

Solutions to puzzle 742 “Prime-Golygons”

http://www.primepuzzles.net/puzzles/puzz_742.htm

Sent by:

Giovanni Resta (Slides 2-5)

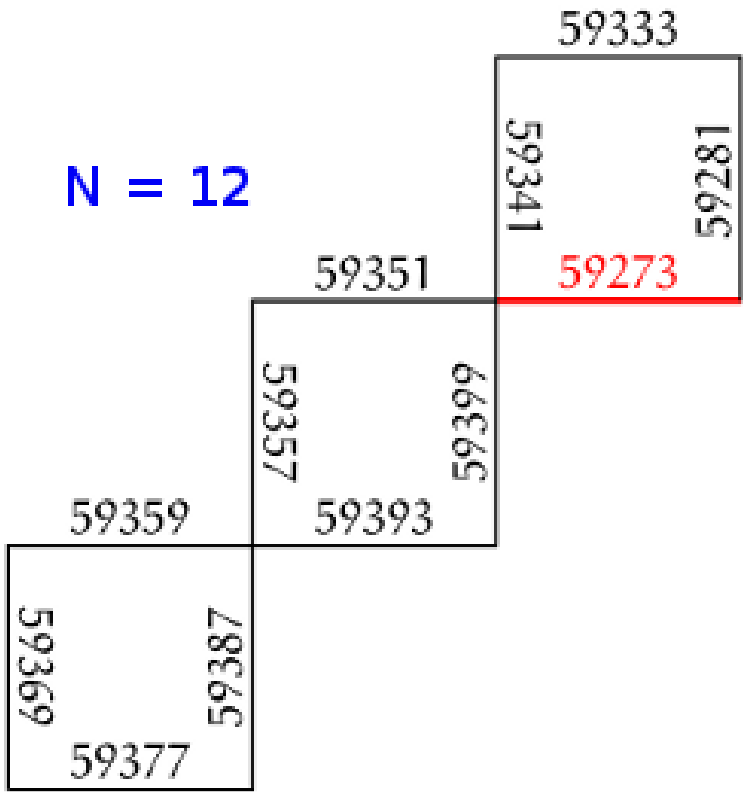
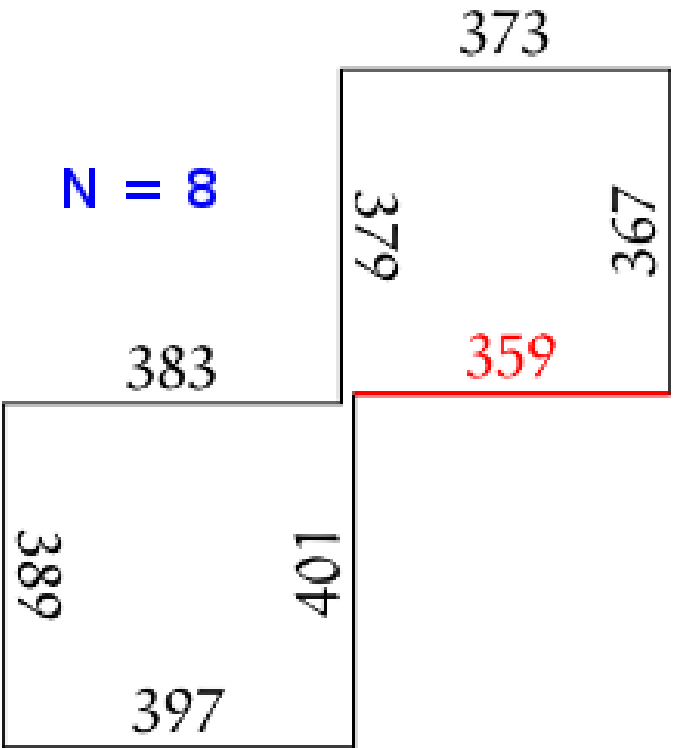
Jan van Delden (Slides 6-19)

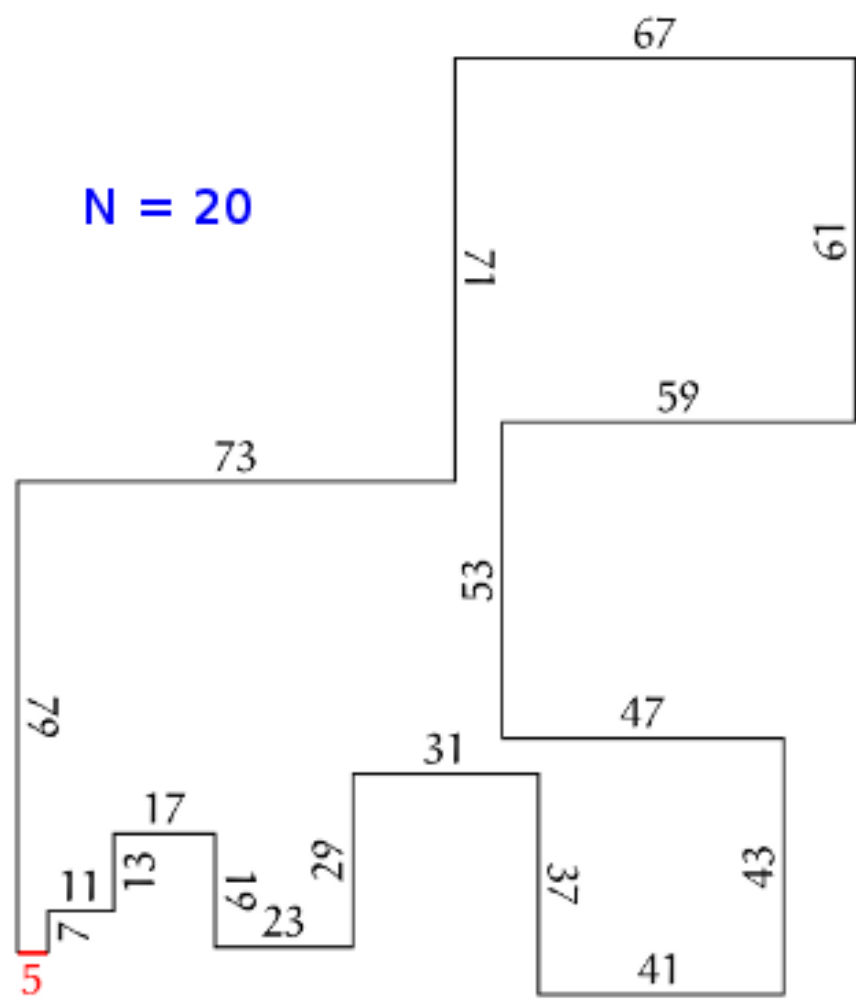
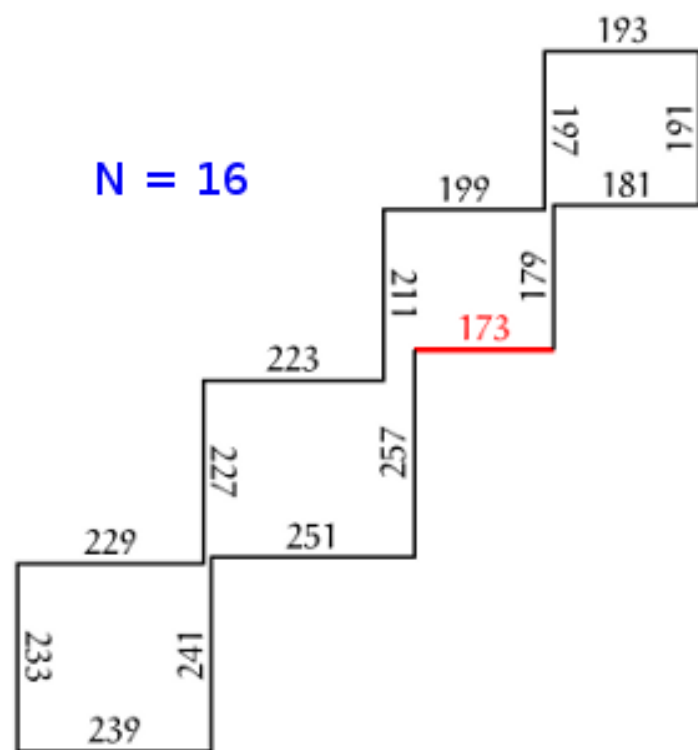
Emmanuel Vantieghem (Slides 20)

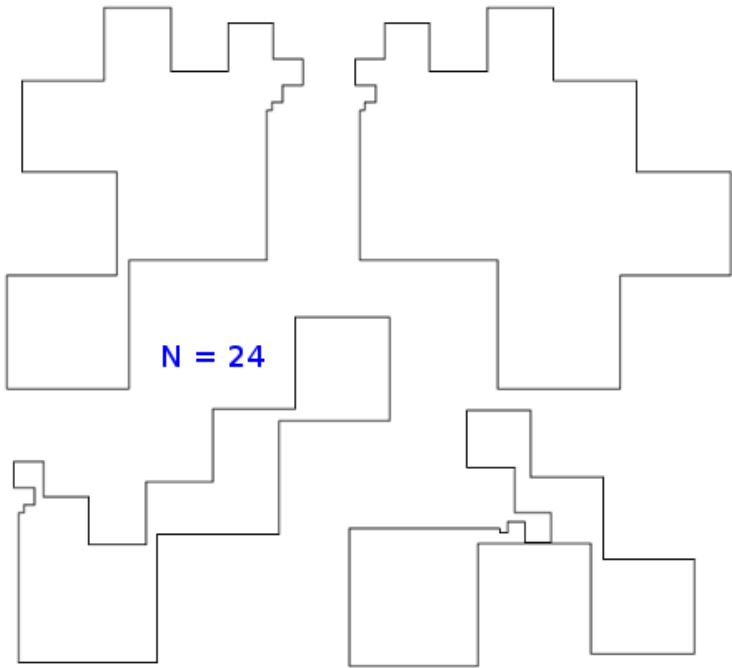
Fred Schneider (Slides 21-22)

Hakan Summakoglu (Slides 23-29)

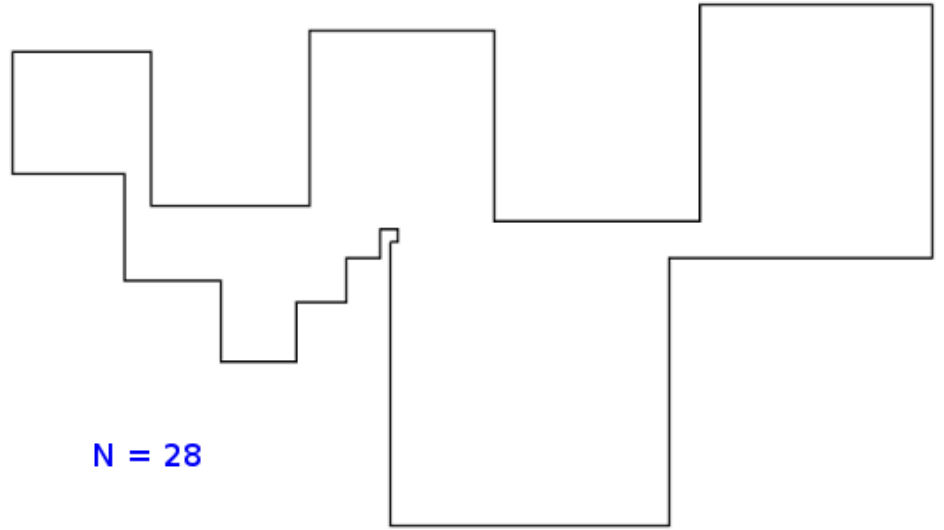
Solutions by Giovanni Resta(n=8-32)



