

# Residua Graphs of Module 197

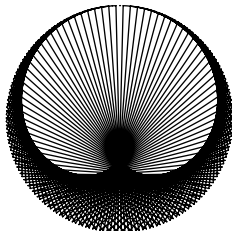
Let the primitive root  $r = 2$ .

The powers of  $r$  form the cyclic group  $C_{196}$ , module 197.

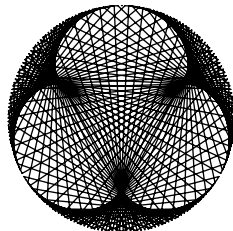
They are used here as the bases  $b_i$  of the Residua Graphs  $G_{m,b_i}$ , i.e.:

$$b_i \equiv r^i \pmod{197}, \text{ for } \forall i = 1, 2, \dots, 196$$

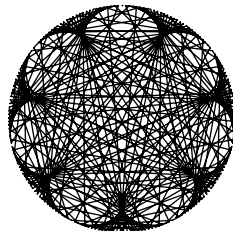
1.  $b = 2, 99$



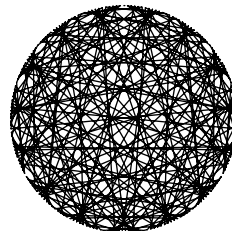
2.  $b = 4, 148$



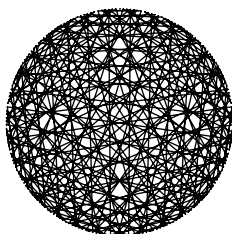
3.  $b = 8, 74$



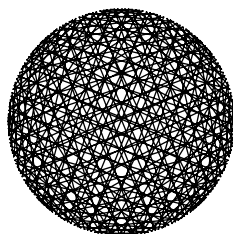
4.  $b = 16, 37$



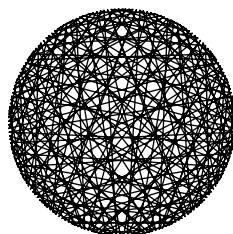
5.  $b = 32, 117$



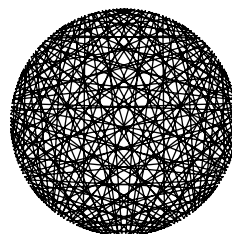
6.  $b = 64, 157$



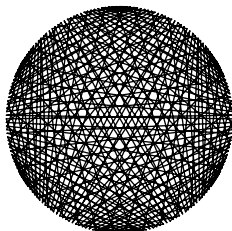
7.  $b = 128, 177$



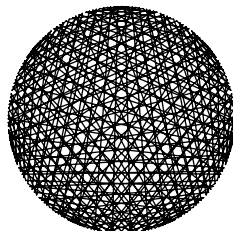
8.  $b = 59, 187$



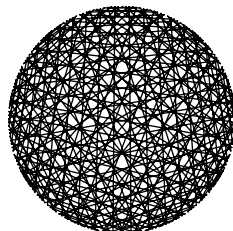
9.  $b = 118, 192$



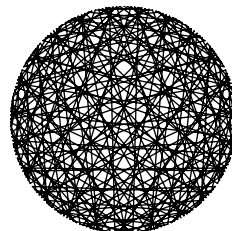
10.  $b = 39, 96$



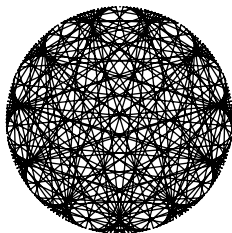
11.  $b = 78, 48$



