

I U P U I  
MATH CLUB TEASER #60

April 1, 2011  
(due April 31, 2011)

SOLUTION

Call  $w$  the number of friends of Mother Hubbard's son. After the first round, there were  $\frac{w(w-1)}{2}$  handshakes, so after two rounds there were  $w^2 - w$  handshakes. Then each of the  $w$  friends shakes hands with the son. This makes a total of  $w^2$  handshakes.

The dog had zero cakes, and the number of handshakes is less. This means that  $w^2$  is negative, so the son's friends are imaginary.

SOLVED BY:

No correct solutions were submitted.