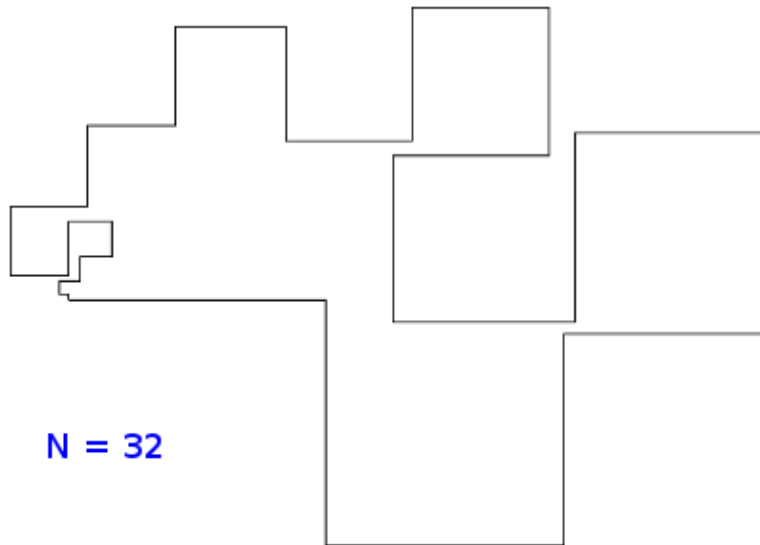




$N = 24$



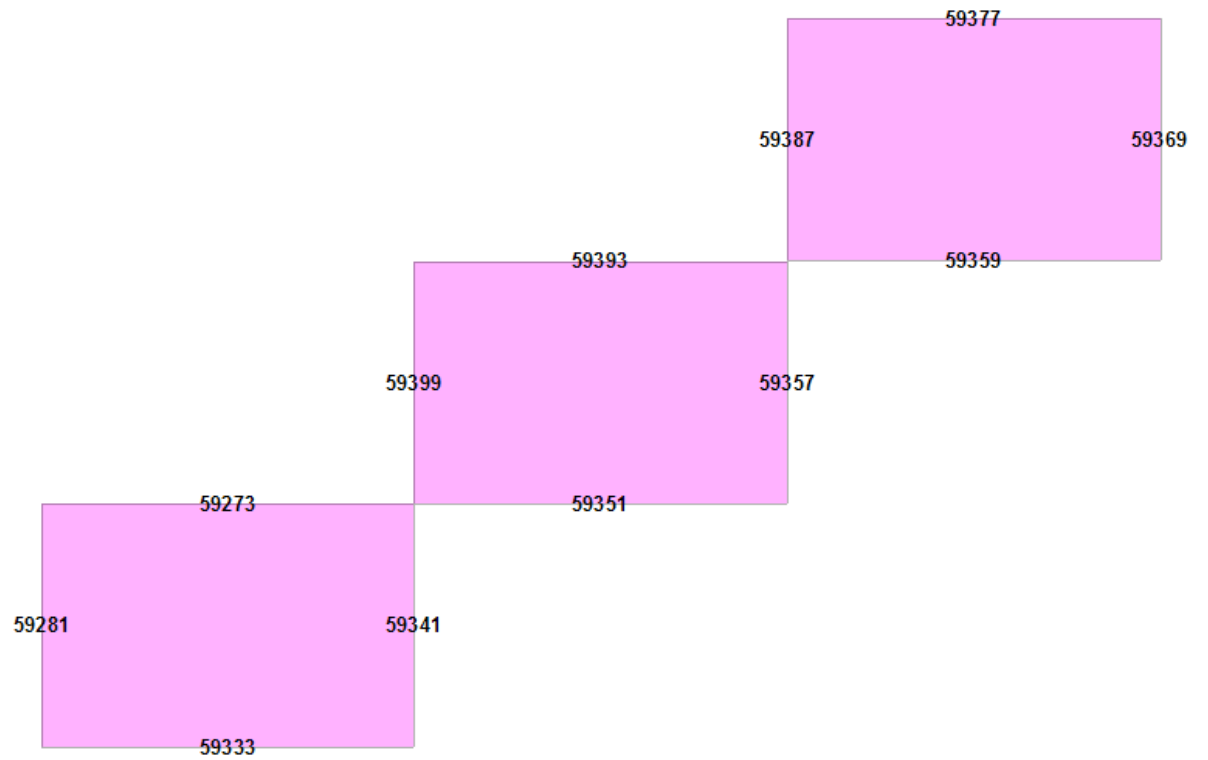
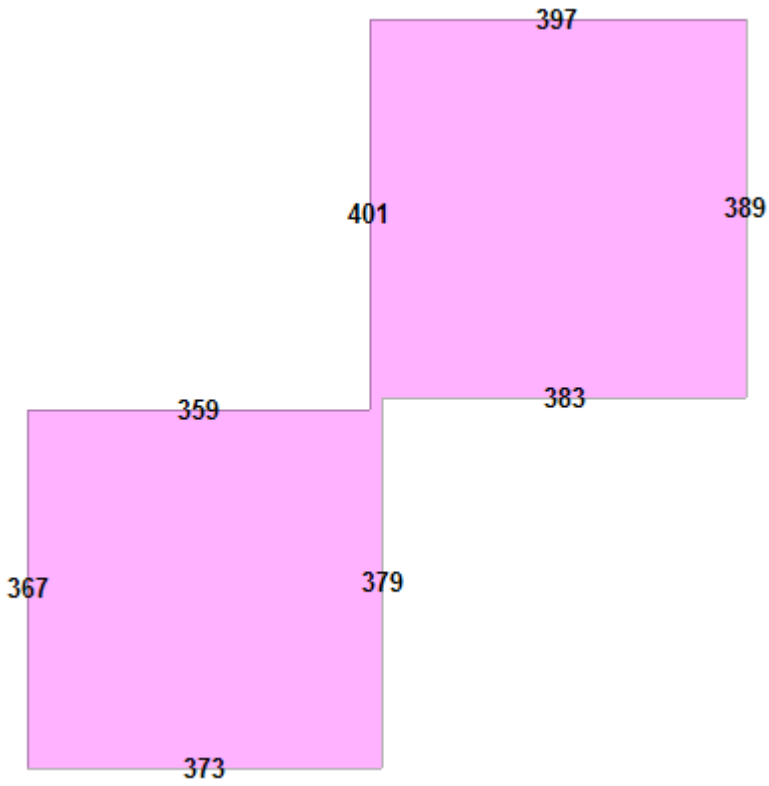
$N = 28$

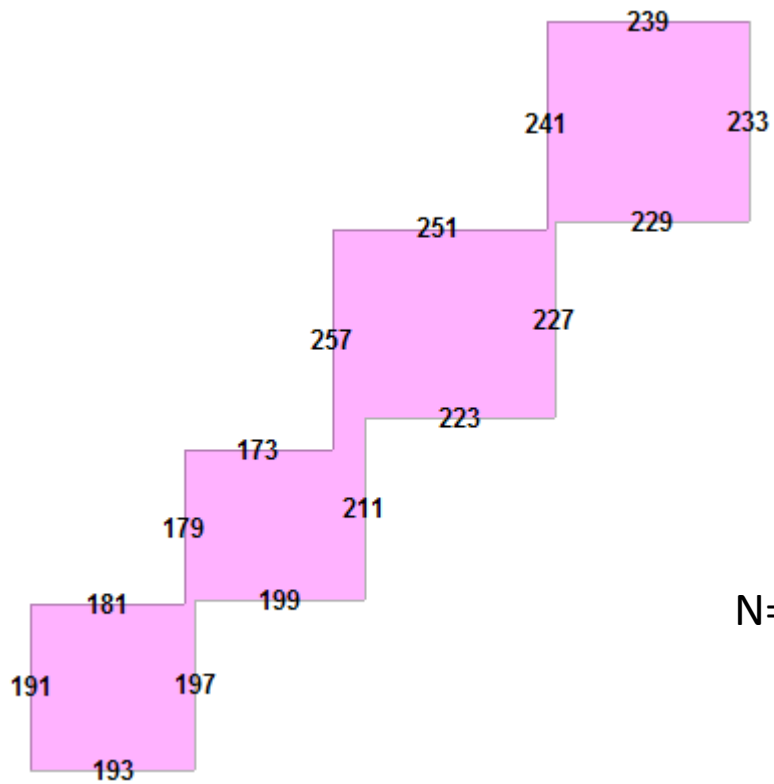


$N = 32$

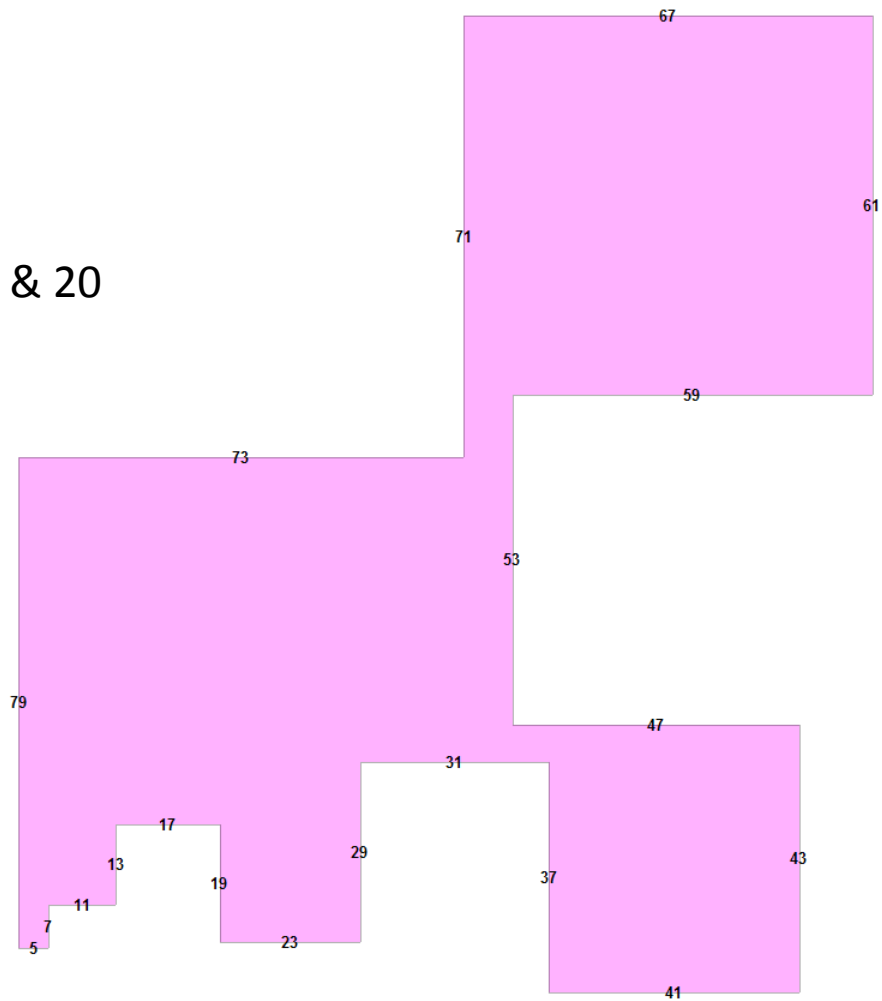
Solutions by Jan van Delden
($n=8 - 52$ & $n=100$ & 100 bis
and $n=100$ for twin-primes)

