

Puzzle of the Week

Squares Made of Primes

THE CHALLENGE: For numbers that are squares bigger than 1, some squares are the sum of two prime numbers. For example, $4 = 2 + 2$ and $9 = 2 + 7$. Is there a square bigger than 1 that is not the sum of two prime numbers? If so, what is the smallest square, bigger than 1, that is not a sum of two primes?

$$n^2 = p + q?$$

EXPLORATION: What are some observations that can make your search more efficient? What happens if you are allowed to use more than two primes?