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PROBLEM OF THE WEEK

2/28/12 **due NOON** 3/12/12

CAN YOU GIVE US A SOLUTION?

Problem No. 8 (Spring 2012 Series)

Two discs of radius one and a disc of radius one half are drawn on a plane so that each of them is touching the other two at one point–think of two quarters and a penny all flat on a table and all touching at their edges. Find the radius of the largest circle which is tangent to all three of the circles which are the edges of the discs.

A panel in the Mathematics Department publishes a challenging problem once a week and invites college & pre-college students, faculty, and staff to submit solutions. The objective of this is to stimulate and cultivate interest in good mathematics, especially among younger students. Solutions are due within two weeks from the date of publication. They can be faxed to (765) 494-0548 or sent by campus or U.S. mail (no E-mail please) to:

PROBLEM OF THE WEEK, **5th Floor**, Math Sciences Bldg., Purdue Univ.,
150 North University St., West Lafayette, IN 47907-2067

Solvers should include their name, address, and **status at the University or school**.

The names of those who submitted correct solutions will be posted in the Math. Library, along with the best solution. Every Purdue student who submits three or more correct solutions will receive a Certificate of Merit. A prize fund of $300.00 will be distributed among the Purdue undergraduates who have contributed at least six correct solutions for the total Spring 2012 series.