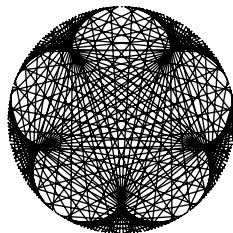
12.  $b = 156, 24$



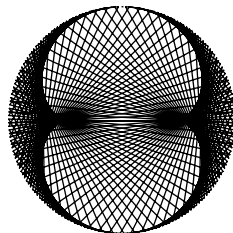
13.  $b = 115, 12$



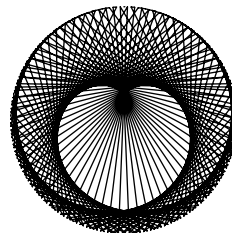
14.  $b = 33, 6$



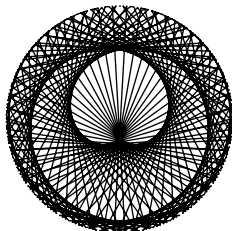
15.  $b = 66, 3$



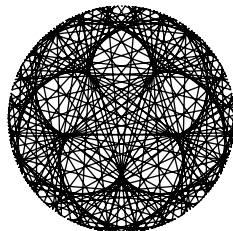
16.  $b = 132, 100$



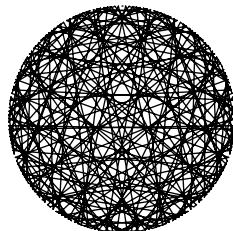
17.  $b = 67, 50$



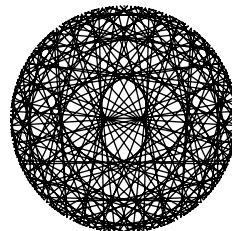
18.  $b = 134, 25$



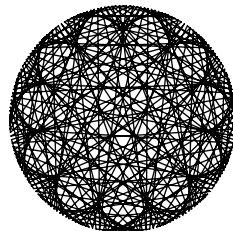
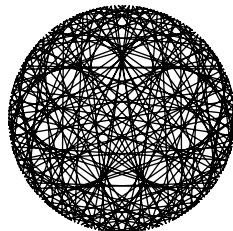
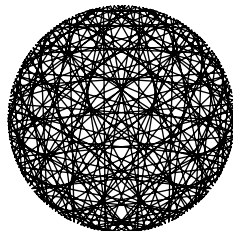
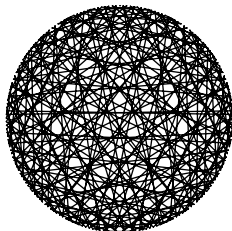
19.  $b = 71, 111$



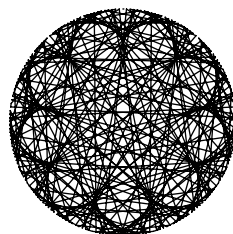
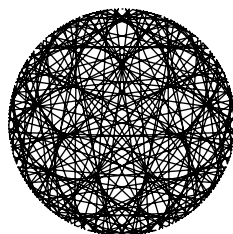
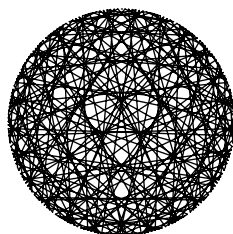
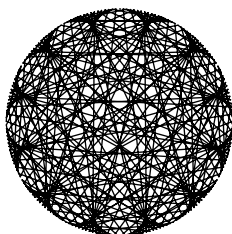
20.  $b = 142, 154$



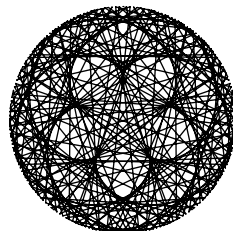
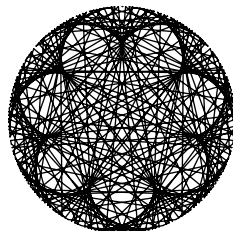
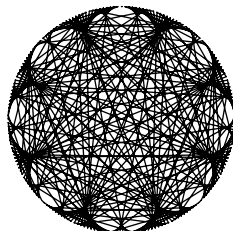
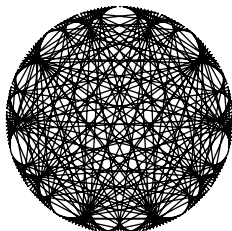
21.  $b = 87, 77$     22.  $b = 174, 137$     23.  $b = 151, 167$     24.  $b = 105, 182$



