

1014-W1-376 **Ioana Mihaila*** (imihaila@csupomona.edu), Dept. of Mathematics and Statistics, Cal Poly Pomona, 3801 W. Temple Ave., Pomona, CA 91768. *Series and Spacecurves on my list of favorites.*

Problem #1: Series

This problem is inspired in narrative by the series of "find the error" problems in the instructor guide that comes with the Stewart textbook. Mathematically, the merit of this problem is getting the student to think about what happens to an alternating series, once the sequence that generates it is not decreasing to zero.

Problem #2: Arc Length, Curvature and Torsion

This problem is inspired from a two-dimensional version that deals with the Cornu spiral. The two-dimensional version can be found in most standard books. I like the original problem very much, because it brings the Fundamental Theorem of Calculus back in use, but at this point in the multivariable calculus course I wanted a three-dimensional curve, so the students could practice their visualizing skills, and also compute the torsion of the curve (for a two-dimensional curve, the torsion is zero). Although torsion is not much emphasized in the texts (some don't even mention it), I think it is important in understanding why we care about the T N B frame. (Received September 13, 2005)