Problem of the Week #14

Assigned: 1300, January 13, 2011

Due: 1300, January 20, 2010

A Game of Threes

Dr. Hager, a very competitive mathematician, chooses three consecutive integers from the real number line and adds them up. Then, she takes the next three consecutive integers (from the same real number line) and finds their sum as well. Finally, she finds the product of these two sums.

Can Dr. Hager choose these consecutive integers such that the final result is an integer power of 3 (i.e., 3^x where x is integer)? Give a numerical example or show why no such consecutive integers exist.

Email solutions to Christopher.marks@usma.edu with subject line: POTW.

Solutions can be emailed in the form of: an email (plain text) no attachment, a word document, a mathematica file, an excel workbook, or a scanned adobe file of your work.

If none of these options work for you, you may drop a hardcopy off at my office TH239C, just annotate the time of submission.