

Counter Patterns Solution

Position	1	2	3	4	5	6	7	8	9	10
No. of counters	1	5	9	13	17	21	25	29	33	37

The pattern is one more than the 4x table

$$20^{\text{th}} \text{ pattern} \rightarrow (19 \times 4) + 1 = 77$$

$$100^{\text{th}} \text{ pattern} \rightarrow (99 \times 4) + 1 = 397$$

Formula: Number of counters = $\{(\text{Position} - 1) \times 4 + 1\}$

Position	1	2	3	4	5	6	7	8	9	10
No. of counters	1	4	9	16	25	36	49	64	81	100

The pattern is square numbers, or adding lists of odd numbers

$$20^{\text{th}} \text{ pattern} = 20 \times 20 = 400$$

$$100^{\text{th}} \text{ pattern} = 100 \times 100 = 10000$$

Formula: Number of counters = position \times position