

6 (a) State

- (i) what is meant by the *electric potential* at a point,

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- (ii) the relationship between electric potential at a point and electric field strength at the point.

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- (b) Two similar solid metal spheres A and B, each of radius R , are situated in a vacuum such that the separation of their centres is D , as shown in Fig. 6.1.

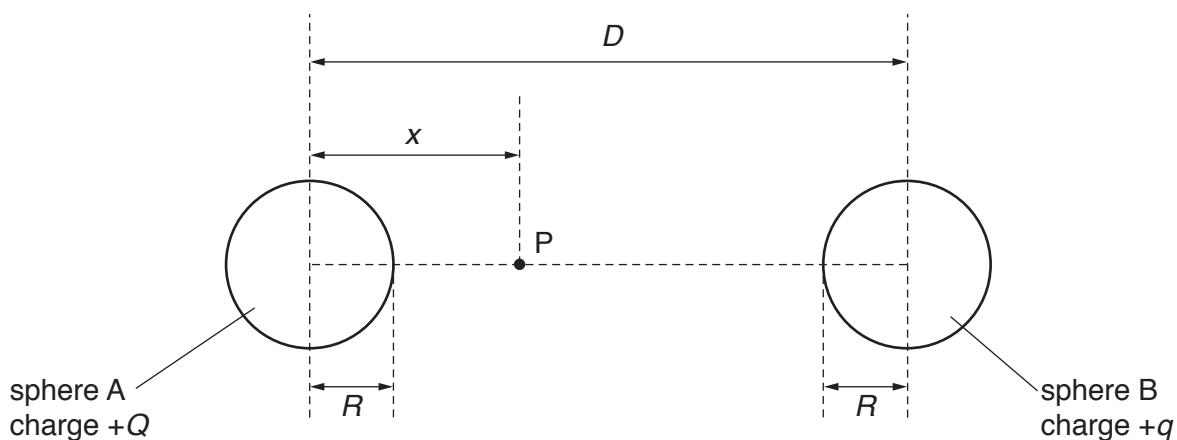


Fig. 6.1

The charge $+Q$ on sphere A is larger than the charge $+q$ on sphere B.

A movable point P is located on the line joining the centres of the two spheres.
 The point P is a distance x from the centre of sphere A.

On Fig. 6.2, sketch a graph to show the variation with x of the electric potential V between the centres of the two spheres.

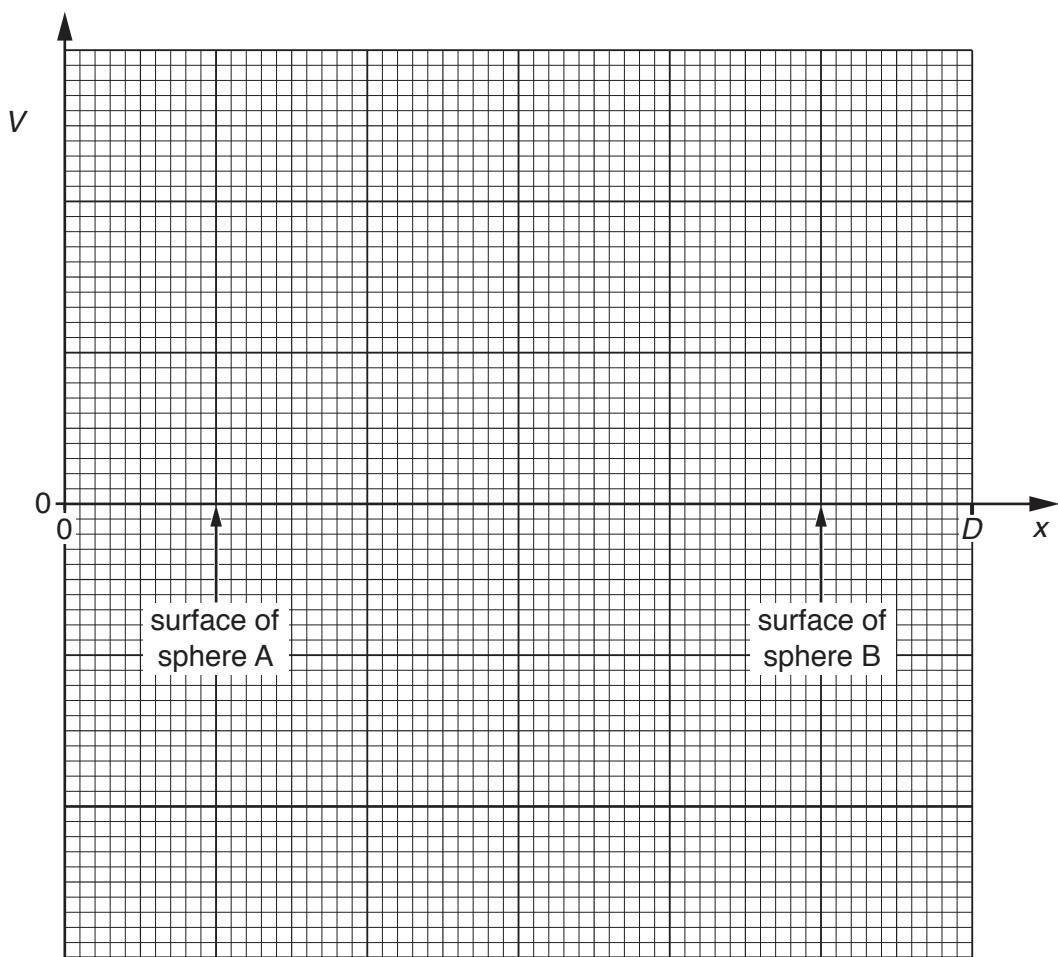


Fig. 6.2

[4]

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