Let $f(n)$ and $g(n)$ be two sequences and a and b two constants. Then

$$\Delta(af(n) + bg(n)) = a\,\Delta f(n) + b\,\Delta g(n).$$

Consequently, the antidifferences are linear as well:

$$\sum(af(n) + bg(n))\,\delta n = a\sum f(n)\,\delta n + b\sum g(n)\,\delta n$$