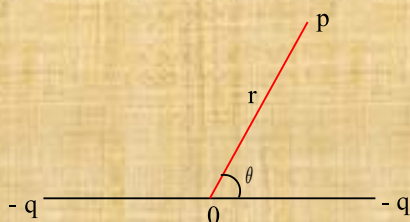


Chapter 01

ELECTRIC CHARGES AND FIELDS

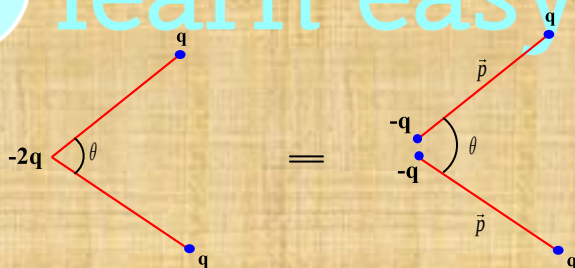
Electric field at any point due to an electric dipole is,



$$E = \frac{1}{4\pi\epsilon_0} \frac{P\sqrt{3\cos^2\theta + 1}}{r^3}$$

Quadrupole:

The arrangement of two electric dipoles are called Quadrupole.



$$\therefore P_{net} = 2p \cos(\theta / 2).$$