

1 (a) State what is meant by a *field of force*.

.....
..... [1]

(b) Gravitational fields and electric fields are two examples of fields of force.
State one similarity and one difference between these two fields of force.

similarity:

.....

difference:

.....

..... [3]

(c) Two protons are isolated in space. Their centres are separated by a distance R .
Each proton may be considered to be a point mass with point charge.
Determine the magnitude of the ratio

$$\frac{\text{force between protons due to electric field}}{\text{force between protons due to gravitational field}}$$

ratio = [3]