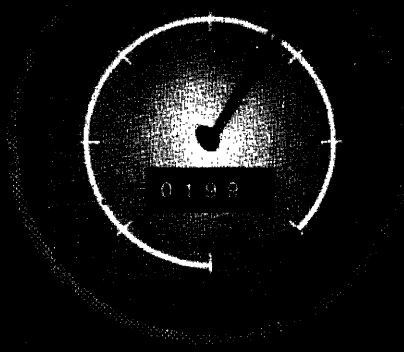
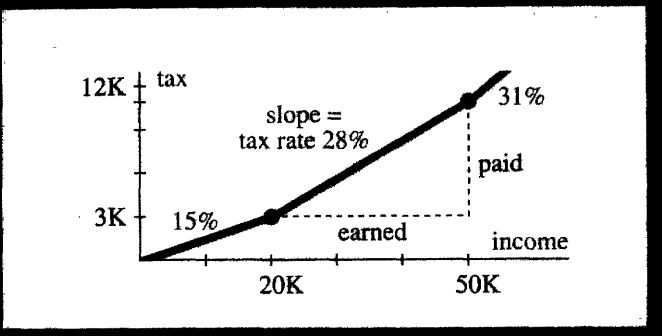
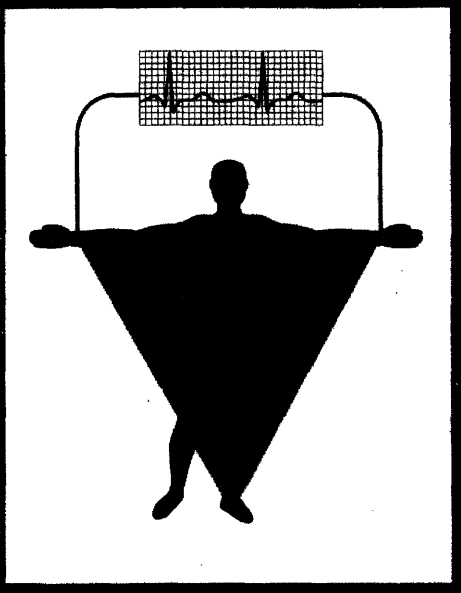
Instructor's Manual for

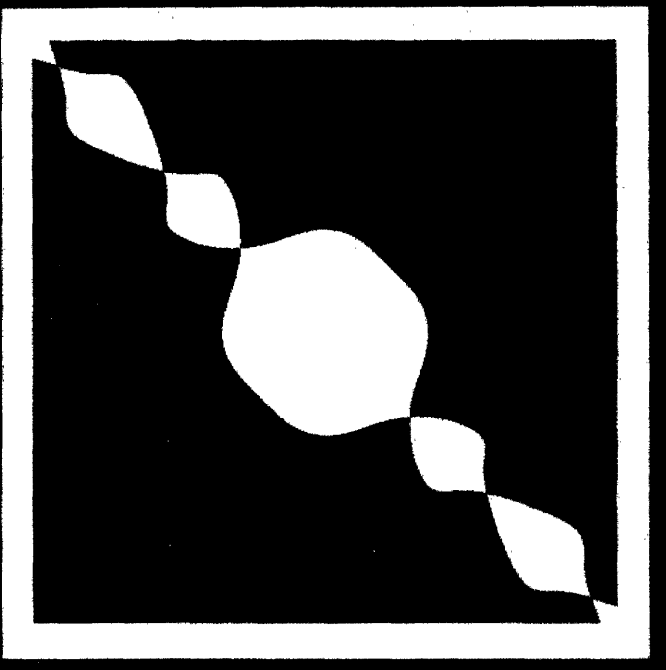
CALCULUS

Gilbert Strang









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INTRODUCTION

This manual for *Calculus* has two parts. The second part provides solutions to the even-numbered problems and read-through problems in the text. For convenience, the odd-numbered solutions are also reproduced here. You will find a wide range of exercises – some to give practice, others to develop ideas. I hope the student feels both encouraged and stretched by this subject and this book.

The first part of the manual is shorter, but it is destined to grow. At present these notes on classroom use emphasize the beginning of the course. Because of the variation in background, the book allows considerable freedom at the start. Some students may "know" the derivative of x^2 before you meet them. Do not hesitate to use that freedom in choosing which sections to cover. If the class begins to understand pairs of functions, like "velocity and distance" or "increase and total" or "slope and height," you have succeeded. Please use graphs. They start the course in an active way.

It is not so much what you do that is remembered, but what the student does. Our *encouragement* is remembered too.

The writing of this manual (like the book) is an ongoing effort. Suggestions and corrections are absolutely welcome at all times. The best addresses are gs@math.mit.edu and Room 2-240, M.I.T., Cambridge MA 02139. From the beginning my goal has been to bring out more of the best parts of mathematics – so students will enjoy learning. In the process I certainly hope we enjoy teaching.

Gilbert Strang