APPLICATIONS OF THE TI-85 IN 141-42

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1. INTRODUCTION

These notes contain some ideas and suggestions on possible uses of the TI-85 in 141-42. I have tried to point out some contexts in which the calculator might be used to enhance concepts, provide geometric insight, or relieve computational tedium; and to provide some general information about some features of the calculator.

No one who teaches these courses is expected to use everything in these notes; I certainly don't. Hopefully, though, they may provide some ideas and maybe some inspiration for applications of your own.

The calculator should be used as a learning tool, not to make calculus easier. There are several features of the calculator which allow students to obtain answers easily with little understanding of what they are doing. I have tried to point out some of these in the notes. In such situations you may want to be very specific in telling students how much of their work they should write down. In some cases, you may want to require written explanations. In other cases where you want students to solve problems analytically (without the calculator), you could give problems which have irrational solutions and insist on exact answers.

The availability of the calculator should allow you to assign more realistic, non-contrived problems. Students should understand that not all equations can be solved algebraically and that not all definite integrals can be evaluated using the FTOC.

The calculator will also allow you to emphasize topics to which we once gave short shrift because of the tedious computations required. Numerical differentiation, numerical integration, and Newton's method are good examples.