My heuristic function is based around the average of the amount of rotations it will take to get each individual tile to their respective spot. The heuristic is as follows:

f(n) = g(n) + h(n), where
g(n) = number of moves to this point
h(n) = average number of rotations (by 30°) it would take to get a single tile to its desired location

This heuristic is **admissible** because the average number of moves to get all tiles to their desired locations is less than the actual number of moves that it will take. If there is the base case where just one axis is off by *n* rotations at the initial state of the puzzle, then the heuristic value will be 12*n*/30, with a path cost (g(n)) of 0 up to that point. The 12*n*/30 comes from 12 tiles on one axis being misplaced by n rotations, and there are 30 tiles on the globe. So, the actual cost will be n to get to the goal, whereas the f(n) function will return a fraction of that n, or (2/5)*n* to be exact. When the globe is more randomized than the base case, more rotations than just one axis will be necessary, and thus you will be moving tiles that actually don't need to be moved because they are already in their desired spot. Thus, the cost of moving those tiles back to place will be bounded by their contribution to the heuristic.