Question

If $\sum a_n$ and $\sum b_n$ are convergent series of numbers and c is a real number, which of the following identities is always true?
(There may be more than one correct answer.)

A. $c\sum a_n = \sum ca_n$

B. $\sum a_n + \sum b_n = \sum (a_n + b_n)$

C. $\left(\sum a_n\right)\left(\sum b_n\right) = \sum a_n b_n$

D. $\left(\sum a_n\right)^2 = \sum a_n^2$