SOLUTIONS

No problem is ever permanently closed. Any comments, new solutions, or new insights on old problems are always welcomed by the problem editor.

65*. [1994, 47] *Proposed by Stanley Rabinowitz, Westford, Massachusetts.*

Evaluate

$$\sum_{k=0}^{n} \left| \binom{n}{k} - 2^k \right|.$$

Comment by the proposer.

I have no solution to this problem. It is equivalent to the question:

$$\text{“When is } 2^k > \binom{n}{k} \text{ ?”}$$

For a related problem, see problem E3327 in the *American Mathematical Monthly*, May 1989, pp. 445–446 and the solution to problem E3327 in the *American Mathematical Monthly*, February 1991, pp. 164–165.

Comment by the editor.

The problem remains open.

66. [1994, 47] *Proposed by Alvin Beltramo (student), Central Missouri State University, Warrensburg, Missouri.*

Consider the following generalization of the car and the goats problem. A TV host shows you d doors, a car is hidden behind w doors and the rest of the doors are hiding goats. You get to pick a door, winning whatever is behind it. The host, who knows where the cars are, then opens s doors, in the process revealing x cars. The host invites you to switch your choice if you so wish. When should you switch?