

# Problems of the Month for UH Mānoa Undergraduates

## Problems for May 2008

**Problem A.** Find three points in the  $xy$ -plane such that all of the coordinates of the points are integers and the perimeter (sum of lengths of sides) of the triangle formed by the points is 42.

**Problem B.** Show that if “42” is replaced by “43” in Problem A, then there are no such points.

### Rules

The following rules may be changed or clarified from month to month.

1. Any “regular” undergraduate currently enrolled at UH Manoa is eligible to compete.
2. Write a complete solution with all details to either problem or both.
3. Submit your solution(s) *electronically* before the end of the above month to

bleecker@math.hawaii.edu

For the subject line of your email use “problem of the month” and *send your email via your UH email address*. Either write your solution within the body of your email or within attachment(s) in the form of readable pdf files or images of your work in jpg format (e.g., scanned or digitally photographed).

4. Solutions will be judged by a committee of professors according to a combination of criteria: accuracy, attention to details, chronological order of submission, and neatness, but not necessarily in that order.

5. Before the end of the 10-th day of the month that follows, the winner(s) will be announced on the Math Department web site. Moreover, if there is at least one good answer to a problem the winner(s) for that problem will collectively receive a total of least \$20 to be distributed among them depending on the criteria in 4 above, as soon as the checks can be extracted from the Hanf Fund at the UH Foundation, a process that may take several weeks.