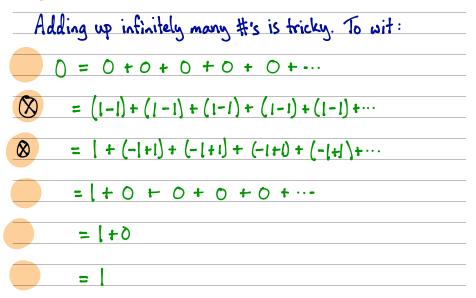
§ 8.1 Infinite Sums



<u>Recall</u>, given (an), $\sum_{n=1}^{\infty} a_n = a_1 + a_2 + a_3 + a_4 + \cdots$ $s_1 + s_2 + s_3 + s_4$

A sum of the terms in a sequence is a <u>series;</u> above we have an infinite <u>series</u>

When can we say an infinite series has a value? (i.e. equals a real #.)

Ean has an associated seg of partial (truncated) sums

S.= a. Sz=a, +az Sn = aitazt ... + an = Eak = "nth partial sum of Ean"

If (and only if) sn - s may we say Ean=aitastast -- = SER Otherwise the series diverges and does not equal a #. ! Warnings 1) a1+a2+a3+... has no arithmetical value unless Ean converges. So aitastast ... means lin (aitast... + an) lin Sn (2) Think of a + a + a + a + a one object. Don't apply laws of crithmetic to infinite sums. Don't rearrange, regroup, etc.