

MA310
Homework #5
Due Tuesday, March 20

The solutions to the following problems should be written using proper English (and mathematics!), and clear enough for someone who is not in this class, and has not had the benefit of the classroom discussion, to follow. Only the solution to the last problem needs to be typed; the rest can be hand-written.

1. Section 6, Problem 16. Guess the formula by the method described in class. Prove the formula by induction.
2. Prove that for every positive integer $n \geq 1$, a $2^n \times 2^n$ checkerboard with one corner removed can be tiled by pieces consisting of three squares in the shape of an “L”.
3. Section 6, Problem 23. Prove your formula by induction.
4. Section 6, Problem 24. Find and prove by induction the minimum number of moves required to solve this puzzle.