MathStatClub PROBLEM OF THE MONTH September 2016

Show that if \( b \geq 2 \) is a positive integer, then \( \log_b (b + 1) \) must be irrational.

Please submit your solution to:

- Dr. Christian Avart, cavart@gsu.edu

before the deadline: October 7th, 7:00PM. The WINNER will be awarded with a $15 gift certificate and will be announced in the NEXT issue.

**Solution to the April 2016 Problem of the Month**

Consider a circle of maximum radius (similar to the equator) passing through any two of the meteorites. One of the corresponding hemispheres must contain at least half of the other \( 2n - 2 \) meteorites, i.e. at least \( n - 1 \) meteorites. Consequently that hemisphere along with the large circle contains at least \( n + 1 \) meteorites.

**Winner: No one...**