Problem A

It is a necessary and sufficient condition that we have exactly 2 distinct values for x and y. If we have less than 2 distinct values for any variable, then there is no way to know the length of that dimension. If there are at least 3 distinct values for any variable, then that means more than 3 vertices lie on that dimension, which cannot happen since there can be at most 2 vertices in a line segment. The area, if it can be found, is just the difference of values of the x coordinates times the difference of values of the y coordinates.

Complexity: $O(1)$

Code: Solution