

# Cal Poly Department of Mathematics

## Puzzle of the Week

Jan 19 - Feb 1 (extended!), 2012

For a positive integer  $n$  let  $B(n)$  denote the number of 1s in its binary representation. Find the value of

$$\sum_{n=1}^{\infty} \frac{B(n)}{n(n+1)}$$

*Solutions should be submitted to Morgan Sherman:*

*Dept. of Mathematics, Cal Poly  
Email: sherman1 -AT- calpoly.edu  
Office: bldg 25 room 310*

*before next Thursday. Those with correct and complete solutions will have their names listed on the puzzle's web site (see below) as well as in next week's email announcement. Anybody is welcome to make a submission.*

<http://www.calpoly.edu/~sherman1/puzzleoftheweek>