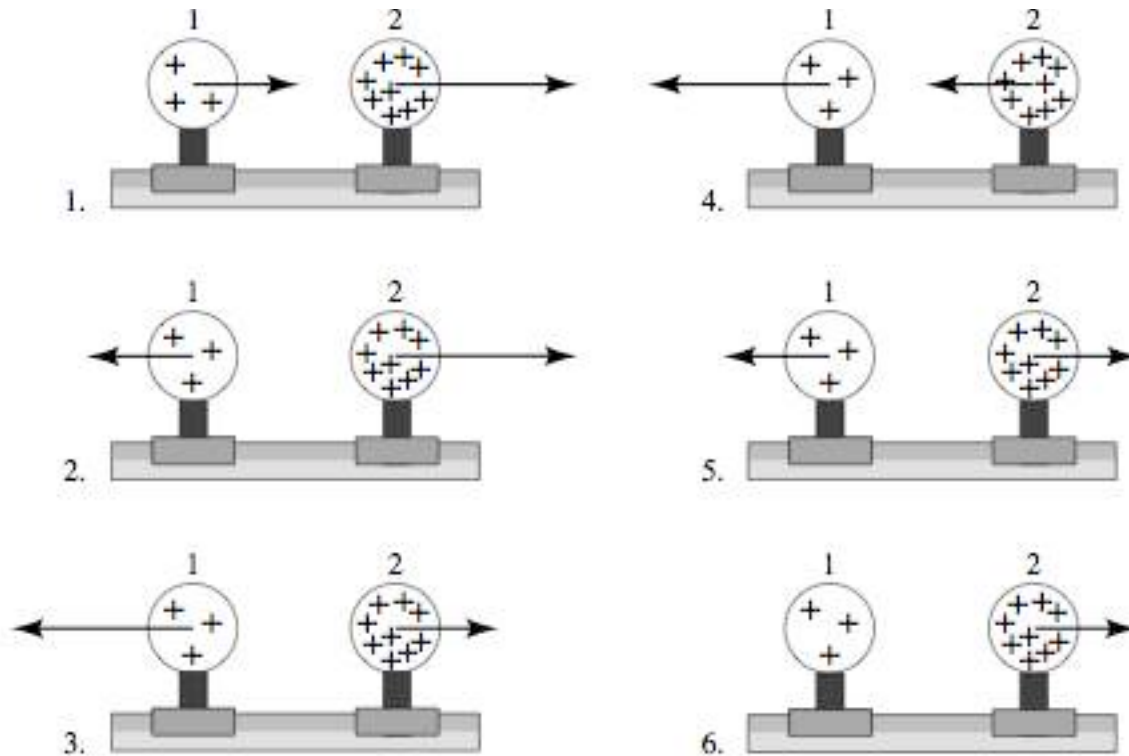




Two uniformly charged spheres are firmly fastened to and electrically insulated from frictionless pucks on an air table. The charge on sphere 2 is three times the charge on sphere 1. Which force diagram correctly shows the magnitude and direction of the electrostatic forces



7. none of the above

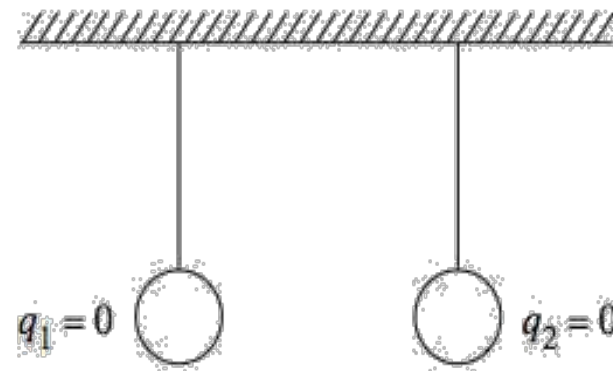


Two identical conductors hang from nonconducting strings. They are given charges  $q_1 = Q$  and  $q_2 = 3Q$ .

After charging, the two strings make angles of  $\theta_1$  and  $\theta_2$  with the vertical.

How do the angles compare?

1.  $\theta_1 > \theta_2$
2.  $\theta_1 < \theta_2$
3.  $\theta_1 = \theta_2$
4. You don't have enough information to tell.





In the figure are shown four arrangements of charge. Each charge has the same magnitude, but some are + and some are -. All distances are to the same scale.

In which would the magnitude of the force felt by a positive test charge placed at P be the largest?

1. A
2. B
3. C
4. D
5. You can't tell.

