ALLAN J. GOTTLIEB, '67

(*TR* − "Puzzle") + Insurrection = Resurrection

It feels good to be wanted. As many of you know, I announced in July that, due to competing needs for pages in the alumni section, "Puzzle Corner" was being phased out of *Technology Review*. In October, I finished giving solutions to past problems and said good-bye. Well, hello again—and thanks. I really am touched by the outpouring of letters asking that "Puzzle Corner" be continued. I have heard from the editors that they received many more letters on this issue than on any previous subject.

The only drawback is that the space allocated to the column has been halved. As a result fewer problems will be given each issue and lengthy solutions will be summarized with the full solution available from the editors upon request. Smaller changes will also be made to meet the new one-page limit.

For the benefit of new readers, I will now review the ground rules under which this department is conducted.

In each issue I present three regular problems (the first of which is chess, bridge, computer, or go-related) and one "speed" problem. Readers are invited to submit solutions to the regular problems, and three issues later, one submitted solution is printed for each problem; I also list other readers who responded. For example, solutions to the problems you see below will appear in the May/June issue. Since I must submit that column sometime in February, you should send your solutions to me during the next few weeks. Late solutions, as well as comments on published solutions, are acknowledged in subsequent issues—the latter appearing in the section "Better Late Than Never".

For speed problems the procedure is quite different. Often whimsical, these problems should not be taken too seriously. If the proposer submits a solution with the problem, that solution appears at the end of the same column in which the problem is published. For example, the solution to this issue's speed problem is given below. Only rarely are comments on speed problems published or acknowledged.

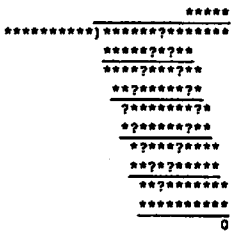
There is also an annual problem, published in the January issue of each year with solutions given one year later. The Y1991 problem and the Y1990 solution appear below. Finally, I sometimes go back into history to republish problems that remained unsolved after their first appearance.

Problems

Y1991. Form as many as possible of the integers from 1 to 100 using the digits 1, 9, 9, and 1 exactly once each and the operators +, −, × (multiplication), / (division), and exponentiation. We desire solutions containing the minimum number of operators; and, among solutions having a given number of operators, those using the digits in the order 1, 9, 9, and 1 are preferred. Parenthesis may be used for grouping; they do not count as operators. A leading minus sign *does* count as an operator.

JAN 1. This bridge problem is from Donald Boynton who wants to know the least number of high card points between declarer and dummy that permits declarer to make three no trump against best defense.

JAN 2. Nob. Yoshigahara sent us the following division problem in which every * is replaced by a digit and all occurrences of ? must be replaced by the same digit. Nob. attributes the problem to T. Kato and notes that as usual the leftmost * must not be 0.



Speed Department

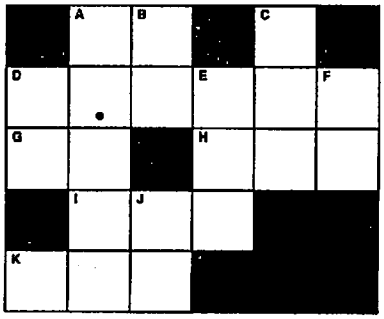
Larry Bell feels this numeric crossword puzzle should be called crossweird.

ACROSS

A. Black Jack.
D. Pi (abbr.)
G. Teenage girls' magazine.
H. a.k.a. James Bond.
I. JFK's PT boat.
K. g (cm per sec.^{2}) = "Battle of Hastings minus 86"

DOWN

A. e (abbr.)
B. "Seven come _____" (e.g. Las Vegas)
C. Tax form (in Hex.)
D. Number of ice cream flavors
E. "No one can catch my _____" (Beach Boys)
F. Number of catsup flavors.
J. Nothing from nothing leaves _____.



Solutions

Y1990. This was a very hard year due to the duplicated 9s and the 0. 1991 does not look much better. The following solution is from John Drumheller:

1 199^0	71 90 − 19
2 1 + 99^0	72 (9 + 0 − 1) × 9
3 — 6: none	73 — 79: none
7 9 − 9^0 + 1	80 90 − 1 + 9
8 9 − 19^0	81 (90 × 1) − 9
9 9 + (0 × 19)	82 1 − 9 + 90
10 19 − 9 + 0	83 — 88: none
11 (90/9) + 1	89 99 − 10
12 — 16: none	90 1^9 × 90
17 9 + 9 + 0 − 1	91 1^9 + 90
18 19 − 9^0	92 9^0 + 91
19 19 + (9 × 0)	93 — 97: none
20 19 + 9^0	98 0 − 1 + 99
21 — 27: none	99 (1 × 99) + 0
28 19 + 9 + 0	100 109 − 9
29 — 70: none	

Other Responders

Responses have also been received from W. Burditt, C. Dale, J. Feil, S. Feldman, T. Harriman, R. High, A. Ornstein, G. Potts (thanks for the Mandelbrot program), B. Reichard, F. Rubin, G. Sahagen, and A. Tracht.

Solution to Speed Problem

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*21*4*
3.1415
17*007
*109**
980***
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SEND PROBLEMS, SOLUTIONS, AND COMMENTS TO ALLAN J. GOTTLIEB, '67, THE COURANT INSTITUTE, NEW YORK UNIVERSITY, 251 MERCER ST., NEW YORK, N.Y. 10012, OR TO: gottlieb@nyu.edu