

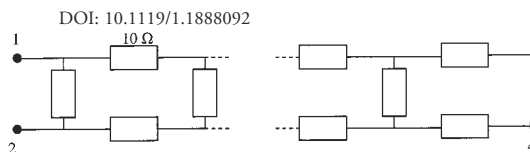
# Physics Challenges for Teachers and Students

*A Worldwide Problem-Solving Contest*



## ► Don't Ask, Don't Tell (A2)

What resistor  $r$  must be connected between points 3 and 4 so that the resistance between points 1 and 2 can be found without knowing the total number of resistors in the circuit shown below? Each resistor in this circuit is  $10\ \Omega$ .



### Submission Guidelines:

The deadline for submitting solutions to this problem is April 25, 2005.

- only email submissions will be considered;
- email your solutions to Boris Korsunsky at [korsunbo@post.harvard.edu](mailto: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 A1. Please name each file as “problem code-first initial-last name.” For instance, “A1DVader” if your name is Darth Vader and you are sending the solution to problem A1;
- 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](mailto:korsunbo@post.harvard.edu)

The next *Challenge* problem will be posted online April 18.