

Illinois Institute of Technology  
Department of Applied Mathematics and IIT SIAM Student Chapter

**Weekly Problem Competition**

**Friday, September 25, 2009**

Suppose that  $n$  is natural number and  $2n^2$  is divisible by  $d$ . Prove that  $n^2 + d$  is not a perfect square.

**Remarks:**

The rules and results of the competition can be found at <http://www.math.iit.edu/~weeklyproblem>  
You have to submit the solution by email, to [weeklyproblem@math.iit.edu](mailto:weeklyproblem@math.iit.edu)  
Please feel free to tell any IIT undergraduate student about the competition.

**Thank you for your participation  
Good Luck !**