

# I U P U I

## MATH CLUB TEASER #1

October 3, 2008  
(due October 10, 2008)

According to legend, when the famous German mathematician Karl F. Gauss (1777–1855) was nine years old, his school teacher asked the class to add all the numbers from 1 to 100. Gauss quickly noticed that he could add  $1 + 100$ ,  $2 + 99$ ,  $3 + 98$ , and so on to get 50 pairs of numbers each adding to 101.

His answer was  $50 \times 101 = 5,050$ .



Find the sum of all the digits in the numbers from 1 to 1,000,000. That is all the *digits*, not the numbers themselves.

The IUPUI Math Club invites everybody to submit solutions to its weekly recreational mathematics problem. Interested individuals and teams of up to four participants must submit a cover sheet (available at [jagmath.usg.iupui.edu](http://jagmath.usg.iupui.edu)) together with their written solution. At the end of the semester, every IUPUI student that sent a correct solution will receive a certificate of merit. Prizes will be distributed among the IUPUI undergraduate teams that submit the most correct solutions.

Solutions are due one week after each problem is posted, and should be faxed to (317) 274-3460, dropped off in person at LD 270, or sent by campus or U.S. mail to:

**Math Club Teaser**  
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