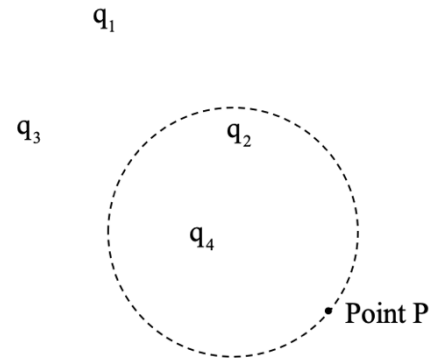


Note: This question came from (or was inspired by) the “Frensley Physics” YouTube site:

Four charges lie in the plane of the page. The cross-section of a spherical Gaussian circle is shown by the dotted line. On that line is (which is to say, on that surface) is a single Point P.



a.) Which of the charges contributes to the electric field at Point P? Justify your response.

b.) Which of the charges contributes to the electric flux through the surface? Justify your response.

c.) If the radius of the sphere were made slightly larger, must that increase the net electric flux through the sphere? Justify your response.

d.) If the radius of the sphere were made much bigger, must that increase the net electric flux through the sphere? Justify your response.