N=8 & 12

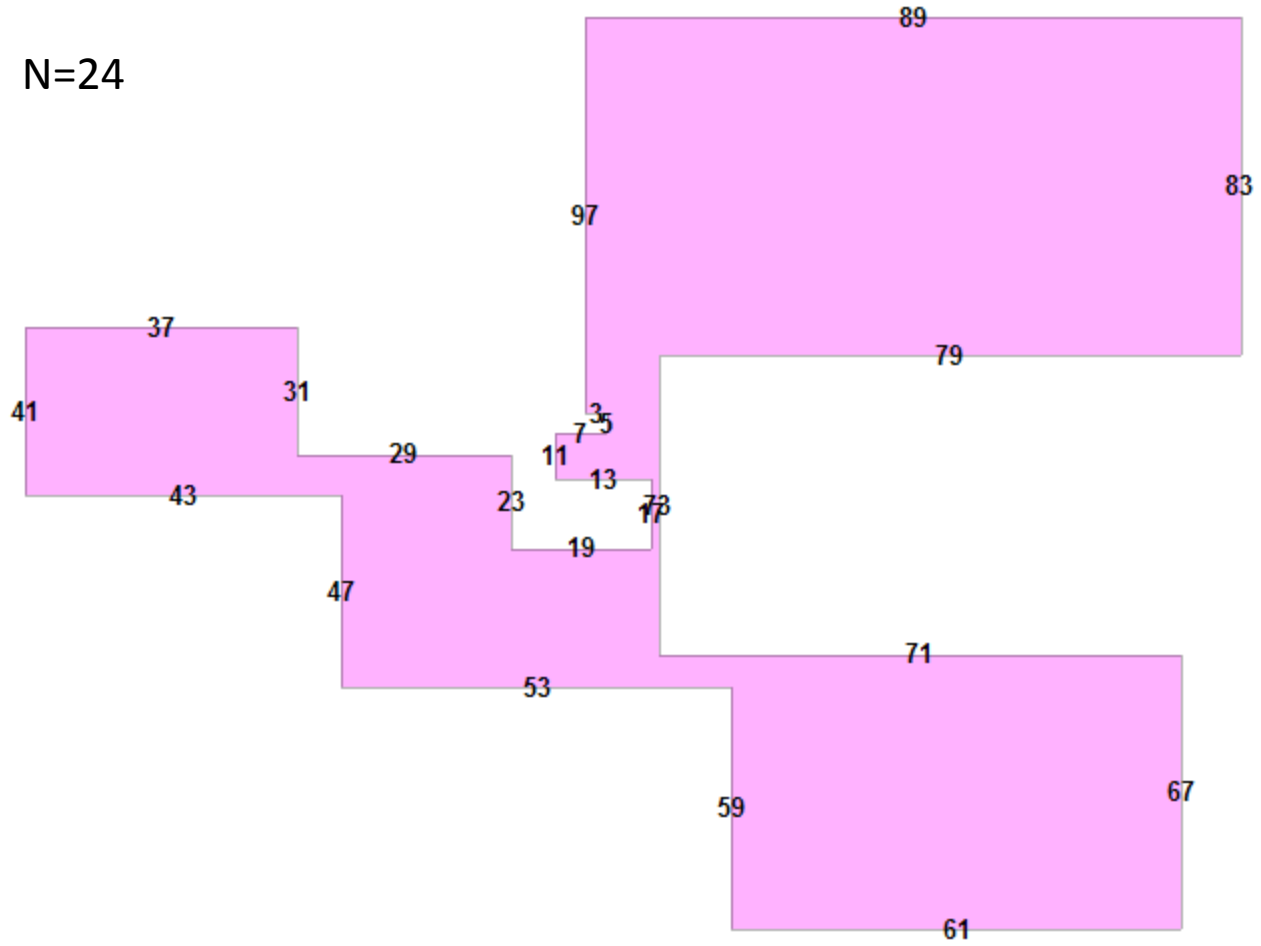




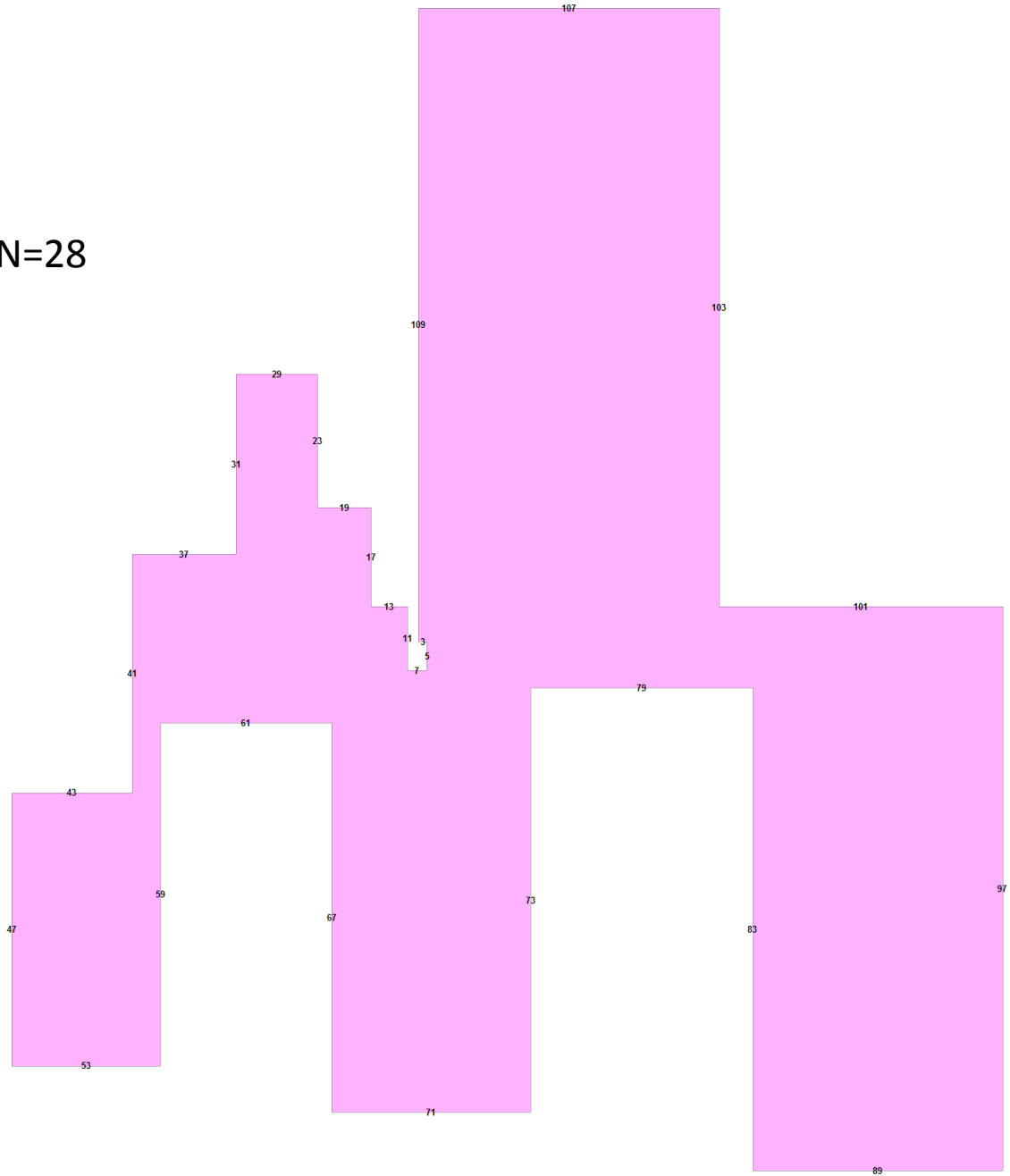
N=16 & 20



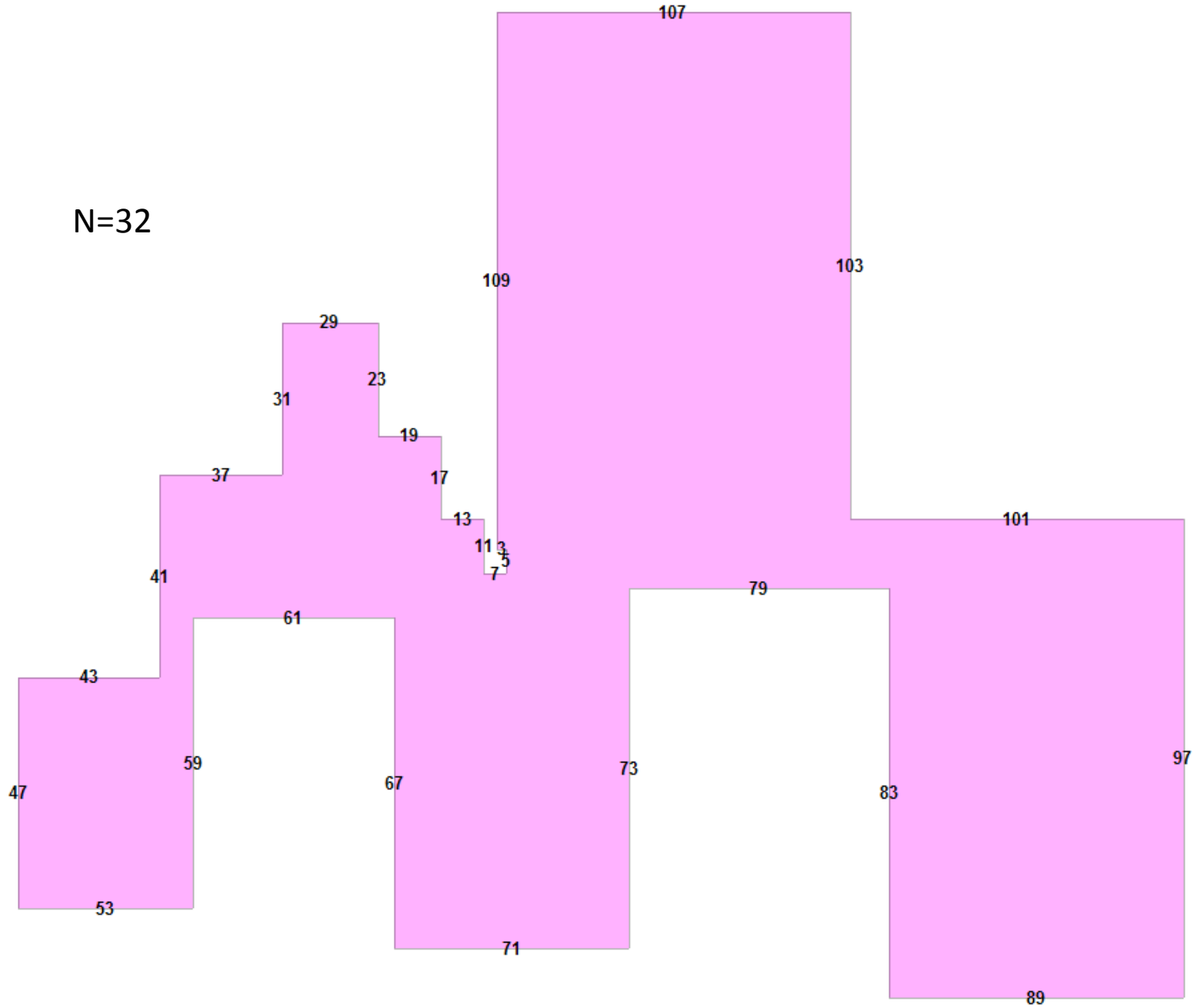
N=24



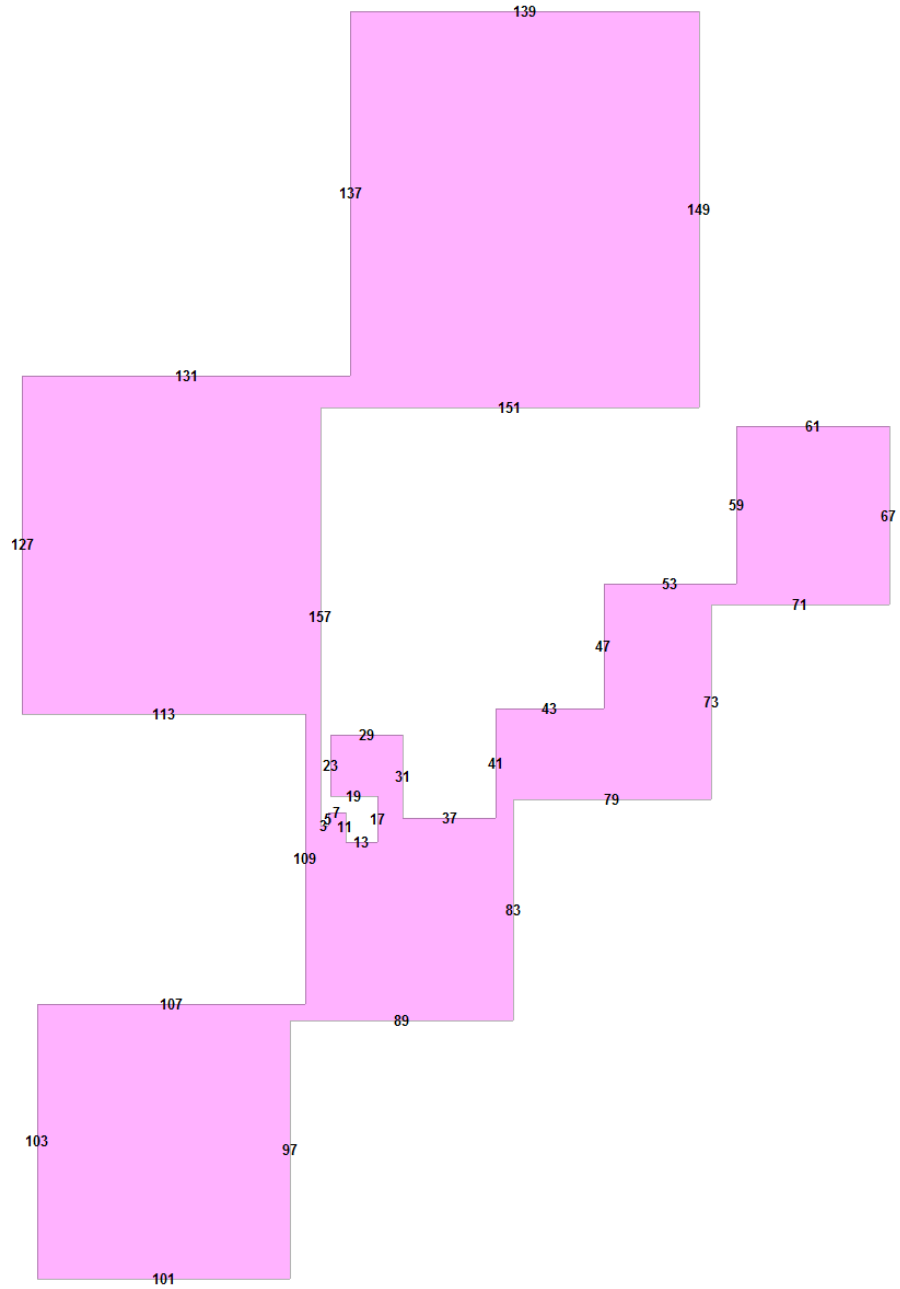
N=28

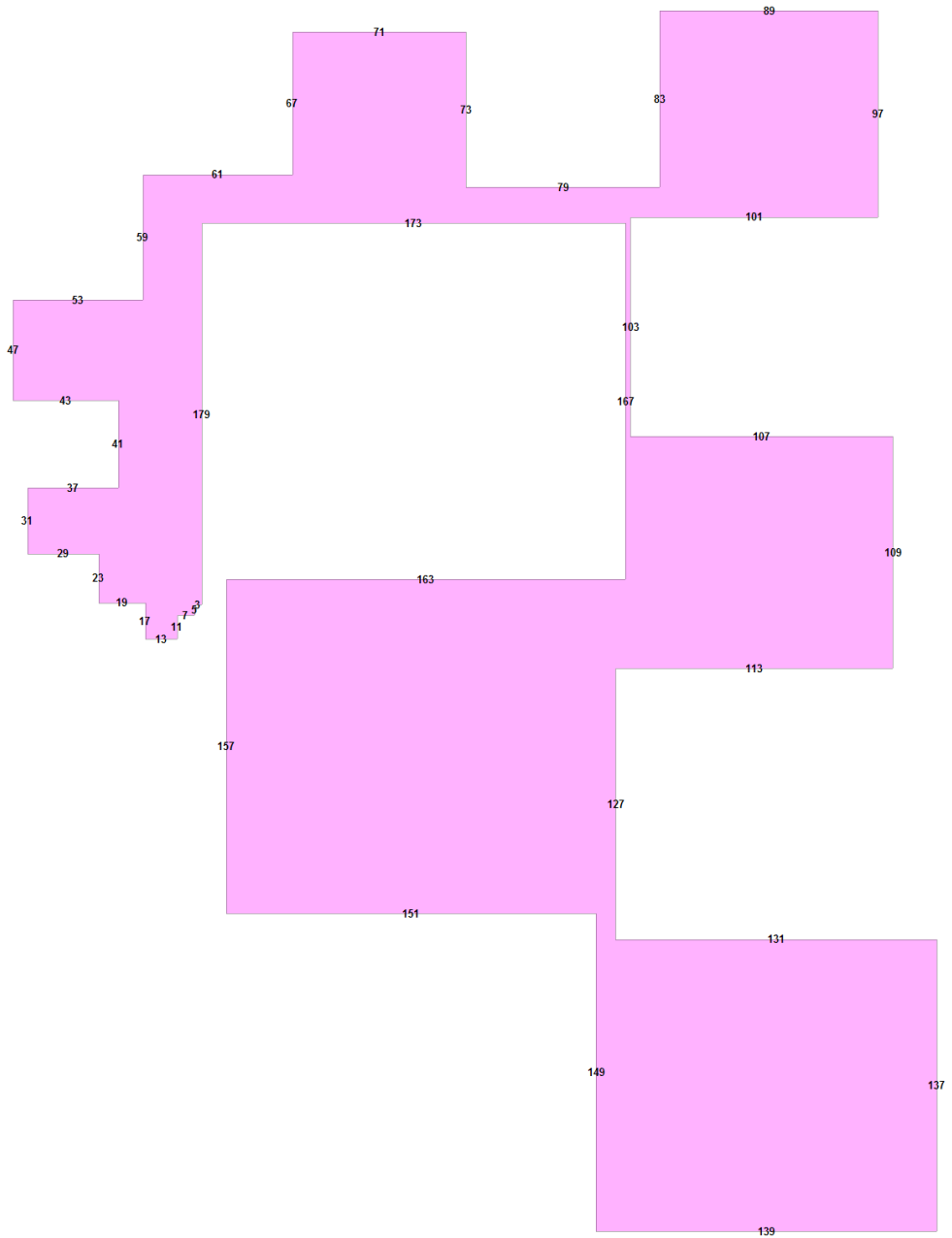


N=32



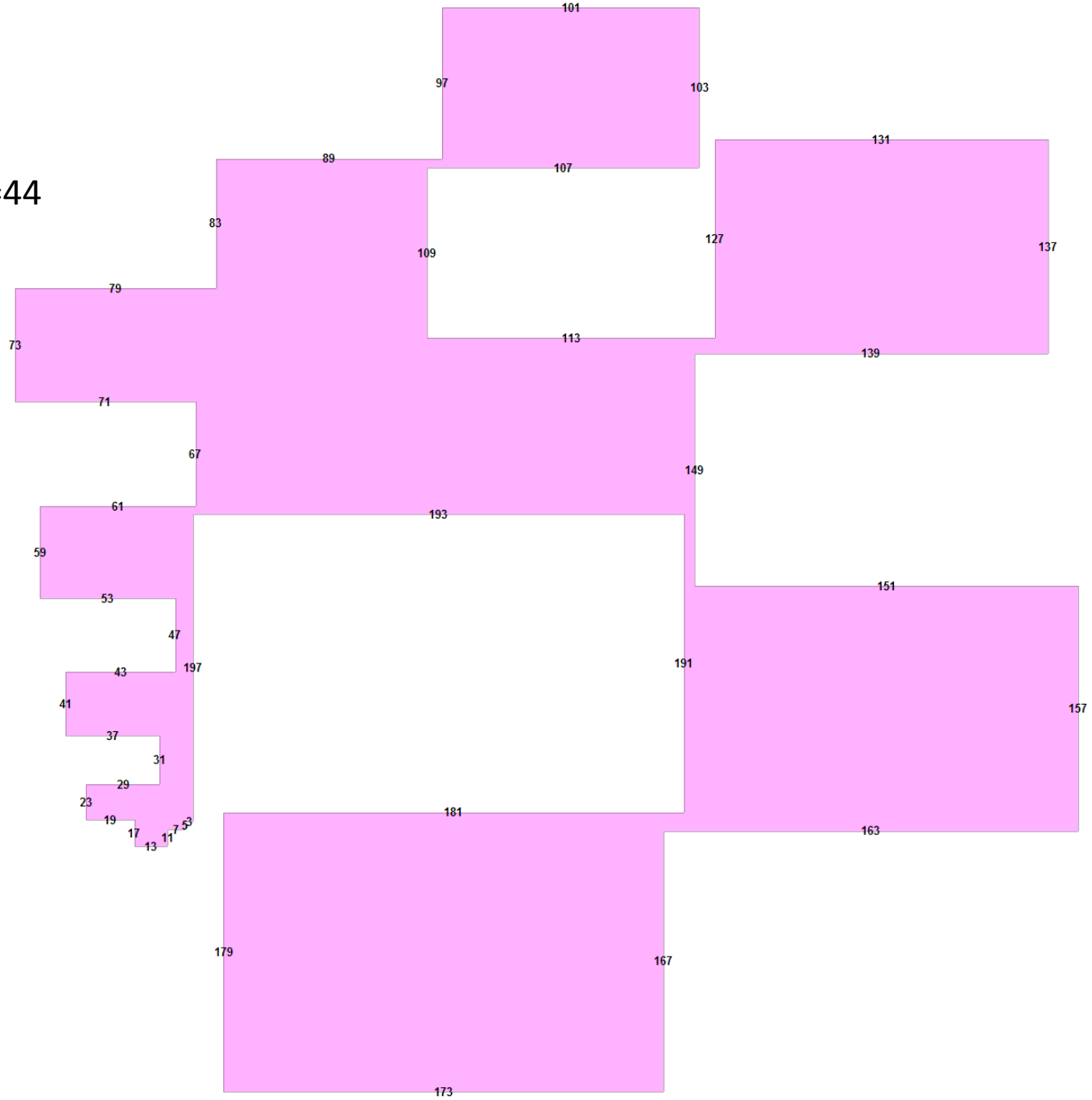
N=36



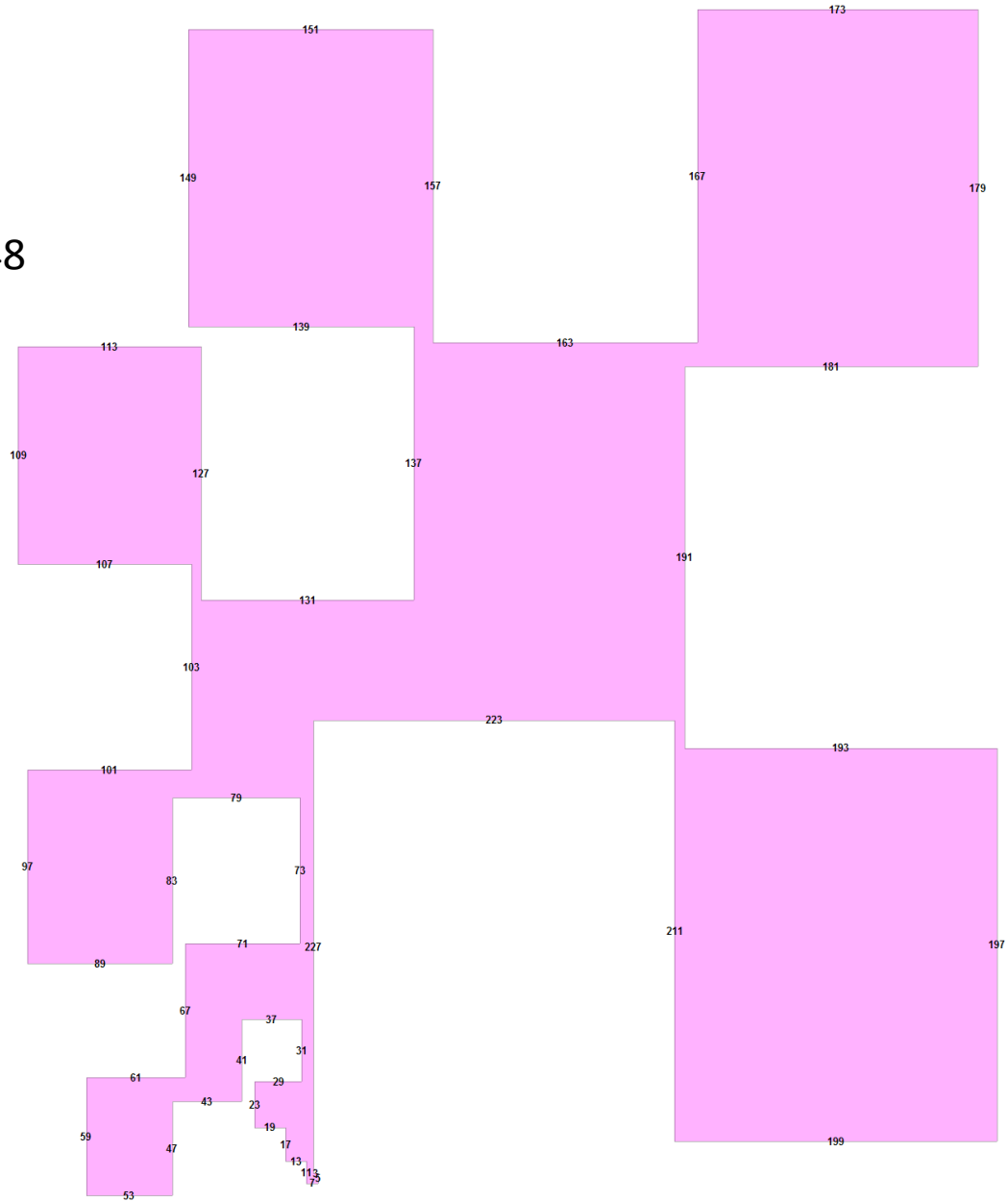


N=40

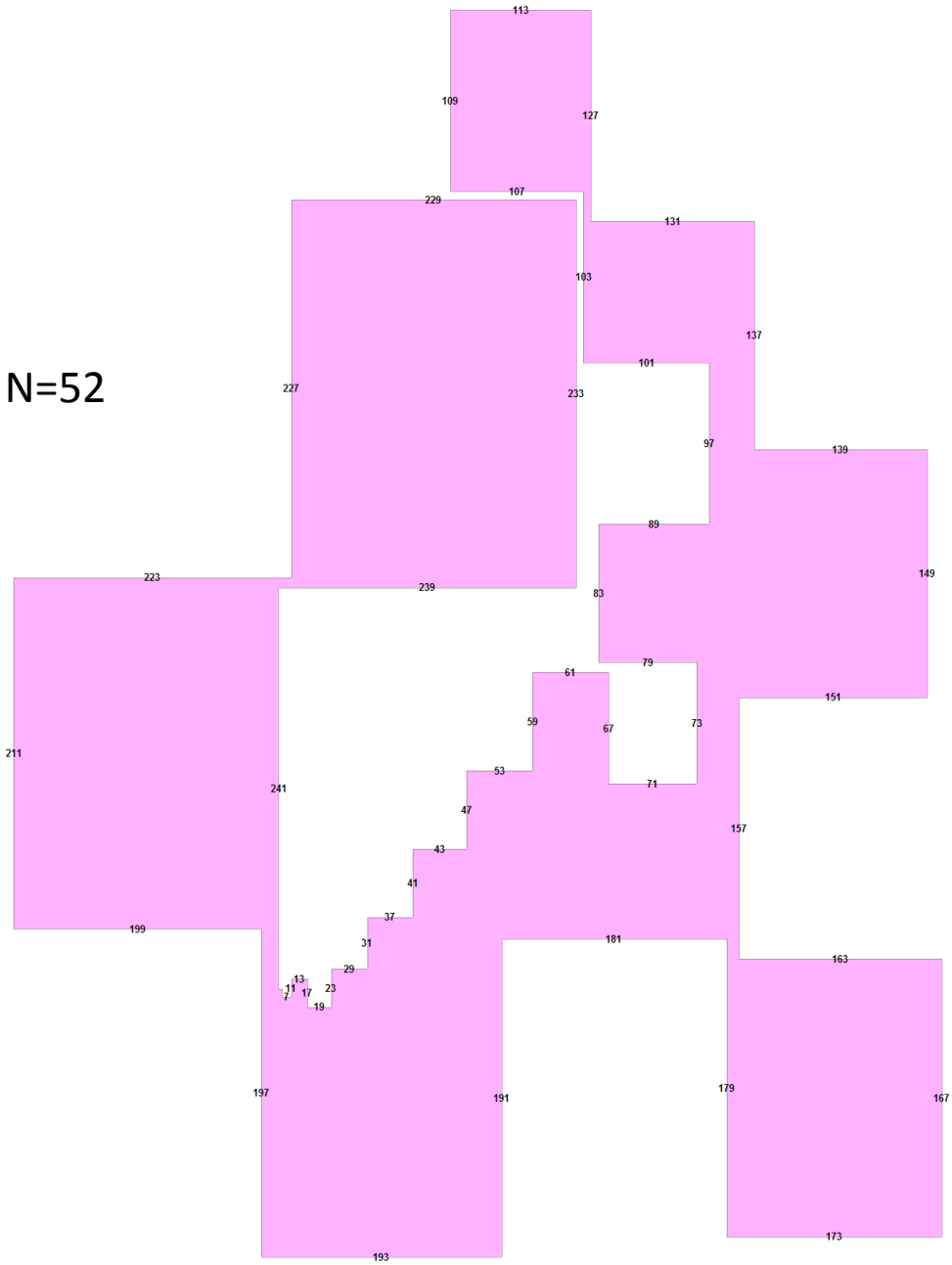
N=44



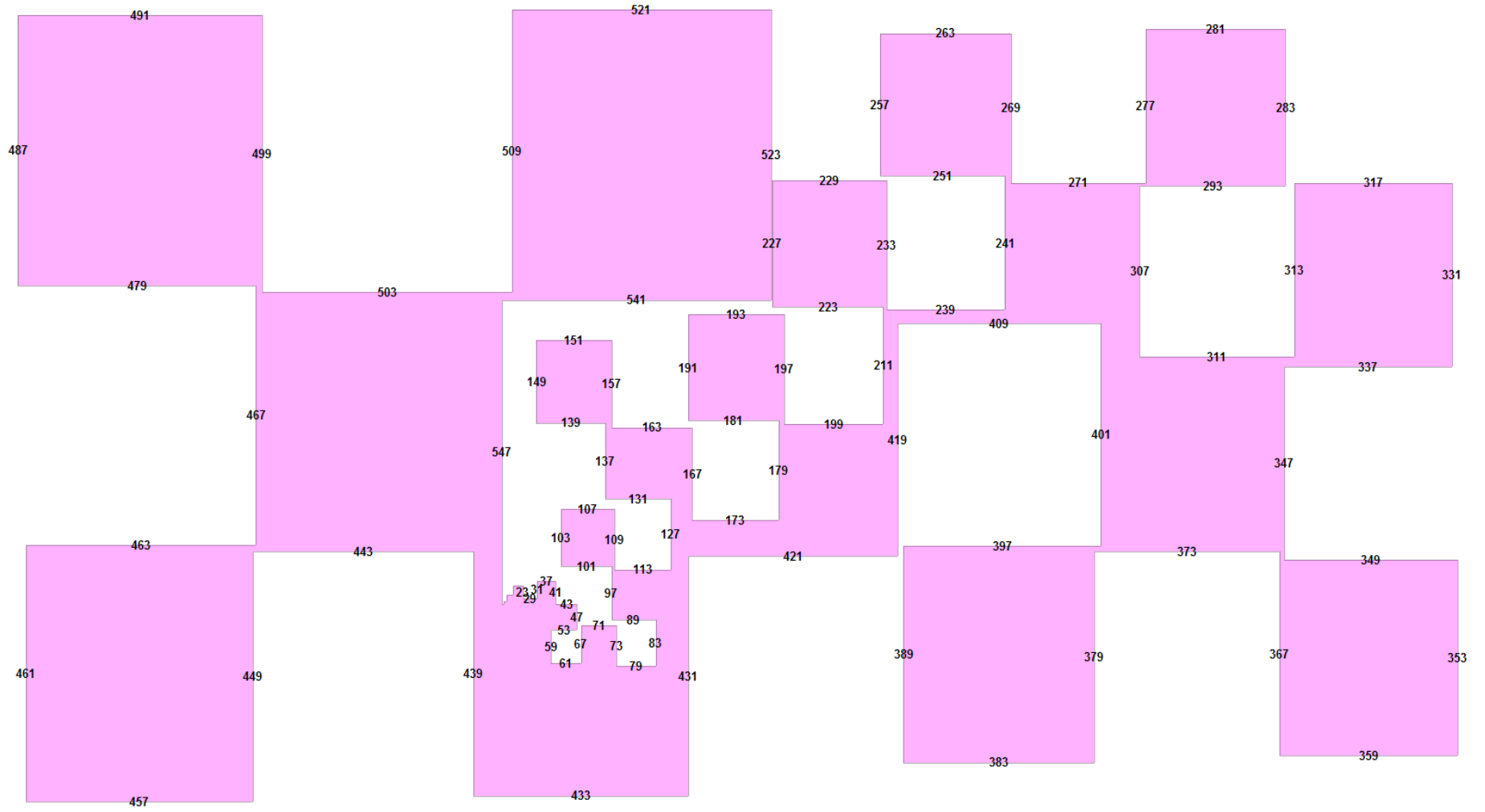
N=48



N=52

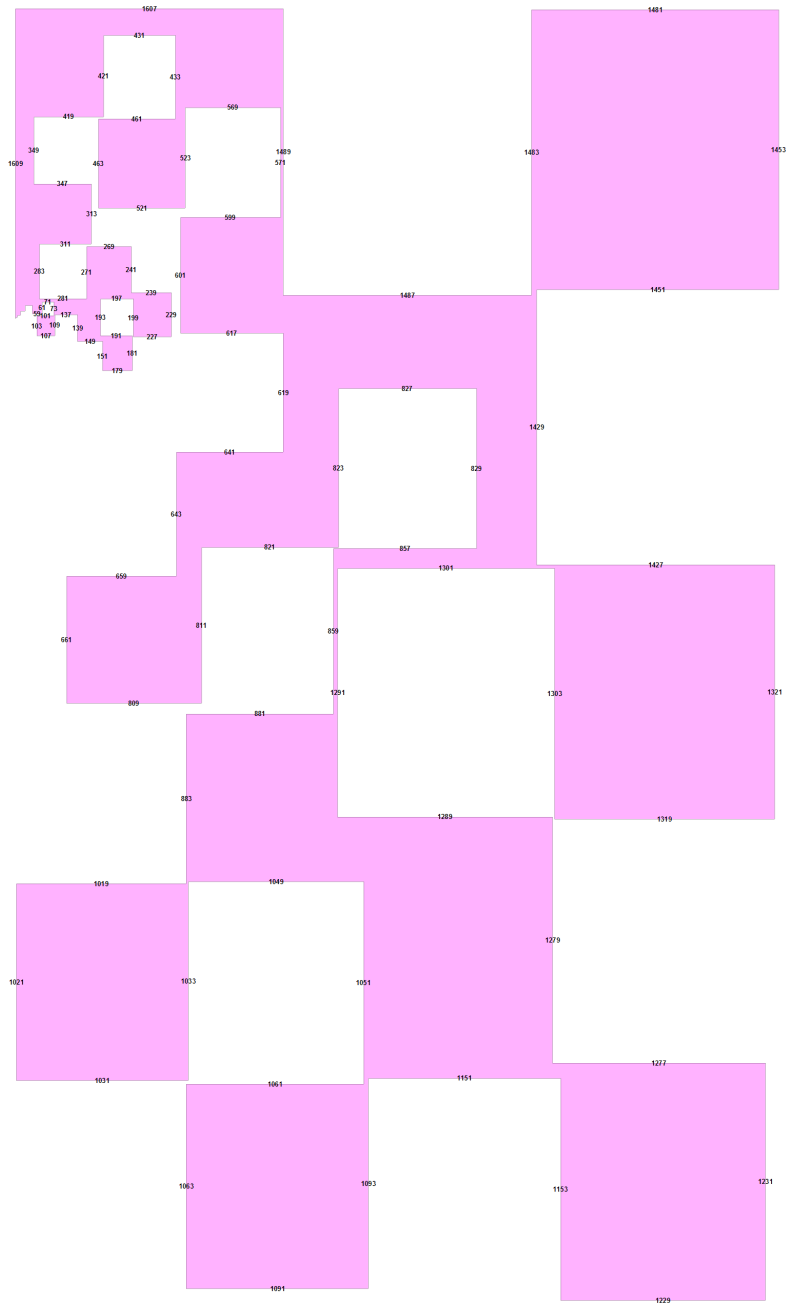


N=100



N=100-bis





N=100, Twin primes

Emmanuel Vantieghem

Here are some solutions. I give only the value of n , the first prime p and a sequence M of +/- ones from which one can draw the line.

(+1/-1 at an odd place means : move to the right/left; +1/-1 at an even place means move up/down)

$n = 8 : p = 359, M = \{1,1,-1,-1,-1,-1,1,1\}$

