Math 579 Exam 2 (part II): 2/8/7
Please read the exam instructions.

Books and notes are forbidden for this exam. Please write your answers on **separate paper** and put your name on every sheet. Cross out work you do not wish graded; incorrect work can lower your grade, even compared with no work at all. Keep this page for your records. Show all necessary work in your solution; if you are unsure, show it. This problem is worth 10-20 points. You have 30 minutes.

You may earn extra credit by submitting by the next class period (Feb. 13), revised solutions to the problems on both parts (I and II) of this exam. Your score on the revised exam will be the *lowest* three scores on part I, plus the score on part II. Hence, although you need not resubmit problems you've already solved, to improve your grade you will need to submit solutions to the problems you did not solve correctly *and* the problems you did not attempt.

PROBLEM: A *simple* polygon has an inside and an outside. To *triangulate* a simple polygon is to add noncrossing interior edges between existing vertices, so that the inside of the polygon is partitioned into triangles. An *exterior* triangle is one that has two sides on the exterior of the polygon.

Prove that, for any simple polygon with at least four sides, and any triangulation, that at least two of the created triangles will be exterior.