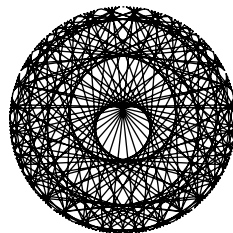
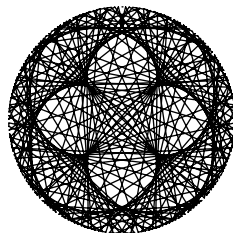
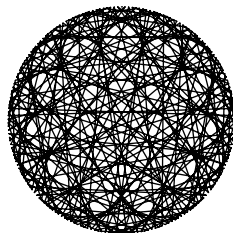
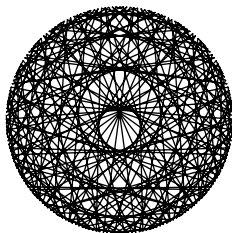
25.  $b = 13, 91$     26.  $b = 16, 144$     27.  $b = 52, 72$     28.  $b = 104, 36$



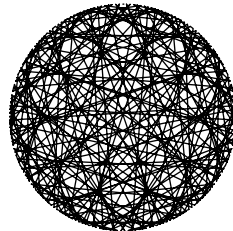
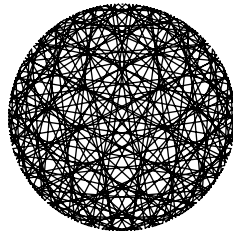
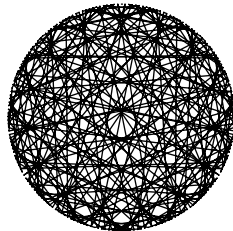
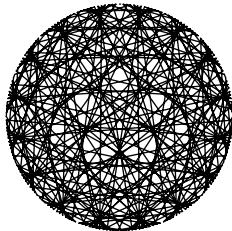
29.  $b = 11, 18$     30.  $b = 22, 9$     31.  $b = 44, 103$     32.  $b = 88, 150$



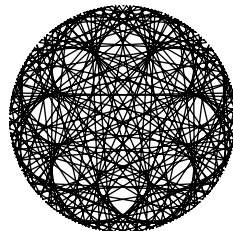
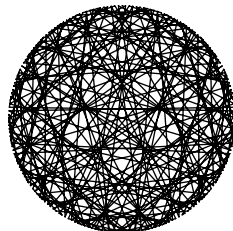
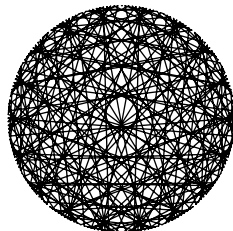
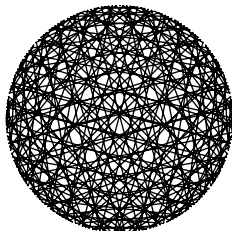
33.  $b = 176, 75$     34.  $b = 155, 136$     35.  $b = 113, 68$     36.  $b = 29, 34$



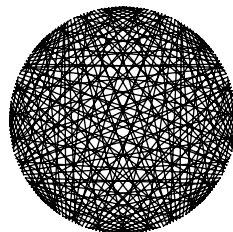
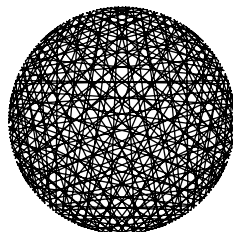
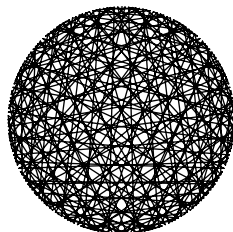
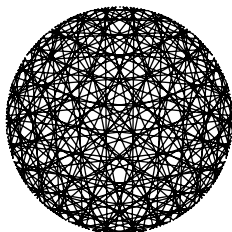
37.  $b = 58, 17$     38.  $b = 116, 107$     39.  $b = 35, 152$     40.  $b = 70, 76$



