

A very small charge  $q$  is placed at a point  $r$  somewhere in space. Hidden in the region are a number of electrical charges. The placing of the charge  $q$  does not result in any change in the position of the hidden charges.

The charge  $q$  feels a force,  $F$ . We conclude that there is an electric field at the point  $r$  that has the value  $E = F/q$ .

If the charge  $q$  were replaced by a charge  $-q/3$ , then the electric field at the point  $r$  would be

- 1) Equal to  $-E$
- 2) Equal to  $E$
- 3) Equal to  $-3E$
- 4) Equal to  $E/3$
- 5) Equal to some other value not given here
- 6) Cannot be determined from the information given.