

We are going to denote an antidifference of a function $f(n)$ by

$$\sum f(n) \delta n.$$

The δn plays the same role as the dx term in integration.

For example,

$$\sum n^m \delta n = \frac{1}{m+1} n^{m+1}$$

when $m \neq -1$. What about $m = -1$?