

Discrete and Algorithmic Geometry: Problems 4 and 5

4. Propose an algorithm that, given a point p external to a convex polygon \mathcal{P} , finds the point of \mathcal{P} closest to p . What happens if instead of finding the closest point we look for the farthest? What if we restrict the search to the vertices of \mathcal{P} ?

Before starting with the proof, let us make two remarks:

Remark 1. *Je*

5. Propose an algorithm that, given two disjoint convex polygons, \mathcal{P} and \mathcal{Q} , finds the closest pair of points $p \in \mathcal{P}$ and $q \in \mathcal{Q}$.