

## MA 310 — Homework #2

Due Friday, January 23, in class

Refer to “Problems” on the Course Website

1. Solve “Variations on Game of 100” part (1). In particular, identify all the key positions and justify that they are in fact key positions by proving that if you achieve a key position, then on the next move your opponent cannot achieve a key position, but in your move after that, you can achieve a key position.
2. Solve “Variations on Game of 100” part (2). In particular, carefully identify all the key positions and justify that they are in fact key positions by proving that if you achieve a key position, then on the next move your opponent cannot achieve a key position, but in your move after that, you can achieve a key position.
3. Solve “Penny Piles”. In particular, identify all the key positions and justify that they are in fact key positions by proving that if you achieve a key position, then on the next move your opponent cannot achieve a key position, but in your move after that, you can achieve a key position.