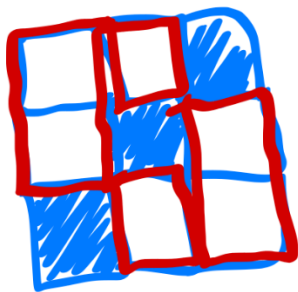Howdy Folks!

I calculated 4048. I suspect it is wrong because olympiad problems are so difficult they need hours to even understand . . . And I have no proof.
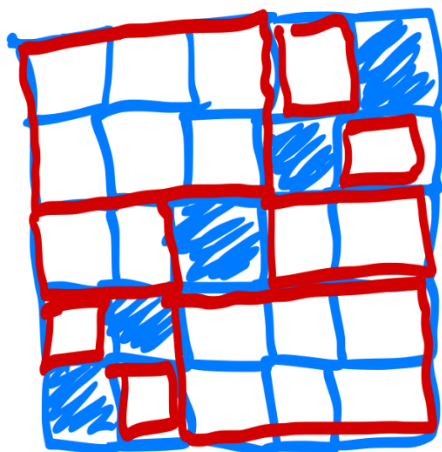
My proof would be along the lines of decompsing a square odd array into an odd half and an even half.

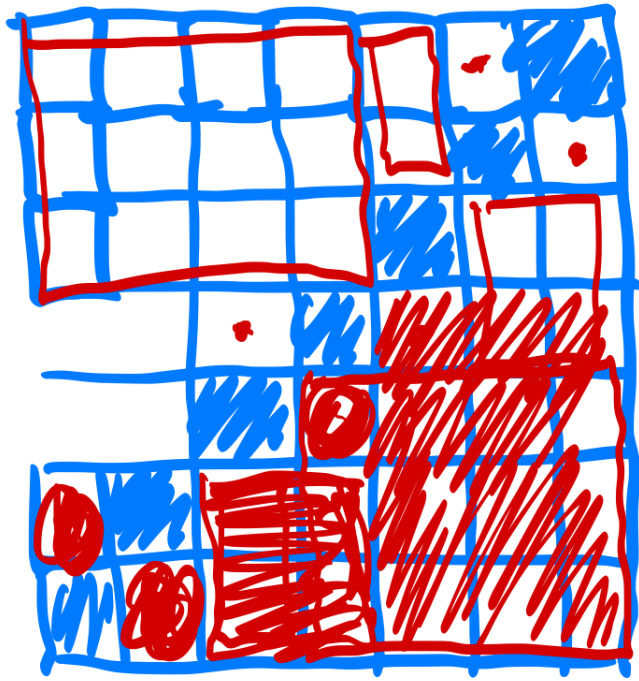If you finally publish the answer it would be wonderful to know!

Cheers and best wishes, Ken, member of DecideWise Forum!

$3 \times 3 = 4$

$5 \times 5 = 8$

$7 \times 7 = 12$
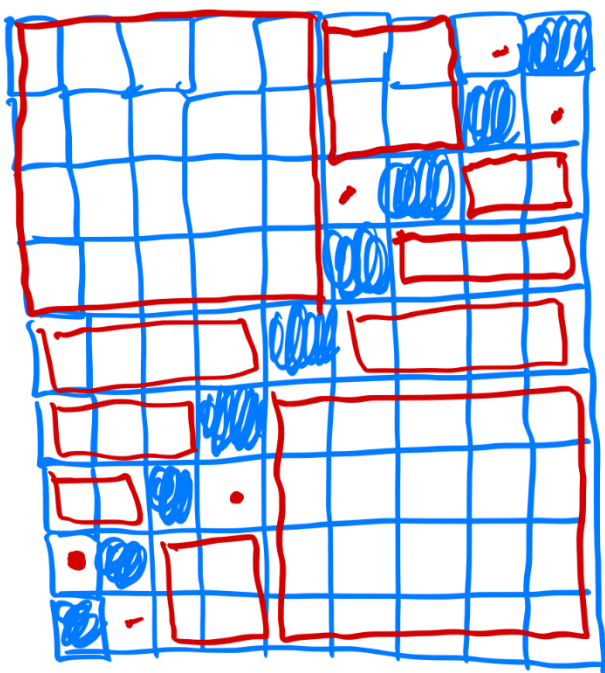
$3 \times 3 = 4$

$5 \times 5 = 8$

$7 \times 7 = 12$

$9 \times 9 = 16$

$1 + 1$

$6 + 6 = 12$

$1 \times 1 = 1$

$7 + 9 = 16$

$$1: \quad 1 \times 1 = 1$$
$$2: \quad 3 \times 3 = 4$$
$$3: \quad 5 \times 5 = 8$$
$$4: \quad 7 \times 7 = 12$$
$$5: \quad 9 \times 9 = 16$$

$$N: (2N-1) \times (2N-1) = (N-1) \times 4$$

$$2025 = 2N - 1 \implies 2N = 2026 \implies N = 1013$$

$$\therefore \# = (N-1) \times 4 = (1013 - 1) \times 4 = 1012 \times 4$$

$$4048$$