

# The Problem Solving Competition - Problem #2

- Your submission should contain a FULL solution. Not just the answer, but your entire argument.
- **Submit solutions to Pam in MCT 250**
- **Questions???** Ask Dr. Taylor email: [pttaylor@ship.edu](mailto:pttaylor@ship.edu), or stop by MCT 281
- Winners, problems and solutions will be posted at <http://www.ship.edu/pttaylor/PSC/index.html>

Considering the set of points

$$A = \{(i, j), 0 \leq i, j \leq 40, \text{ with } i, j \text{ integers}\}$$

How many squares can be formed so that all corners of all squares belong to  $A$ , with sides parallel to the  $x$  and  $y$  axes? In other words, how many squares there with sides parallel to the axes and corners with integers coordinates between 0 and 40 inclusive?

Solutions for this puzzle will be due **Wed, Sept 30** at 4pm.