UPDATED GENERAL INFORMATION — NOVEMBER 26, 2007

Here is the the seventh homework assignment, which is due in class on **Wednesday, December 5, 2007.** All references (including section numbers) are to the file `math133exercises5.pdf`.

- **Section V.1:** 1, 3
- **Section V.2:** $1bc$
- **Section V.3:** $2 - 4$, 8
- **Section V.4:** $3 - 5$, 7

Further hints for some exercises

Here are some additional hints for the first two exercises in Section V.1 (the first has been assigned but the second has not).

[**Hint for # 1:** If the circle Γ has center Q and contains the points A and B such that A and B are not diametrically opposite each other, then the minor arc of the circle determined by A and B is the union of $\{\, A,\, B \,\}$ with the intersection of Γ with the interior of $\angle AQB$, and the corresponding major arc is the union of $\{\, A,\, B \,\}$ with the set of all points in Γ that do not lie on the minor arc.]

[**Hint for # 2:** If the sphere Σ and plane P have an intersection which consists of more than one point, then the center $\mathbf{z}$ of the circle where they intersect is the foot of the perpendicular from $\mathbf{z}$ to P. In particular, if Σ is given by the equation $|\mathbf{x}|^2 = 1$ and P is given by an equation of the form $\mathbf{a} \cdot \mathbf{x} = b$ where $\mathbf{a} \neq \mathbf{0}$, then the perpendicular line is the subspace spanned by the vector $\mathbf{a}$.]

Third quiz

This will cover material in Sections III.4 through III.6.