

**Spring 2026, Math 590: Week 1 Preliminary Problems**  
**Due: Wednesday, January 28th, 2026**  
**Preview of Geometry**

**Preliminary problems.** These problems should be completed before discussion on Thursday.

(P1) Draw the polytope

$$P = \text{conv}\{(1, 0), (0, 1), (5, 2), (2, 2), (3, 5), (5, 5)\},$$

and find the number of (a) lattice points and (b) interior lattice points in  $P$ .