One Partition Cages

Target	No. Cells	Partition
39	6	9 8 7 6 5 4
38	6	9 8 7 6 5 3
35	5	9 8 7 6 5
34	5	9 8 7 6 4
30	4	9 8 7 6
29	4	9 8 7 5
24	3	9 8 7
23	3	9 8 6
22	6	7 5 4 3 2 1
22	5	7 5 4 3 2
21	6	6 5 4 3 2 1
17	2	9 8
16	5	6 4 3 2 1
16	2	9 7
15	5	5 4 3 2 1
11	4	5 3 2 1
10	4	4 3 2 1
7	3	4 2 1
6	3	3 2 1
4	2	3 1
3	2	2 1

Two Partition Cages

Target	No. Cells	Partitions	
37	6	9 8 7 6 5 2	9 8 7 6 4 3
33	5	9 8 7 6 3	9 8 7 5 4
28	4	9 8 7 4	9 8 6 5
23	6	8 5 4 3 2 1	7 6 4 3 2 1
22	3	9 8 5	9 7 6
17	5	7 4 3 2 1	6 5 3 2 1
12	4	6 3 2 1	5 4 2 1
8	3	5 2 1	4 3 1

Illustrative Examples

A. There is only one way that 3 digits sum to 7: 4+2+1.

B. There are two ways that 3 digits sum to 8: 5+2+1 and 4+3+1.

There is little point in treating cages of more than 6 cells. For example, suppose a 7-cell cage has target 38. This means 2 digits that sum to 7 do not belong to the cage. They can only be 6+1, 5+2, or 4+3, so the problem becomes eliminating two of these possibilities. In fact, I would spend no time on it: such a large cage intersects several rows and columns, so I would use row and column uniqueness to solve the intersections.