

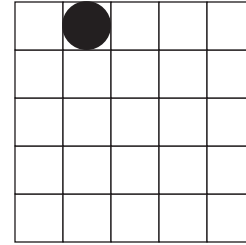
Island Hopper

There are two "receiver" islands of area 10 in the grid (10 squares each connected along edges), as well as five "broadcast" islands of area 1 (one of which is labeled for you). Islands never touch each other, not even diagonally. Each broadcast island has a radar broadcasting from the center of the island. At the center of each the 10 squares of the receiver islands, there is a receiver that reports the distance from it to each of the five broadcast islands, but in sorted order.

Determine the location of every broadcaster and receiver and blacken in their cells in the grid.

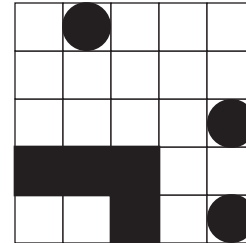
Sample Puzzle:

(one area 4 receiver, three broadcast islands)



- rcvr. 1 $\sqrt{4}$ $\sqrt{8}$ $\sqrt{17}$
- rcvr. 2 $\sqrt{5}$ $\sqrt{5}$ $\sqrt{10}$
- rcvr. 3 $\sqrt{9}$ $\sqrt{10}$ $\sqrt{10}$
- rcvr. 4 $\sqrt{10}$ $\sqrt{17}$ $\sqrt{17}$

Sample Solution:



- rcvr. 1 $\sqrt{4}$ $\sqrt{8}$ $\sqrt{17}$
- rcvr. 2 $\sqrt{5}$ $\sqrt{5}$ $\sqrt{10}$
- rcvr. 3 $\sqrt{9}$ $\sqrt{10}$ $\sqrt{10}$
- rcvr. 4 $\sqrt{10}$ $\sqrt{17}$ $\sqrt{17}$

"Receiver" island D

- rcvr. 1 $\sqrt{13}$ $\sqrt{13}$ $\sqrt{20}$ $\sqrt{26}$ $\sqrt{37}$
- rcvr. 2 $\sqrt{8}$ $\sqrt{17}$ $\sqrt{20}$ $\sqrt{25}$ $\sqrt{40}$
- rcvr. 3 $\sqrt{8}$ $\sqrt{17}$ $\sqrt{20}$ $\sqrt{36}$ $\sqrt{37}$
- rcvr. 4 $\sqrt{5}$ $\sqrt{10}$ $\sqrt{29}$ $\sqrt{32}$ $\sqrt{45}$
- rcvr. 5 $\sqrt{10}$ $\sqrt{18}$ $\sqrt{25}$ $\sqrt{29}$ $\sqrt{50}$
- rcvr. 6 $\sqrt{4}$ $\sqrt{5}$ $\sqrt{40}$ $\sqrt{41}$ $\sqrt{52}$
- rcvr. 7 $\sqrt{9}$ $\sqrt{25}$ $\sqrt{26}$ $\sqrt{40}$ $\sqrt{65}$
- rcvr. 8 $\sqrt{16}$ $\sqrt{17}$ $\sqrt{20}$ $\sqrt{45}$ $\sqrt{68}$
- rcvr. 9 $\sqrt{10}$ $\sqrt{17}$ $\sqrt{25}$ $\sqrt{52}$ $\sqrt{73}$
- rcvr. 10 $\sqrt{5}$ $\sqrt{16}$ $\sqrt{36}$ $\sqrt{61}$ $\sqrt{80}$

"Receiver" island E

- rcvr. 1 $\sqrt{8}$ $\sqrt{8}$ $\sqrt{9}$ $\sqrt{41}$ $\sqrt{52}$
- rcvr. 2 $\sqrt{5}$ $\sqrt{13}$ $\sqrt{16}$ $\sqrt{34}$ $\sqrt{61}$
- rcvr. 3 $\sqrt{5}$ $\sqrt{10}$ $\sqrt{13}$ $\sqrt{52}$ $\sqrt{65}$
- rcvr. 4 $\sqrt{4}$ $\sqrt{20}$ $\sqrt{25}$ $\sqrt{29}$ $\sqrt{72}$
- rcvr. 5 $\sqrt{5}$ $\sqrt{26}$ $\sqrt{29}$ $\sqrt{36}$ $\sqrt{85}$
- rcvr. 6 $\sqrt{4}$ $\sqrt{13}$ $\sqrt{20}$ $\sqrt{65}$ $\sqrt{80}$
- rcvr. 7 $\sqrt{9}$ $\sqrt{17}$ $\sqrt{20}$ $\sqrt{58}$ $\sqrt{89}$
- rcvr. 8 $\sqrt{10}$ $\sqrt{26}$ $\sqrt{37}$ $\sqrt{37}$ $\sqrt{98}$
- rcvr. 9 $\sqrt{16}$ $\sqrt{16}$ $\sqrt{29}$ $\sqrt{53}$ $\sqrt{100}$
- rcvr. 10 $\sqrt{17}$ $\sqrt{25}$ $\sqrt{40}$ $\sqrt{50}$ $\sqrt{113}$