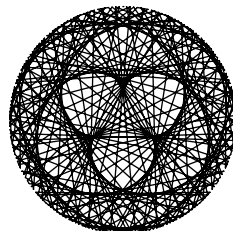
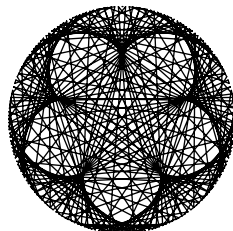
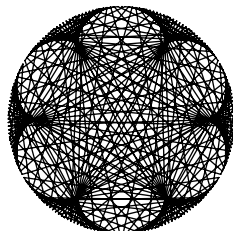
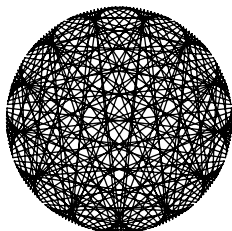
41.  $b = 140, 38$     42.  $b = 83, 19$     43.  $b = 166, 108$     44.  $b = 135, 54$



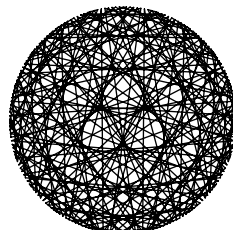
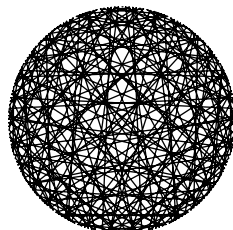
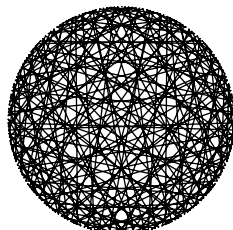
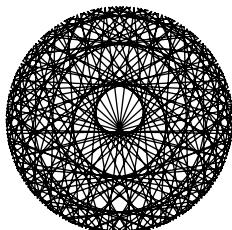
45.  $b = 73, 27$     46.  $b = 146, 112$     47.  $b = 95, 56$     48.  $b = 190, 28$



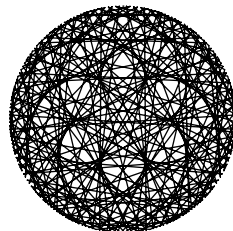
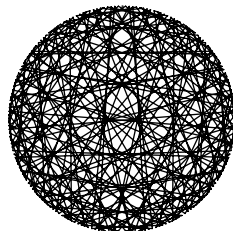
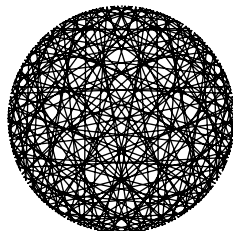
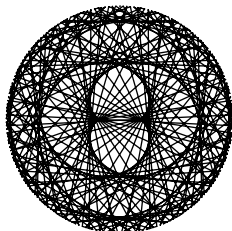
49.  $b = 183, 14$     50.  $b = 169, 7$     51.  $b = 141, 102$     52.  $b = 85, 51$



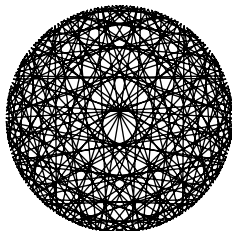
53.  $b = 170, 124$     54.  $b = 143, 62$     55.  $b = 89, 31$     56.  $b = 178, 114$



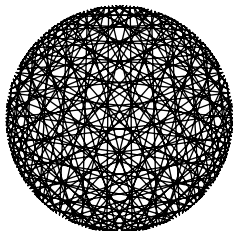
57.  $b = 159, 57$     58.  $b = 121, 127$     59.  $b = 45, 162$     60.  $b = 90, 81$



