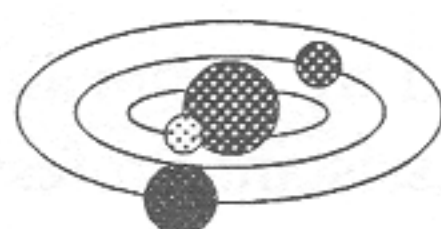


## Marty the Martian

by *Melanie Drozdowski*



In the fall of 1992, I volunteered to teach the General Math class which consists of 20 students. Approximately 12 of the students are classified as “special education students” in some way; some are physically challenged or brain damaged, and one girl cannot speak. The rest of the class are “general curriculum” students, some of whom have failed Algebra or General Math in the past. I have the advantage of working cooperatively with a special education teacher; however, the only time we have together is during class, so any cooperative planning is minimal.

The class has had no curriculum, and has a rather poor reputation, so I set out to develop a class which was reality-based, yet interesting for the kids. My colleague and I developed an introductory program in which we spent approximately one week on discrete mathematics, one week on the computer, and one week on mathematics in the “real world”.

Shortly after the start of the school year it had become obvious that these students very often didn’t “get it” only because they often did not understand what was wanted from them. We began talking about giving and receiving instructions, which very nicely set us up for a discussion of “algorithms.” The word itself gave them some difficulty until someone suggested linking the term with the name of the vice-president (a candidate at the time): Al Gore. . . .Algorithm!

I introduced the idea of an alien being, Marty the Martian, who had been monitoring the Earth, and could understand simple things about us and our language. However, he could only follow very simple instructions. Things on his planet were very different, so we would have to teach him many of the simple tasks we took for granted. The ground rules were established: verbal instruction only, and in very simple terms.

Our first task: to teach Marty how to open a door. (To make this initial task a bit easier, the door was unlocked, but closed). I assumed the role of our alien visitor, and the class began their instructions: “walk to the door. . .” at which time I walked to and into the door! The students soon understood that directions had to be very explicit. We decided that “left” and “right” could not be used; the kids came up with using the light from the windows (which make up one side of the room) as a reference point, since light was something that was universal, using “move towards the light”, instead of “turn right”.

The kids began rather slowly—what was this strange woman doing? This was not the type of mathematics class they were used to. However, within half a class period, giving instructions was becoming natural, and they were beginning to understand the importance of being simple and specific.

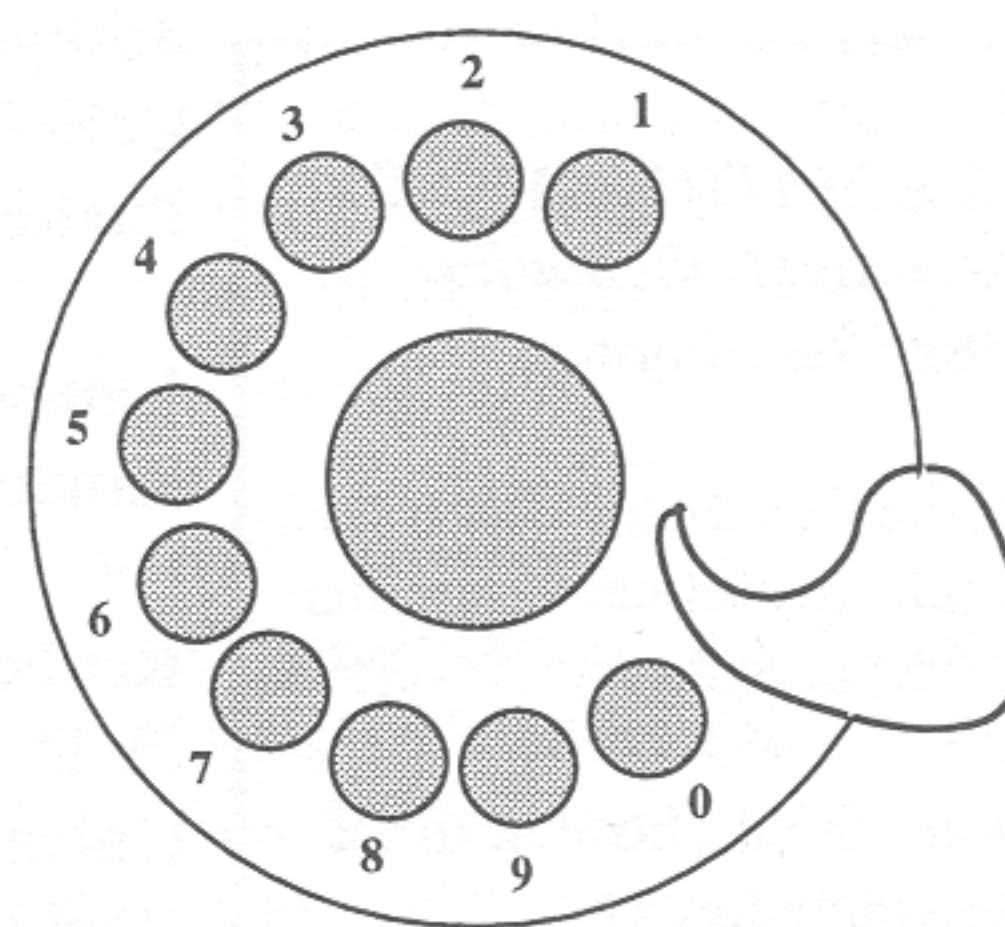
## Area Codes: Are They Really Codes?

by *Laura Scerbo*

Have you ever wondered how your area code number was chosen? As a child I lived in northern New Jersey, where the code was 201. My cousin Darcy lived in a suburb of Pittsburgh, with area code 412. I used to tease her and say that more people would want to live in my area because my area code came first!

Later on, during a course in college, our professor challenged us to figure out the “code” behind area codes. My group started by listing all of the area codes we could think of. We came up with some major cities: New York (212), Pittsburgh (412), Los Angeles (213), Chicago (312), and Philadelphia (215), as well as a few from less populated places: Williamsburg, VA (804) and Sedona, AZ (602). We noticed that no area code started with a 0 or a 1, since these were special codes for the operator and long distance. We noticed also that every second digit was a 0 or a 1, which we thought was significant, but could not figure out why. We observed that the two largest cities in the U.S., New York City and Los Angeles, had consecutive area codes (212 and 213), and that Philadelphia came shortly after (215); in other words, the codes seemed to be in order of population.

We then came to a stand-still until our professor explained that when the codes were assigned, everyone had rotary phones (remember those?!): the 1 took the least time to dial, while the 0 took the longest. Since area codes cannot begin with a 0 or a 1, this explained why the codes for the major cities begin with 2 or 3. The second digit



was either a 0 or a 1, so naturally the largest cities have a 1 as the second digit. Thus, New York City has the fastest code, 212, while Alaska has a very slow code, 907.

When I told Darcy, she laughed and teased that more people would want to call her area than mine: “She who laughs last, laughs best!”, she said. I guess she’s right; but I’d still rather live here than in Pittsburgh.