Exercise 7.31. *[210] Note: exercise 2, written exam 15 January 2014. Let $(a_n)_{n\geq 0}$ be a sequence of positive real numbers. Having defined $s_n = \sum_{i=0}^{n} a_i$ prove that:*

- *the series $\sum_{n=0}^{\infty} a_n$ converges if and only if the series $\sum_{n=0}^{\infty} a_n/s_n$ converges;*

- *the series $\sum_{n=0}^{\infty} a_n/(s_n)^2$ converges.*

Solution 1. *[21K]*