

General Power Option

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$$C_T = \max\left[\sum_{i=1}^n a_i (S_T^i - K^i), 0\right], a_i \geq 0$$

$$P_T = \max\left[\sum_{i=1}^n a_i ((2K - S_T)^i - K^i), 0\right], a_i \geq 0$$

The general power option has a payoff which is a polynomial function of the underlying price at expiration.

Symbol list:

C_T	Value of the vanilla call option at expiration
P_T	Value of the vanilla put option at expiration
S_T	Value of the underlying asset at expiration
S_T^i	Value of the underlying asset at expiration to the power of i
K	Strike (exercise) price
a_i	Weight of the power term
n	Number of power terms
T	Expiration date