Kombinatorika – cvičení 3:

Uveďte podmínky a určete množinu kořenů:

1) $\binom{10}{1}\binom{x}{x-2} - \binom{x+3}{x+1} = 15\binom{x}{0}$
2) $\binom{n}{2} = 93 - \binom{n+3}{n+1} - \binom{n+6}{2}$
3) $\binom{6}{5}\binom{x+1}{x-1} - \binom{6}{4}\binom{x+2}{x+1} = \binom{4}{2}$
4) $\binom{x}{x-2} = \frac{5x}{2} - \binom{x}{x-1}$
5) $\binom{x}{1} = 2x - 3 - \binom{x-3}{x-4}$
6) $\binom{x-1}{x-3} - 2\binom{x-2}{x-4} = 0$
7) $2\binom{x+6}{x+4} - \binom{x+4}{x+2} = 4! + \binom{5}{2}.x$
8) $\binom{x+1}{x+1} + \binom{5}{3}.\binom{x+1}{x} - \binom{4}{3}.\binom{x+1}{x-1} = 1$
9) $5\binom{x+8}{x+7} - \binom{x}{1} = 2\binom{x}{0}\binom{x+1}{x}\binom{x}{x-1}$