# The number of items in a summation

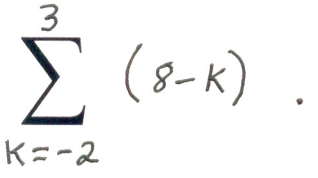
In the summation

b does not tell the number of items, but is merely the upper limit on the value of k. The number of items in the summation is

$$b - a + 1.$$

(When a = 1, then b coincides with the number of items, but that is merely a coincidence.)

Consider the example



This has 3 – -2 + 1 = 6 items, and the summation of these 6 items is:

(8 – -2) + (8 – -1) + (8 – 0) + (8 – 1) + (8 – 2) + (8 – 3)

= 10 + 9 + 8 + 7 + 6 + 5 = 45.

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