$n = 12 ; p = 59273, M = \{1,1,-1,-1,-1,-1,-1,-1,1,1,1,1\}$

$n = 16 ; p = 173, M = \{1,1,1,1,-1,-1,-1,-1,-1,-1,-1,-1,1,1,1,1\}$

$n = 20 ; p = 5, M = \{1,1,1,1,1,-1,1,1,1,-1,1,1,-1,1,1,1,-1,-1,-1,-1\}$

$n = 24 ; p = 3, M = \{1,1,1,1,-1,1,1,-1,1,-1,1,1,1,1,1,1,-1,-1,-1,-1,-1,-1,1\}$

$n = 28 ; p = 3, M = \{1,1,-1,-1,-1,-1,-1,1,-1,-1,-1,-1,1,1,1,1,1,1,1,-1,1,-1,-1,-1,-1,1\}$

$n = 32 ; p = 3, M = \{1,1,1,1,1,-1,1,1,1,-1,1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,-1,1,1,1,-1,1,1,1\}$

$n = 36 ; p = 3, M = \{1,1,1,1,1,-1,1,1,1,-1,1,-1,1,1,1,-1,1,-1,1,-1,-1,1,-1,-1,-1,1,-1,1,-1,1,-1,1\}$

$n = 40 ; p = 3, M = \{1,1,-1,1,-1,1,-1,1,1,1,-1,1,1,1,1,1,1,1,-1,1,-1,-1,-1,1,1,1,1,1,-1,1,-1,-1,-1,-1,-1,-1,-1,1\}$

And there are many other solutions giving very nice figures.

Fred Schneider (1)

I really liked this one.

