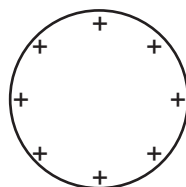

Fig. 6.1

On Fig. 6.1, draw field lines to represent the electric field outside the sphere. [3]

(c) Fig. 6.2 shows the variation of the electric field strength E with distance x from the centre of the sphere in **(b)**.
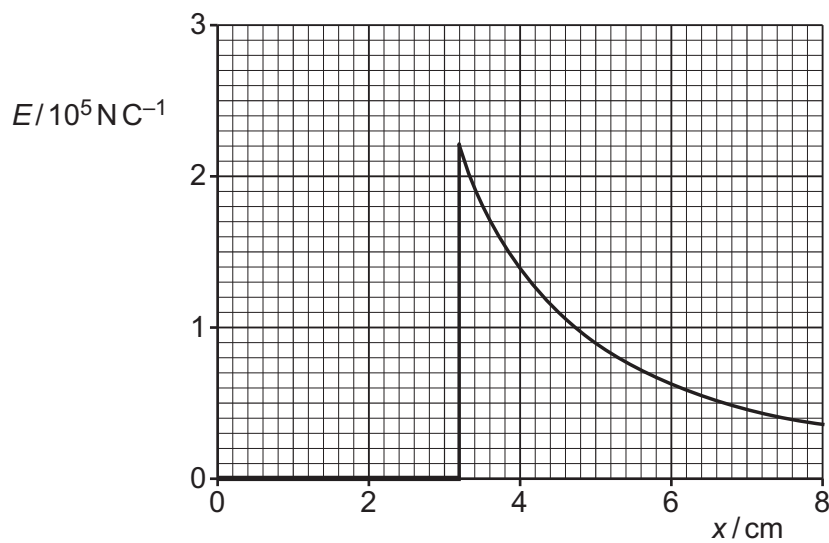

Fig. 6.2

(i) Determine the radius, in cm, of the sphere.

radius = ... cm [1]

(ii) Calculate the charge on the sphere.

charge = ... C [3]

(iii) Suggest an explanation for the fact that the electric field inside the sphere is zero.

....

....

.... [1]