

Consider placing any number of queens (of the same color) on an $n \times n$ chessboard in such a way as to maximize the number of legal moves available.

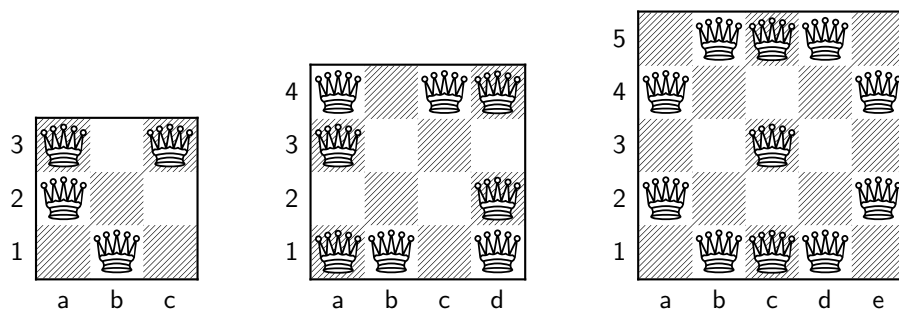


Figure 1: Examples of $a_q(3) = 17$, $a_q(4) = 40$, $a_q(5) = 76$.

Question. Is Alec Jones's conjecture true: $a_q(n) = 8(n-2)^2$ for $n \geq 6$, by placing the queens around the perimeter?

Related.

1. What about the analogous function for rooks (a_r) or bishops (a_b)?
2. What if the chessboard is a torus? Cylinder? Möbius strip?
3. What if the chessboard is $n \times m$?
4. Is $a_b(n) = \lfloor a_q(n)/2 \rfloor$? for all n ?
5. What if queens can attack?