

Problem
174

by Dave Lindell, L.S.

Farmer Phred had his lot surveyed by surveyor "A" with the results shown. He then sold off "the east half of the south 200 acres" to Wilbur Wright. Mr. Wright had his new lot surveyed by surveyor "A" who split off the east half of the south 200 acres by a line parallel with the easterly boundary. Farmer Phred later sold "the west half of the south 200 acres" to Xavier Xanadu who had his lot surveyed by surveyor "B" who made the dividing line by joining midpoints of the northerly and southerly lines of the south 200 acres. Surveyor "C" says, "No, the dividing line is on a mean bearing of the easterly and westerly lines." Surveyor "D" says the dividing line is perpendicular to the southerly line. What did the "pin cushion" at the northwest and southwest corners look like?



Problem
175

by Benjamin Bloch, Ph.D.

Recall from problem 171 that the Fibonacci Series is a recursive sequence where each term or number is the sum of its *two* preceding numbers. The usual Fibonacci Series is based on the two starting numbers 1 and 1.

The Lucas Series is closely related to the Fibonacci Series in that again the next term in the sequence is the sum of the two prior terms. Here however, the series starts with the numbers 1 and 3.

- a) Write down the first 27 terms of the Lucas Series.
- b) What is the ratio of the 24th term to the 23rd term? What is its significance?
- c) What is the inverse of this ratio and its significance?
- d) Apply the SDQ to this Lucas Series.
- e) What pattern is evident?
- f) What secondary pattern do you notice?