Math 105—Project 1
the Legality of the Stock Market...

by Gavin LaRose (glarose@NebrWesleyan.edu), Nebraska Wesleyan University, August 1997

You are recently hired mathematical experts in the thriving mathematical consulting company Independent Mathematical Contractors, Inc.—hired, it appears, both for your vast mathematical skills and to accomodate IMC's expansion in the course of the two years since its founding. Your first contract comes from your hometown of Lonlinc, Skanebra, and is from a legal firm there that specializes in criminal law.

Hangemhi, Inc.

Suite 101, Boldledge Business Park
Lonlinc, SK
04685

3 September 1997

Independent Mathematical Contractors, Inc.
Suite 2, Strawmarket Business Plaza
Lonlinc, SK 04685

Dear IMC:

As recognized legal experts here in Lonlinc, and owing to our reputation in criminal law, we have recently been contacted by the family of a sadly departed former client to execute (no pun intended) their will.

Our difficulty arises in the division of the largest portion of the deceased's wealth, which is in stocks and which was invested approximately 50 years ago. However, for reasons of which we are unwilling to speculate, the exact amount invested was not recorded at that time. We do know that the money was invested in a number of different stocks (much in the way mutual funds are run today) the exact companies of which changed at the whim of their owner but which generally stayed in one sector of the market. We also know that on their release from prison in 1970 the (now) deceased invested an additional $10,000, with a like amount also being invested in 1980 immediately before their subsequent reincarceration. The general performance of this sector of the market over this time period is shown in figure 1 to the right.

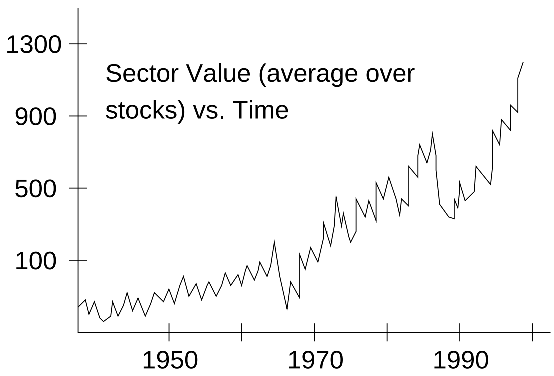

Figure 1

The total value of the stocks is currently $2.4 million. In order to execute the will, however, we need to know two things: first, a model for the value of the stocks in the portfolio over time, and second, the amount of the original investment. Because the first legal hearing on the will is to take place on the 26th of September, we must have your final results by the 19th of September in order to prepare our report. To facilitate your work we have arranged that Dr. Gavin LaRose, an eccentric mathematician in the area who appears to have All Sorts of contacts, be available to assist you with any technical questions you may have in the process of resolving this issue. Furthermore, as we will be working on the case in the intervening time, we need summaries of your progress by the 8th of September and again by the 15th of September, which may be submitted orally to Dr. LaRose. You will understand that this is a weighty matter, and it is on account of this that we must reserve the right to terminate your contract without notice if any of these deadlines are not observed. Dr. LaRose is also able to provide you with example formats which may assist in the formulation of your report.

We look forward to hearing from you.

Sincerely,

Claire N. "C.D." Arro
Partner, Hangemhi, Inc.

cda:glr