Starting with 1 and spiraling anticlockwise in the following way, a square spiral with side length 7 is formed.

**37** 36 35 34 33 32 **31**  
38 **17** 16 15 14 **13** 30  
39 18  **5**  4  **3** 12 29  
40 19  6  1  2 11 28  
41 20  **7**  8  9 10 27  
42 21 22 23 24 25 26  
**43** 44 45 46 47 48 49

It is interesting to note that the odd squares lie along the bottom right diagonal, but what is more interesting is that 8 out of the 13 numbers lying along both diagonals are prime; that is, a ratio of 8/13 ≈ 62%.

If one complete new layer is wrapped around the spiral above, a square spiral with side length 9 will be formed. If this process is continued, what is the side length of the square spiral for which the ratio of primes along both diagonals first falls below 10%?