Symmetric call-butterfly payoff

Option arithmetic | Original synthetic example | Edition 2026-11-26

A long symmetric call butterfly buys one low-strike call, sells two middle-strike calls and buys one high-strike call. Its idealized expiry peak occurs at the middle strike.

FORMULA Peak profit = wing width - net debit

SCENARIO 01: Synthetic expiry scenario; reference strike 100



WORKED EXAMPLE

Strikes 90/100/110, debit 3: peak expiry profit is 7 at 100. No fees or settlement frictions.

COMMON MISTAKE

Forgetting the two short middle options produces the wrong payoff shape.

BEFORE YOU USE THE CALCULATION

1. Verify symmetric strike spacing.
2. Use the 1:-2:1 quantities.
3. Check the debit against the wing width.

COMPARE TWO MORE INPUT SETS

Scenario 05: Synthetic expiry scenario; reference strike 140. Strikes 126/140/154, debit 5: peak expiry profit is 9 at 140. No fees or settlement frictions.

Scenario 10: Synthetic expiry scenario; reference strike 190. Strikes 171/190/209, debit 7.5: peak expiry profit is 11.5 at 190. No fees or settlement frictions.

Synthetic values are not historical market data. Educational material; trading can result in substantial losses.