

$$\frac{9!}{l_1! l_2! l_3!} x^{l_1} x^{2l_2} (-x)^{3l_3}$$

$$x^8: 2l_2 + 3l_3 = 8$$

$$l_1 + l_2 + l_3 = 9$$

$$l_2 = 0 \rightarrow l_3 = 8/3$$

$$l_2 = 1 \rightarrow l_3 = 2, l_1 = 6$$

$$l_2 = 3 \rightarrow l_3 = 1/3$$

$$l_2 = 4 \rightarrow l_3 = 0, l_1 = 5$$

$$\frac{9!}{1! 2! 6!} \cdot (-1)^2 = 252$$

$$\frac{9!}{4! 5!} \cdot (-1)^0 = 126$$

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