

Physics Challenges for Teachers and Students

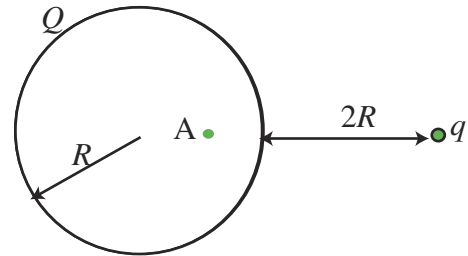
A Worldwide Problem-Solving Contest



► Front and Center (Mr1)

A conducting sphere of radius R has a charge Q . A particle carrying a charge q is placed a distance $2R$ from the sphere. Find the potential at point A located a distance $R/2$ from the center of the sphere on the line connecting the center of the sphere and particle q . Note that the charge distribution of the sphere is not symmetrical due to the influence of particle q .

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Submission Guidelines:

The deadline for submitting solutions to this problem is March 21, 2005.

- only email submissions will be considered;
- email your solutions to Boris Korsunsky at korsunbo@post.harvard.edu;
- please email the solutions as Word files;
- please email *each solution* as a separate file;
- note that each problem, in addition to a very clever title, has a code such as Mr1. Please name each file as “problem code-first initial-last name.” For instance, “Mr1DVader” if your name is Darth Vader and you are sending the solution to problem Mr1;
- please state your name, hometown, and professional affiliation in each file.

We look forward to your (and your students’) participation.

Please send correspondence to:

Boris Korsunsky
korsunbo@post.harvard.edu

The next *Challenge* problem will be posted online March 14.