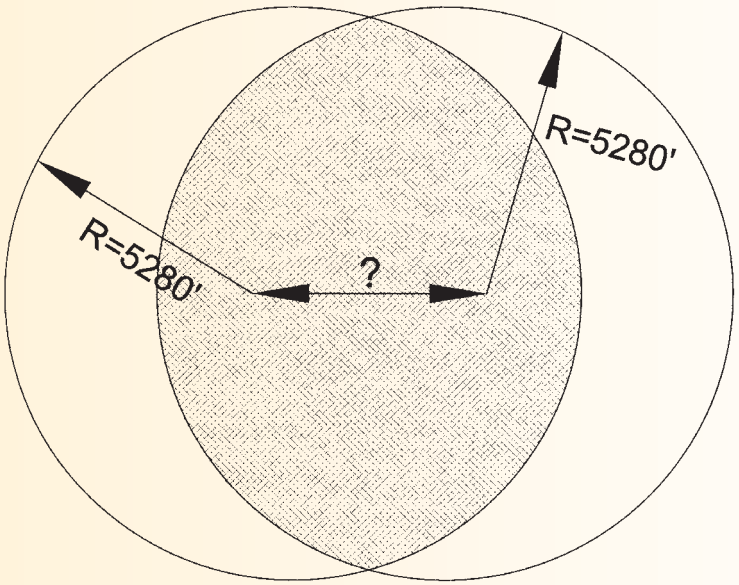
PROBLEM CORNER

Problem 130

by Dave Lindell, L.S.

The hatched area is exactly two-thirds the area of either of the equal radius circles. How far apart are their centers?



New Problem Corner contributor!

Let me introduce myself. My name is Benjamin Bloch and I am a retired professor of physics. My late father, Elias Bloch, was a surveyor, and it is in his name that I dedicate these problems. The problems you're used to by Dave Lindell (that will continue to appear in addition to mine) are excellent geometry/trigonometry-types. With your indulgence I'd like to explore a somewhat different route. The themes of my problems connect the ancient ways of thinking about math with the modern; they are designed to explore new perspectives in thinking outside the box. I welcome your comments and suggestions but ask that you initially hold them in reserve until the flavor of the works becomes apparent. Above all let's have fun.

Problem 131

by Benjamin Bloch, Ph.D.

Every positive number can be placed in one of nine columns headed by the single digits 1 through 9.

1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18
19	20	21	22	23	24	25	26	27
28	29	30	31	32	33	34	35	36
37	38	39	40	41	42	43	44	45

Continuing in this pattern we find that the number 51, for example, belongs in the **6** column. Your problem is to place each of the following numbers in their corresponding columns: 86; 175; 4,688; 53,493; 106,441; 7,121,368; 22,719,854; 958,877,535; 1,476,856,872.