We have determined that, for the following central squares, there are no $3 \times 3$ magic squares with distinct entries with at least 7 squares (besides symmetries and $k^2$ multiples of the known one). All primes factors considered are of the form $p \equiv 1(4)$. Note if there is no such magic square with central square $x^2$ then no square factor of $x^2$ is the central square of such a square (e.g. since $(13+17)^{100}$ is not the central square of such a square, neither is $13^217^{80}$ or $13^{92}17^{40}$, etc.).

The search continues. Software (including source) for performing such as search is available for download (get it at http://landon314.brinkster.net/MagicSearcher.msi – it is currently Windows-only since Mono does not support mixed mode assemblies) and a distributed computing project is in the works. The actual computational engine has been partitioned out into a .NET Assembly called MagicLibrary that can be easily used in other search applications. Please improve the code and send it back!

**All Configurations**

**Two Distinct Prime Factors**

$(p_1 p_2)^4$ with $13 \leq p_1 < p_2 \leq 99989.$

$(p_1 p_2)^8$ with $5 \leq p_1 \leq 149$ and $5 \leq p_2 \leq 10,000,000$

$(p_1 p_2)^{10}$ with $13 \leq p_1 < p_2 \leq 9949.$

$(p_1 p_2)^{14}$ with $13 \leq p_1 < p_2 \leq 1993.$

$(p_1 p_2)^{24}$ with $13 \leq p_1 < p_2 \leq 977.$

$(p_1 p_2)^{50}$ with $13 \leq p_1 < p_2 \leq 89.$

$(p_1 p_2)^{100}$ with $13 \leq p_1 < p_2 \leq 17.$

**Three Distinct Prime Factors**

$(p_1 p_2 p_3)^4$ with $13 \leq p_1 < p_2 < p_3 \leq 4973.$

$(p_1 p_2 p_3)^6$ with $13 \leq p_1 < p_2 < p_3 \leq 1993.$

$(5p_2 p_3)^8$ with $13 \leq p_2 \leq 61$ and $5 \leq p_3 \leq 100,000$

$(p_1 p_2 p_3)^{10}$ with $13 \leq p_1 < p_2 < p_3 \leq 457.$

$(p_1 p_2 p_3)^{16}$ with $13 \leq p_1 < p_2 < p_3 \leq 89.$
Four Distinct Prime Factors

\((p_1p_2p_3p_4)^4\) with \(13 \leq p_1 < p_2 < p_3 < p_4 \leq 457\).
\((p_1p_2p_3p_4)^6\) with \(13 \leq p_1 < p_2 < p_3 < p_4 \leq 89\).

Five Distinct Prime Factors

\((p_1p_2p_3p_4p_5)^2\) with \(13 \leq p_1 < p_2 < p_3 < p_4 < p_5 \leq 457\).
\((p_1p_2p_3p_4p_5)^4\) with \(13 \leq p_1 < p_2 < p_3 < p_4 < p_5 \leq 89\).

Six Distinct Prime Factors

\((p_1p_2p_3p_4p_5p_6)^2\) with \(5 \leq p_1 < p_2 < p_3 < p_4 < p_5 < p_6 \leq 89\).

Seven Distinct Prime Factors

\((p_1p_2p_3p_4p_5p_6p_7)^2\) with \(5 \leq p_1 < p_2 < p_3 < p_4 < p_5 < p_6 < p_7 \leq 53\).

Hourglass Configuration

Three Distinct Prime Factors

\((5p_2p_3)^8\) with \(13 \leq p_2 \leq 113\) and \(5 \leq p_3 \leq 10,000,000\)