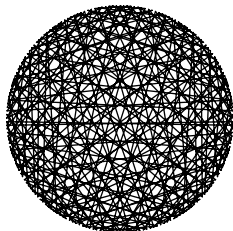
61.  $b = 180, 139$



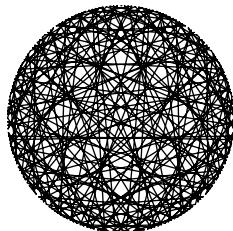
62.  $b = 163, 168$



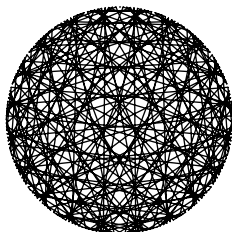
63.  $b = 129, 84$



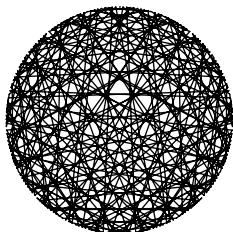
64.  $b = 61, 42$



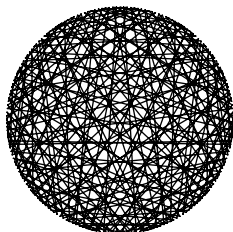
65.  $b = 122, 21$



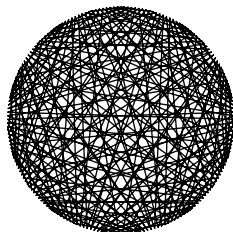
66.  $b = 47, 109$



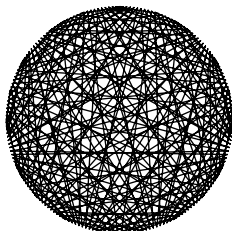
67.  $b = 94, 153$



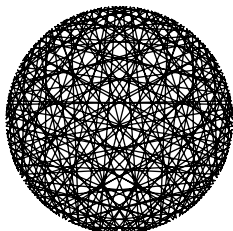
68.  $b = 188, 175$



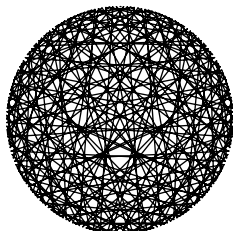
69.  $b = 179, 186$



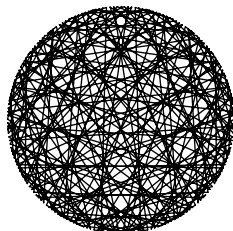
70.  $b = 161, 93$



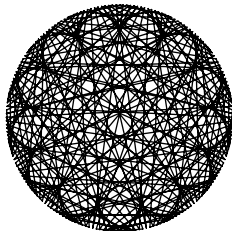
71.  $b = 125, 145$



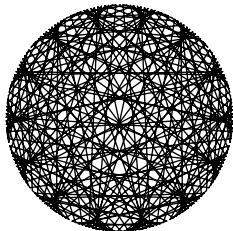
72.  $b = 53, 191$



