MAI520 Computational geometry 2003
Peter Kumlin
Matematiska institutionen CTH& GU

Homework assignment — 2

1. Construct an algorithm to find the convex hull of a monotone polygon in linear time.

2. (Gauss-Bonnet theorem) Compute the total sum of the face angles at all the vertices of a few polyhedra of genus 0, and formulate a conjecture. Prove it.

3. Given two points P, Q in the plane. We say that P dominates Q if the x– and y–coordinates of P are both greater than the x– and y–coordinates of Q. Given a set S of n points in the plane, describe an $O(n \log n)$ time algorithm for finding every point in S that is not dominated by any other point in S.

4. Problem 2 on page 98-99 in the O'Rourke book.

Hand in your solutions at the latest on the 6/10.