I went a little crazy and found solutions for up to 704(!). After 16 (through 704), the minimum prime is 3 (This is equivalent to the minimum sum as we are dealing with a sequence of consecutive primes). Here are example solutions through 96; primes are followed by their direction: R(ight), L(eft), U(p), D(own).

8: 359R 367U 373L 379D 383L 389D 397R 401U

16: 173R 179U 181R 191U 193L 197D 199L 211D 223L 227D 229L 233D 239R 241U 251R 257U

24: 3R 5U 7L 11U 13R 17U 19L 23D 29L 31D 37L 41U 43R 47U 53R 59U 61R 67D 71L 73D 79R 83D 89L 97U

32: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47U 53R 59U 61L 67U 71R 73U 79L 83D 89L 97D 101L 103D 107R 109D 113R 127U 131R 137U

40: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47U 53L 59D 61L 67D 71L 73D 79L 83D 89L 97D 101R 103D 107R 109D 113R 127D 131R 137U 139L 149U 151L 157U 163R 167U 173R 179U

48: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47D 53L 59D 61L 67D 71L 73U 79R 83U 89L 97D 101L 103U 107R 109U 113L 127D 131L 137U 139R 149U 151R 157U 163R 167D 173R 179D 181R 191D 193R 197D 199L 211U 223L 227U

56: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47D 53L 59D 61L 67D 71L 73D 79L 83D 89L 97D 101L 103U 107L 109U 113L 127D 131R 137D 139R 149D 151L 157D 163R 167D 173R 179U 181R 191U 193L 197U 199R 211D 223R 227U 229R 233U 239R 241U 251L 257D 263L 269U

64: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47D 53L 59D 61L 67D 71L 73D 79L 83D 89L 97D 101L 103D 107R 109D 113L 127D 131R 137D 139L 149U 151L 157U 163L 167U 173R 179U 181R 191U 193R 197U 199R 211U 223L 227U 229R 233D 239R 241U 251R 257D 263L 269D 271R 277D 281R 283D 293L 307U 311L 313U

Fred Schneider (2)