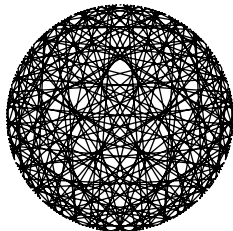
73.  $b = 106, 184$



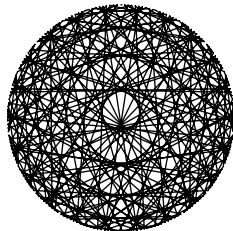
74.  $b = 15, 92$



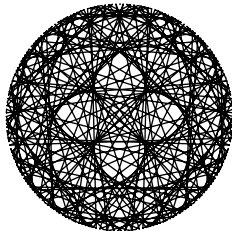
75.  $b = 30, 46$



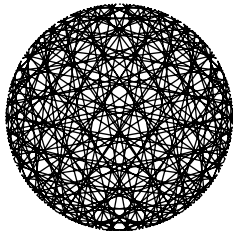
76.  $b = 60, 23$



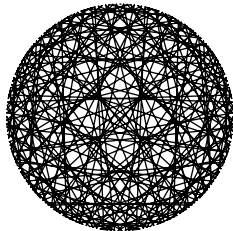
77.  $b = 120, 110$



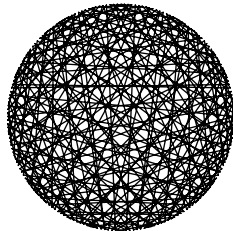
78.  $b = 43, 55$



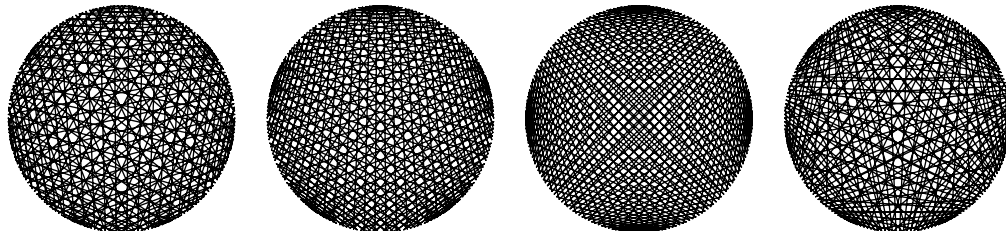
79.  $b = 86, 126$



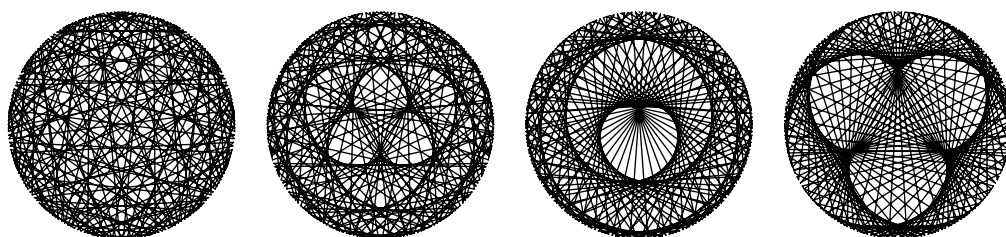
80.  $b = 172, 63$



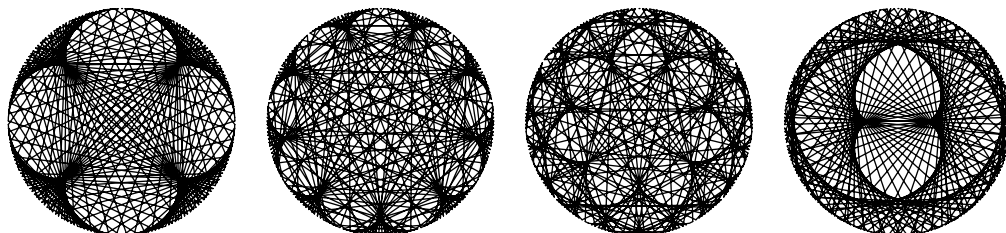
81.  $b = 147, 130$     82.  $b = 97, 65$     83.  $b = 194, 131$     84.  $b = 191, 164$



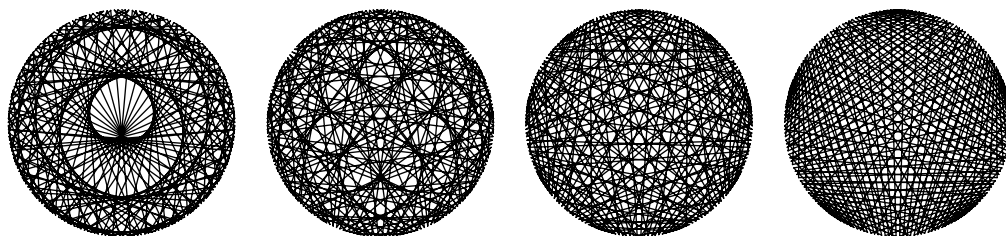
85.  $b = 185, 82$     86.  $b = 173, 41$     87.  $b = 149, 119$     88.  $b = 101, 158$



