A. Section 59 3b. (This is a short or medium-length exercise. We did 3a earlier in the course, so let's not do it again, but make sure you know how to do that too.)

B. Section 60 Exercise 2. (This is a short or medium-length exercise.)

Structural geology is the sub-discipline of geology that is concerned with how rocks fracture and deform as they experience the tremendous stresses of plate tectonics. A fracture is (approximately) a plane that separates two solid bodies of rock. A geologist can measure the *attitude* of a fracture, meaning how it is tilted (relative to a reference frame that points east, north, and up, for example). From a data set of fracture attitudes, the geologist tries to work out the stress regime that produced those fractures, as well as the tectonic movements that corresponded to that stress regime. (Fortunately, there is a physical theory describing how all of these quantities are related. It's made up of partial differential equations that go back to people like Cauchy.)

The foregoing paragraph is context for the following problem. The answer to the problem appears in every structural geology textbook, but maybe you can discover it for yourself.

C. Describe a system of plotting data, such that a data set of n attitudes (of planes through the origin in $\mathbb{R}^3$) is depicted as a set of n points in the closed disk $\mathbb{B}^2$. (This is a medium-length exercise. There are multiple answers, because of various choices that one can make along the way. If you've taken Math 344: Differential Geometry, then can you rig your plotting system so that it accurately depicts angular relationships? Areal relationships? Both?)