72: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47D 53L 59D 61L 67D 71L 73D 79L 83D 89L 97D 101L 103D
107L 109D 113L 127D 131L 137D 139L 149D 151L 157D 163L 167D 173R 179D 181R 191D 193R 197D 199R 211D
223R 227D 229R 233D 239R 241U 251R 257U 263L 269U 271R 277U 281R 283U 293L 307D 311L 313U 317L 331U
337R 347U 349L 353U 359R 367U

80: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47D 53L 59D 61L 67D 71L 73D 79L 83D 89L 97D 101L 103D
107L 109D 113L 127D 131L 137D 139L 149D 151L 157D 163L 167D 173L 179D 181L 191D 193L 197D 199R 211D 223R
227D 229L 233D 239R 241U 251R 257U 263R 269U 271R 277U 281R 283U 293R 307U 311R 313U 317R 331U 337R
347D 349L 353D 359R 367U 373R 379U 383L 389U 397L 401D 409L 419U

88: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47D 53L 59D 61L 67D 71L 73D 79L 83D 89L 97D 101L 103D
107L 109D 113L 127D 131L 137D 139L 149D 151L 157D 163L 167D 173L 179D 181L 191D 193L 197U 199L 211D 223L
227U 229L 233U 239L 241D 251R 257D 263R 269D 271R 277U 281R 283D 293R 307U 311R 313U 317R 331D 337R
347U 349R 353U 359R 367U 373R 379D 383R 389U 397R 401U 409R 419U 421L 431U 433L 439D 443L 449D 457L
461U

96: 3R 5U 7L 11D 13L 17D 19L 23D 29L 31D 37L 41D 43L 47D 53L 59D 61L 67D 71L 73D 79L 83D 89L 97D 101L 103D
107L 109D 113L 127D 131L 137D 139L 149D 151L 157D 163L 167D 173L 179D 181L 191D 193L 197D 199L 211D 223L
227D 229L 233D 239L 241D 251L 257D 263L 269D 271L 277U 281L 283U 293R 307U 311R 313D 317R 331U 337L
347U 349R 353U 359L 367U 373R 379U 383R 389U 397R 401U 409R 419U 421R 431U 433R 439D 443R 449U 457L
461U 463R 467D 479R 487D 491R 499D 503L 509U

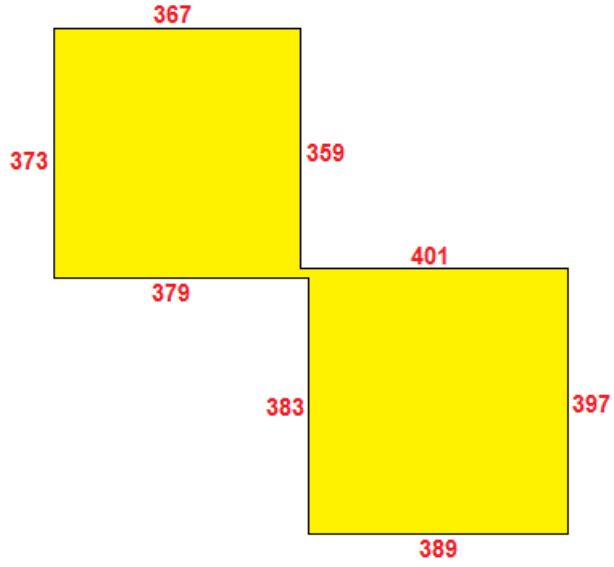
Longer solutions are available at: <https://sites.google.com/site/grandpascorpion/home/math>

Solutions by Hakan Sumakoglu

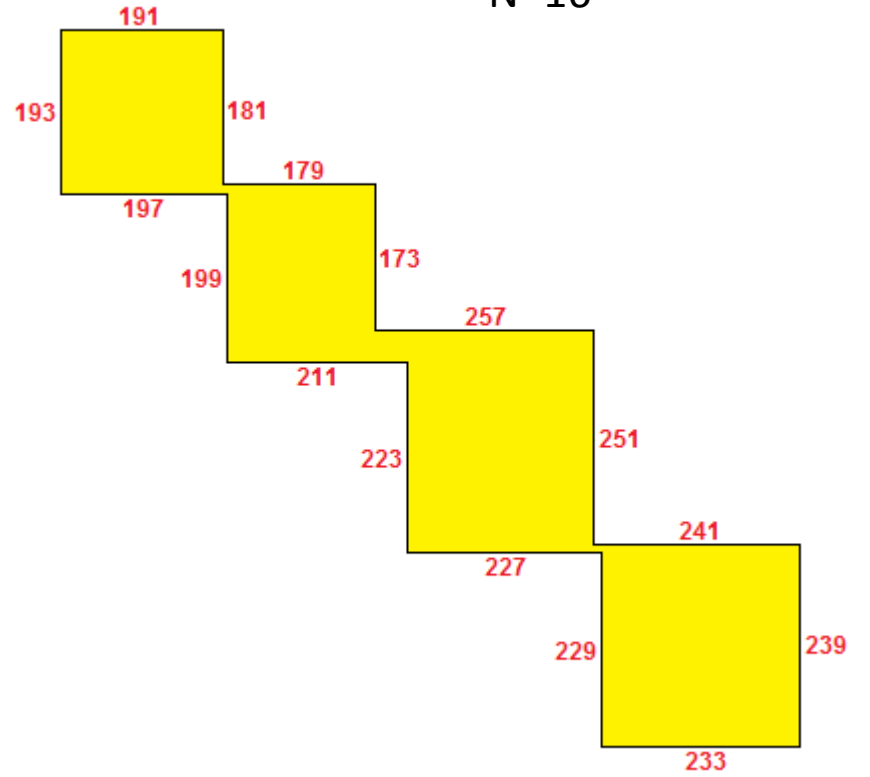
($n=8, 16, 24, 32$)

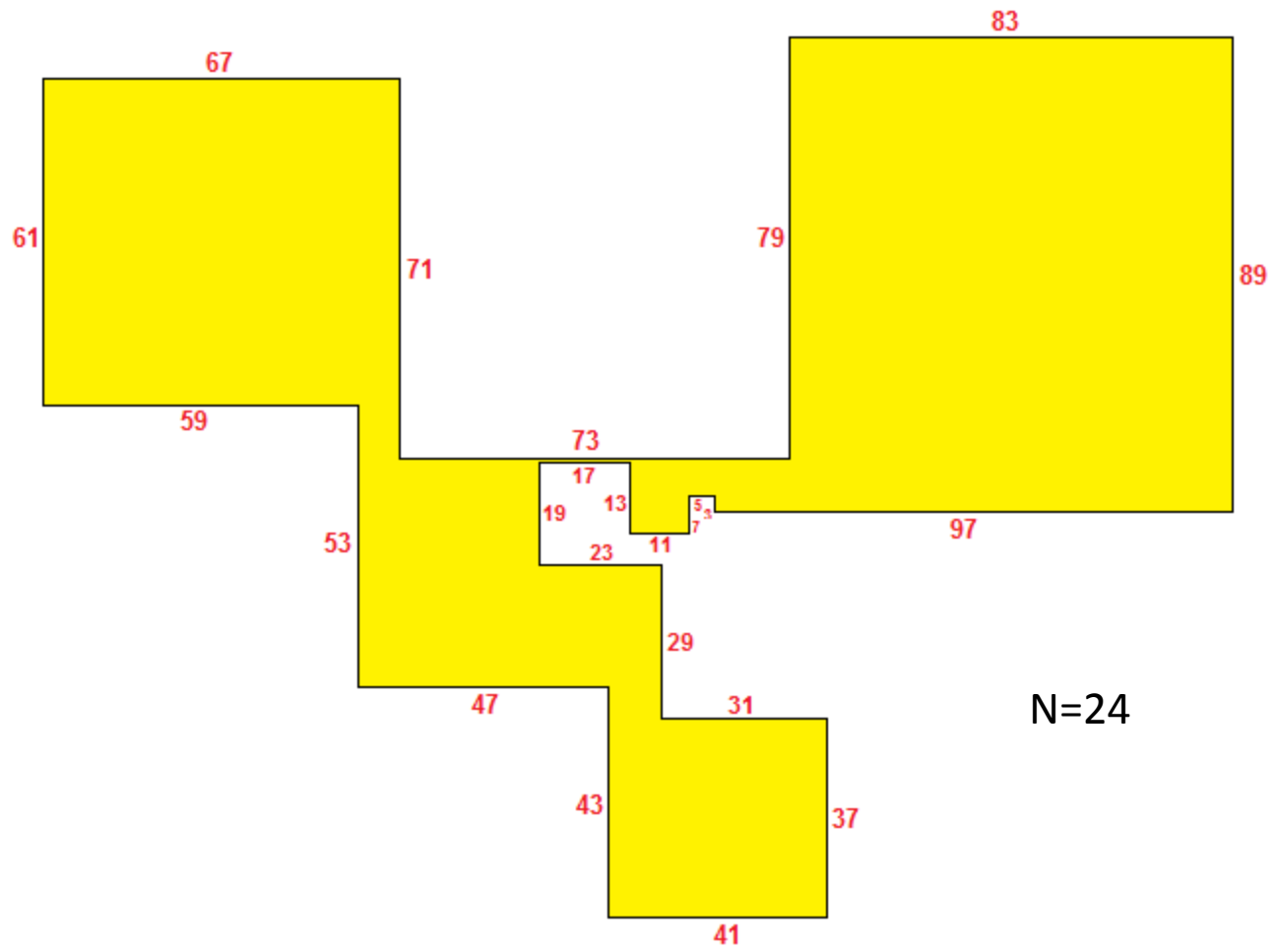
($n=12, 20, 28, 36, 40$)

