Worksheet 4
Due: Tuesday, March 10

Put full names of the group at the top. Pick one person to record who hasn't before. Star their name.

In the *Towers of Hanoi* puzzle, a stack of differently sized disks are on one peg. The goal is to move the stack onto a different peg via a sequence of moves. A move must

- move exactly one disk to a different peg, and

- cannot move a larger disk on top of a smaller disk.

1. Given 3 disks, what is the minimum number of moves to solve the puzzle?

2. What about 4 disks?

3. Now try n disks.

4. Come up with a recursive formula for the number of moves it takes to solve the $n$disk puzzle.

5. Prove that the recursive formula is true.