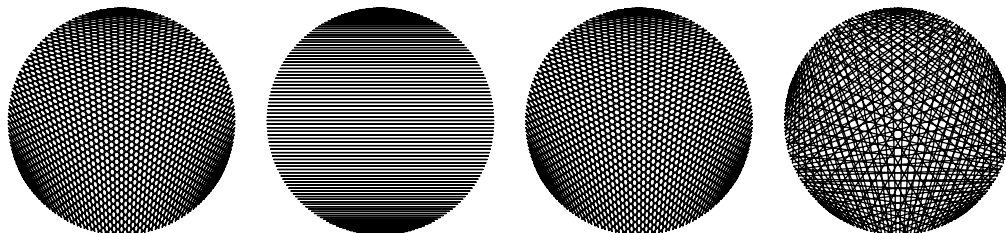
89.  $b = 5, 79$     90.  $b = 10, 138$     91.  $b = 20, 69$     92.  $b = 40, 133$



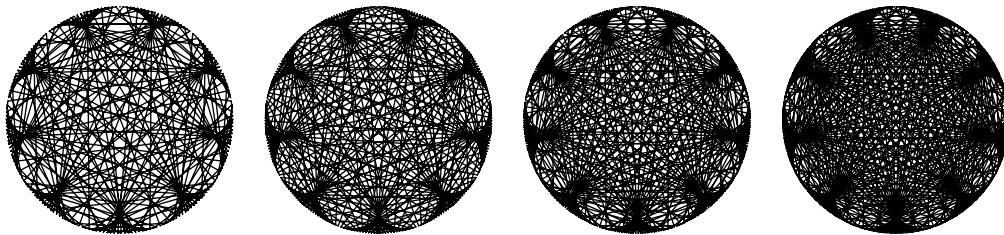
93.  $b = 80, 165$     94.  $b = 160, 181$     95.  $b = 123, 189$     96.  $b = 49, 193$



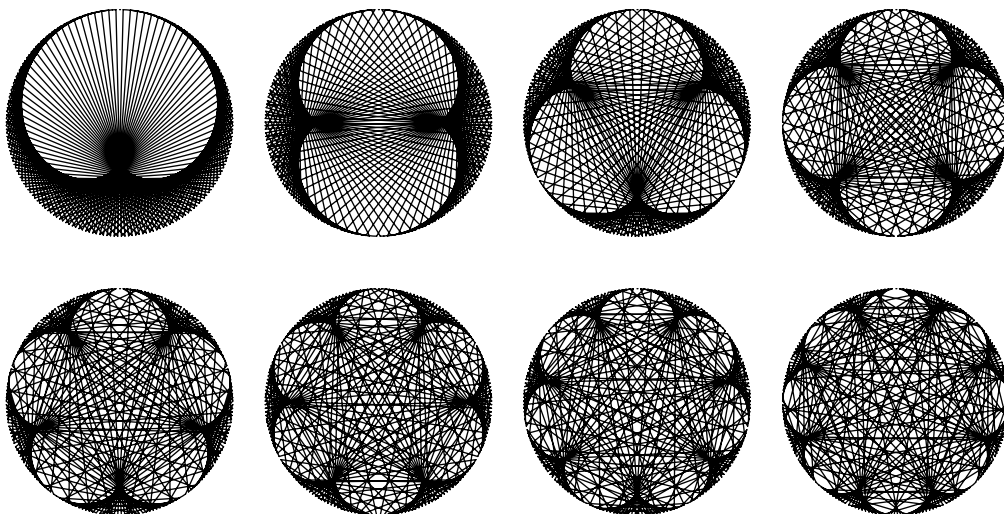
97.  $b = 98, 195$     98.  $b = 196, 196$     99.  $b = 195, 98$     100.  $b = 193, 49$



Several  $G_{m, 10}$  ( $WN = 1, SP = 10 - 1 = 9$ )



Some  $G_{197, b}$  ( $WN = 1, SP = 1, 2, 3, \dots$ )



Some  $G_{197, b}$  ( $SP = 1, WN = 1, 2, 3, \dots$ )

