Homework Assignment 11 (Due Wednesday May 3, 2006)

1) After selecting a value for the radius R of the reference sphere, use equation (5) to construct your own polar equal angle net by considering a series of cones centered at O with dip angle ψ = 90°, and half-apex angles ϕ ranging between 0 and 90° with 10° increments. Radial lines centered at O are then constructed with 10° increments.

2) After selecting a value for the radius R of the reference sphere, construct an equatorial equal angle net showing great and small circles with 10° increments.

3) The following data were obtained from three non-parallel boreholes, each of which intersected the same fracture plane

BH #	Trend β	Plunge ψ	Angle ϕ*
1	049	71	59
2	127	20	43
3	223	40	67

* see Fig. 14 in Lecture Notes 11

Determine the orientation of the fracture plane. This problem should be solved analytically using the equations derived in lecture notes 11.