16.04.2016.

12

1. $94 - 27 + 1 = 68$

$-\ 3$

65

$N_{min} = 2 \cdot 65 + 1 = 131$

2. 8♂ 9♀ $\Rightarrow 7$.

Стефан ✓; Марија ✗:

$\binom{7}{6} + \binom{7}{5}\binom{8}{1} + \binom{7}{4}\binom{8}{2} + \binom{7}{3}\binom{8}{3} + \binom{7}{2}\binom{8}{4}$

$+ \binom{7}{1}\binom{8}{5} + \binom{8}{6}$

Стефан ✗, Марија ✓:

$\binom{7}{6} + \binom{7}{6}\binom{8}{1} + \binom{7}{4}\binom{8}{2} + \binom{7}{3}\binom{8}{3} + \binom{7}{2}\binom{8}{4}$

$+ \binom{7}{1}\binom{8}{5} + \binom{8}{6}$

Стефан ✗, Марија ✗:

$\binom{7}{7} + \binom{7}{6}\binom{8}{1} + \binom{7}{5}\binom{8}{2} + \binom{7}{4}\binom{8}{3} + \binom{7}{3}\binom{8}{4} +$

$+ \binom{7}{2}\binom{8}{5} + \binom{7}{1}\binom{8}{6} + \binom{8}{7}$

3. $0, 1, 1, \ldots, 1, 9$

S_1: прва цифра ≥ 8 $\quad 2 \cdot 9!$

S_{10}: последња цифра ≤ 1 $\quad 2 \cdot 9!$

$S_1 S_{10}$: $2 \cdot 8! \cdot 2$

$10! - 4 \cdot 9! + 4 \cdot 8!$

4. $f_n = 3f_{n-1} + 10f_{n-2} + 7\cdot 5^n$ $\quad f_0 = 4 \quad f_1 = 3$

homogena: $t^2 = 3t + 10$

i karakt. $t - 3t - 10 = 0$

$(t-5)(t+2) = 0 \quad t_1 = -2 \quad t_2 = 5$

$f_n^{(H)} = A(-2)^n + B \cdot 5^n =$

$f_n^{(P)} = n^1 \cdot C \cdot 5^n = Cn5^n$

$Cn5^n = 3C\cdot(n-1)5^{n-1} + 10C(n-2)\cdot 5^{n-2} + 7\cdot 5^n$

$5Cn5^n = 3C(n-1)\cdot 5^n + 2C(n-2)\cdot 5^n + 35\cdot 5^n$

$5Cn = 3Cn - 3C + 2Cn - 4C + 35$

$7C = 35 \Rightarrow C = 5$

$\Rightarrow f_n^{(P)} = n\cdot 5^{n+1}$

$f_n = A(-2)^n + B\cdot 5^n + n\cdot 5^{n+1}$

$f_0 = 4 = A + B \Rightarrow 8 = 2A + 2B$

$f_1 = 3 = -2A + 5B + 25$

$-22 = -2A + 5B \quad (+)$

$7B = -14 \quad B = -2$

$A = 6$

$f_n = 6\cdot(-2)^n - 2\cdot 5^n + n\cdot 5^{n+1}$

$= -3(-2)^{n+1} + (5n-2)\cdot 5^n$