

3.53  
a3

$$\left(1 + x + \frac{2}{x}\right)^{10} = \sum \frac{10!}{l_1! l_2! l_3!} \cdot 1^{l_1} x^{l_2} \left(\frac{2}{x}\right)^{l_3}$$

$$\begin{aligned} 10 &= l_1 + l_2 + l_3 \\ 0 &= l_2 + l_3 \end{aligned} \quad \text{a3)}$$

$$\frac{10!}{10!} = 1$$

распредел  $l_2 = l_3 = 0$   $l_1 = 10$  : распредел 11, 2, 0, 1

$$\frac{10!}{8!} \cdot 2 = 180$$

" "  $l_2 = l_3 = 1$   $l_1 = 8$

$$\frac{10!}{2! 2! 6!} \cdot 2^2 = 5040$$

" "  $l_2 = l_3 = 2$   $l_1 = 6$

$$\frac{10!}{3! 3! 4!} \cdot 2^3 = 33600$$

" "  $l_2 = l_3 = 3$   $l_1 = 4$

$$\frac{10!}{2! 4! 4!} \cdot 2^4 = 50400$$

" "  $l_2 = l_3 = 4$   $l_1 = 2$

$$\frac{10!}{5! 5!} \cdot 2^5 = 8064$$

" "  $l_2 = l_3 = 5$   $l_1 = 0$

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распредел 11, 2, 0, 1