

# Problem of the Block - Block 8



## An Arithmetic Game

From a row of  $n$  consecutive positive integers, two players, first  $A$  and then  $B$ , take turns crossing out the integer of their choice until just two integers,  $a$  and  $b$ , remain.  $A$  wins if  $a$  and  $b$  are relatively prime (if they have no common factor other than 1). Otherwise,  $B$  wins.

If  $n$  is odd, would you choose to play first or second? Why?

Turn in solutions to Dr. Bean in Law 206E or by email at [sbean@cornellcollege.edu](mailto:sbean@cornellcollege.edu) by Wednesday, May 9. Solutions for only one/some questions or partial solutions will receive credit (and are encouraged!). Submitting solutions for the Problem of the Block can earn culture points toward the major in mathematics. For more information about the Problem of the Block, including the current leader board for the yearly competition, and to print off your own copy visit <http://www.cornellcollege.edu/mathematics/problem-of-the-block/index.shtml>.