Introduction

IN THIS COLLECTION OF PAPERS, we begin to develop a GIS system that is is more comprehensible and more accessible than what presently dominates the industry.

ONE GOAL is that a wide range of GIS applications—with emphasis on computational geometry—be comprehensible to the very young. Young people should have tools to *precisely quantify* concepts such as "near," "within," "in the direction of," and so forth.

ALTHOUGH CONVENTIONAL geometry and trigonometry, as taught in many school systems, take a steps in this direction, they go off on a tangent whith respect to the *central* question of GIS:

Where?

THE NUMBER SYSTEM, we believe, is the natural starting point for a journey toward a more comprehensible, more accessible GIS. Numbers and quantity go hand in hand. To the extent we are able, we will favor

- integers rather than fractions or real numbers,
- multiplication rather than division, and
- squares rather than square roots

WE ACKNOWLEDGE N J Wildberger for a great deal of inspiration as well as content. Much of what is presented herein flows from his work, especially his 2005 book *Divine Proportions: Rational Trigonometry to Universal Geometry* (Wild Egg Pty Ltd; Australia. ISBN 097574920X). The author also has gained much from Wilberger's numerous lectures (search: "wildtrig") on various topics in pure and applied mathematics.