

**Math 4230, Fall 2012**  
**Homework #3**  
**Due Friday, September 21, 2012**

From J. Oprea, *Differential Geometry and Its Applications*:

§1.5: Exercises 1.5.13, 1.5.15, 1.5.17 (Exercise 1.5.17 shows how to prove the uniqueness part of the Fundamental Theorem of Space Curves without using the existence/uniqueness theorem for differential equations.)

In addition, start reading and working through §1.7, “The Geometry of Curves and Maple.” (To minimize typing, I’ve typed in most of the procedures from this section and put them in a text file on my web site. You should be able to just copy and paste them into Maple.) Do exercises 1.7.1, 1.7.3, 1.7.5, 1.7.6, 1.7.8, 1.7.9. (Please just email me your Maple worksheet rather than wasting paper printing it all out!)