

**Fall 2011**  
**Precalculus**  
**Project B**

This project includes 2 parts. A 10 min class presentation, using powerpoint or overhead which is worth 50 percent of your grade, and a written report which is worth 50 percent of your grade.

Show that the area of a regular  $n$ -sided polygon circumscribed about a circle of radius 1 is given by  $A(n) = n \tan\left(\frac{180^\circ}{n}\right)$

1. Find  $A(8)$ ,  $A(100)$ ,  $A(1000)$ , and  $A(10000)$ .
2. What number does  $A$  seem to approach as  $n$  is getting larger and larger and close to infinity.

