→ Let's look again at our example ($x_1 = 1$):

$$\overline{n}_1^0 = 3\cdot(2u_1+1) - 2\Delta_1^0 \;,\; \Delta_1^0 \in \{1,2\}$$

(+) →

$u_1 = 1$: $\overline{n}_1^0 = \begin{cases} \Delta_1^0 = 1: & 3\cdot 3 - 2\cdot 1 = 9 - 1\cdot 2 = 9 - 2 = 7 \\ \Delta_1^0 = 2: & 3\cdot 3 - 2\cdot 2 = 9 - 2\cdot 2 = 9 - 4 = 5 \end{cases}$

$u_1 = 2$: $\overline{n}_1^0 = \begin{cases} \Delta_1^0 = 1: & 3\cdot 5 - 2\cdot 1 = 15 - 1\cdot 2 = 15 - 2 = 13 \\ \Delta_1^0 = 2: & 3\cdot 5 - 2\cdot 2 = 15 - 2\cdot 2 = 15 - 4 = 11 \end{cases}$

$u_1 = 3$: $\overline{n}_1^0 = \begin{cases} \Delta_1^0 = 1: & 3\cdot 7 - 2\cdot 1 = 21 - 2\cdot 1 = 21 - 2 = 19 \\ \Delta_1^0 = 2: & 3\cdot 7 - 2\cdot 2 = 21 - 2\cdot 2 = 21 - 4 = 17 \end{cases}$

$\vdots$

(+) → Here we see, that we don't generate numbers $\overline{n}_1^0 \le 6 = 3\cdot 2$

→ So, if we use this equation (**), we only generate ~~a valid~~ valid numbers > 6.

⇒ Consequences for intersection of two equations of the form (**):

$$\overline{n}_1^0 = (2x_1+1)(2u_1+1) - 2\Delta_1^0 \;,\; \Delta_1^0 \in \{1,\dots,2x_1\}$$

$$\overline{n}_2^0 = (2x_2+1)(2u_2+1) - 2\Delta_2^0 \;,\; \Delta_2^0 \in \{1,\dots,2x_2\}$$

$$\Rightarrow \overline{n}_1^0 = \overline{n}_2^0$$

Assume: $x_2 > x_1$

Then our solution $\overline{n}_{12}^0$ of $\overline{n}_1^0 = \overline{n}_2^0$ gives us only valid results in the range $\overline{n}_{12}^0 \in \,](2x_2+1), \infty[$ (***)

and not-valid results in the range $\overline{n}_{12}^0 \in [1, (2x_2+1)]$

$(2x_2+1)(2\cdot 0+1)$

So, what is ...?