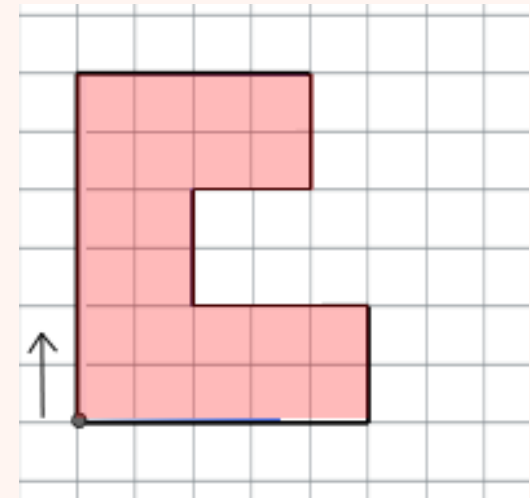# Level 4: Pockets

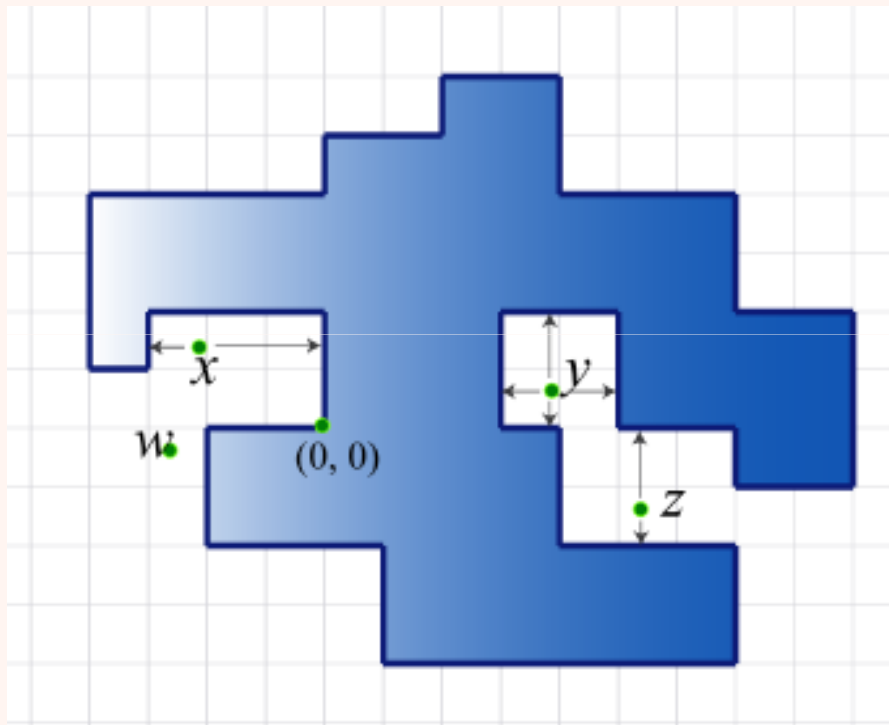**C**atalysts

- During his walk, Jim's trail forms pockets.

- A point **p** is said to be in a pocket if it is not inside the polygon, and at least one of the following two conditions holds.

  – There are boundary points directly both east and west of **p**; or

  – There are boundary points directly both north and south of **p**.

- Input: same as in Level 1

- Output: **D RA A P**

- Example (the red area is **A**):

  – Input: 9 F 6 R 1 F 4 RFF 2 LFF 1 LFFFR 1 F 2 R 1 F 5
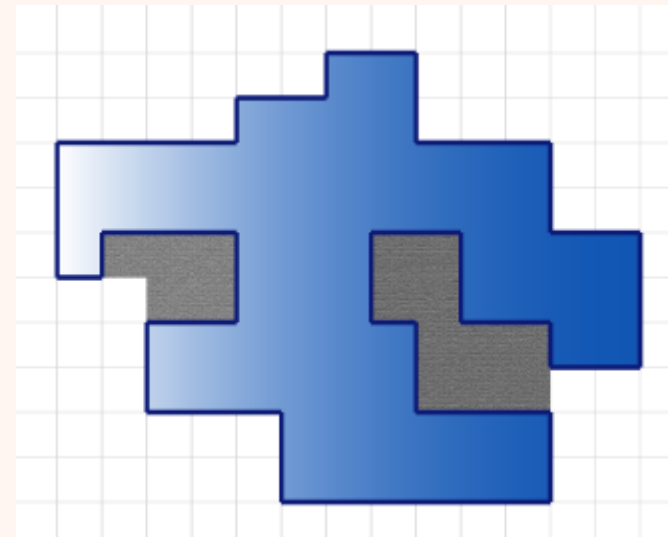
  – Output: 26 30 22 4

Level 4: Pocket Examples   Catalysts

- To make the definition of pockets more clear, some examples:.

The points x, y and z are
inside pockets,
The point w is not inside a pocket

The pockets are marked in grey

Level 4: Pockets

- Input: same as in Level 1
- Output: **D RA A P**

- Example (the grey area is **P**):
  - Input: 9 F 6 R 1 F 4 RFF 2 LFF 1 LFFFR 1 F 2 R 1 F 5
  - Output: 26 30 22 4