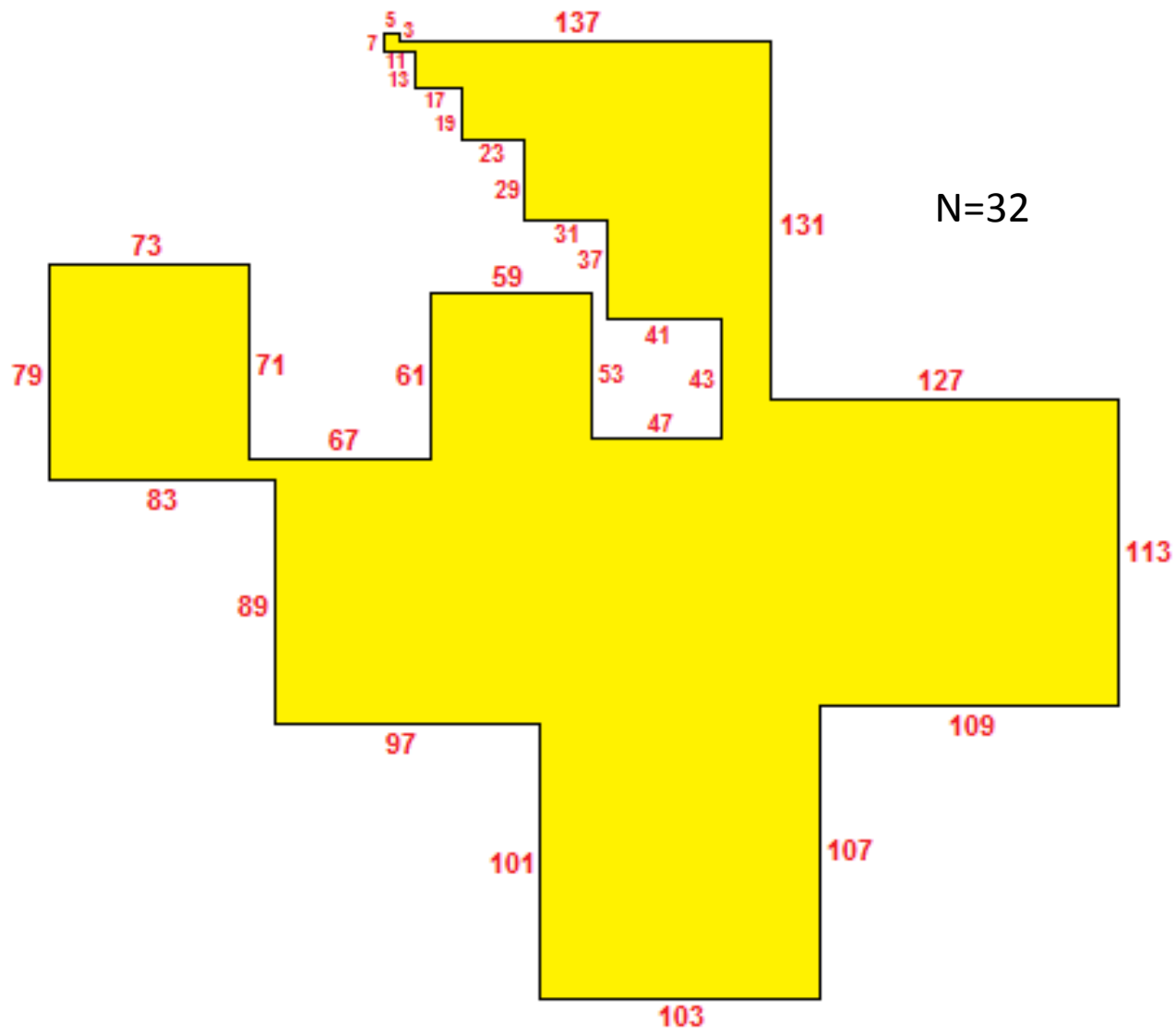
N=8



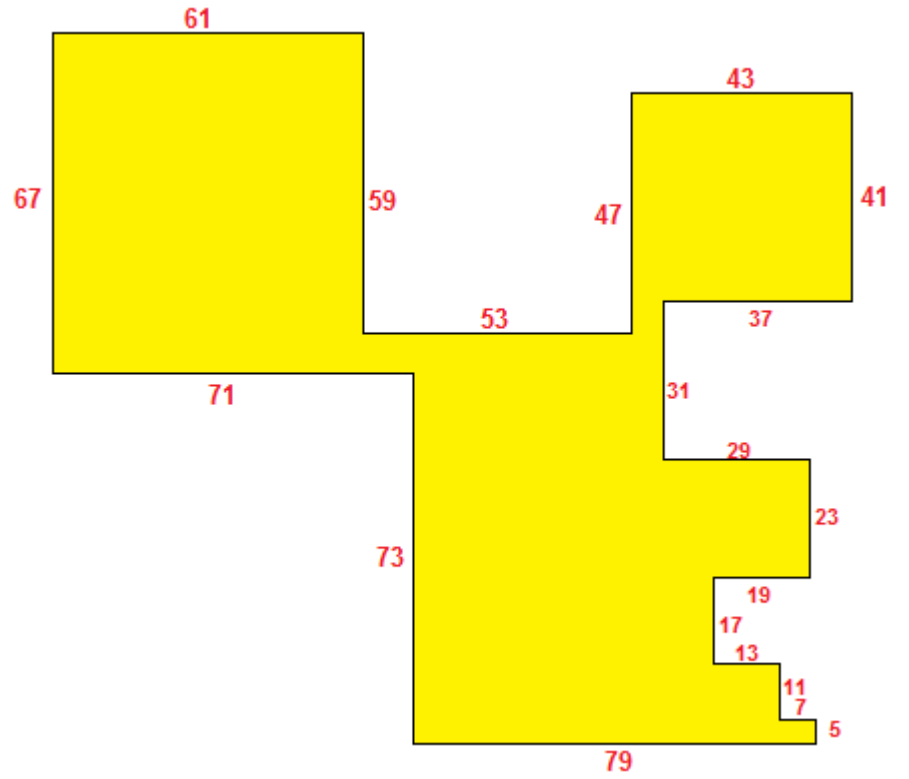
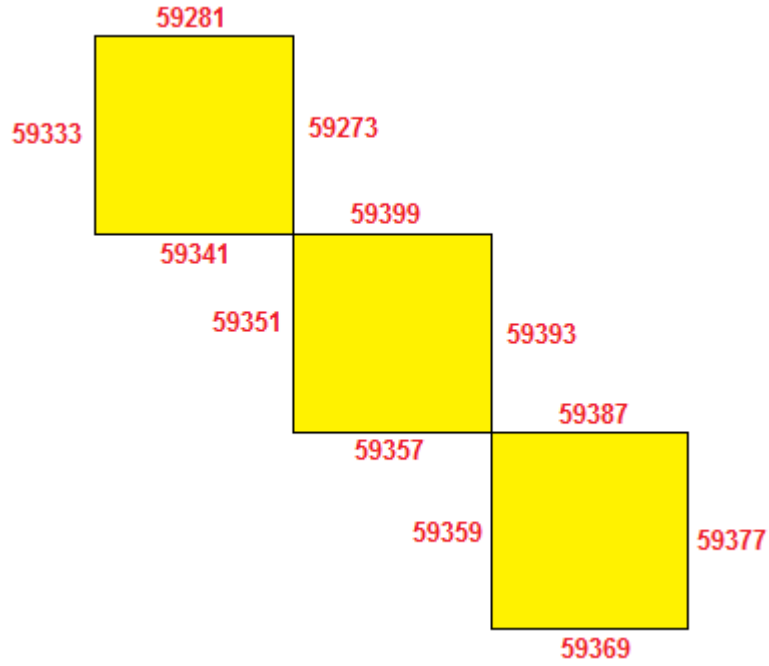
N=16



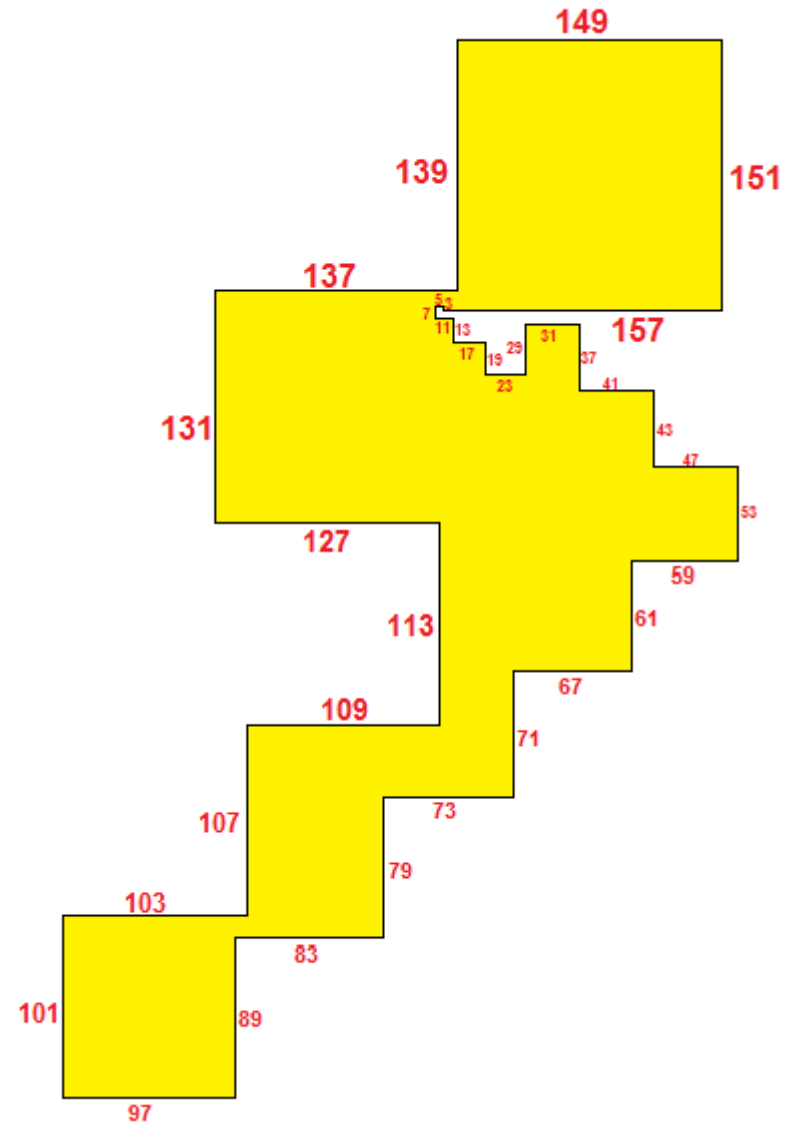
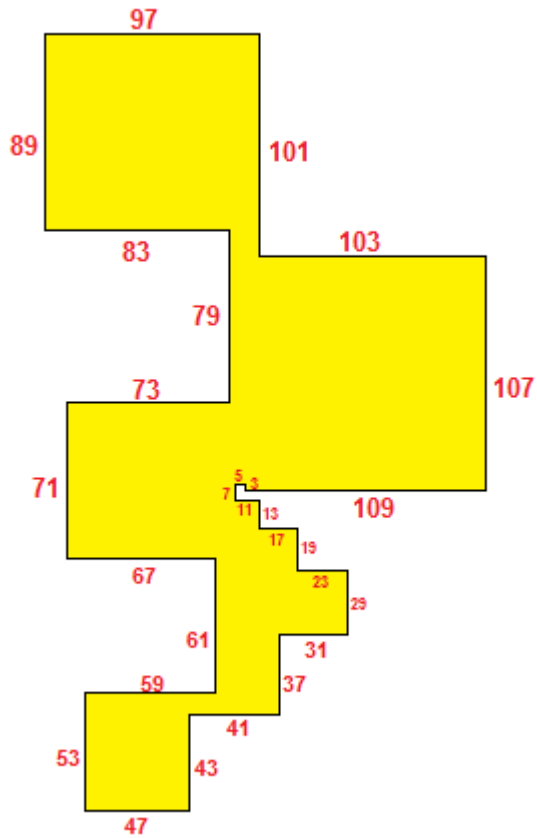




N=12 and N=20



N=28 and N=36



N=40

