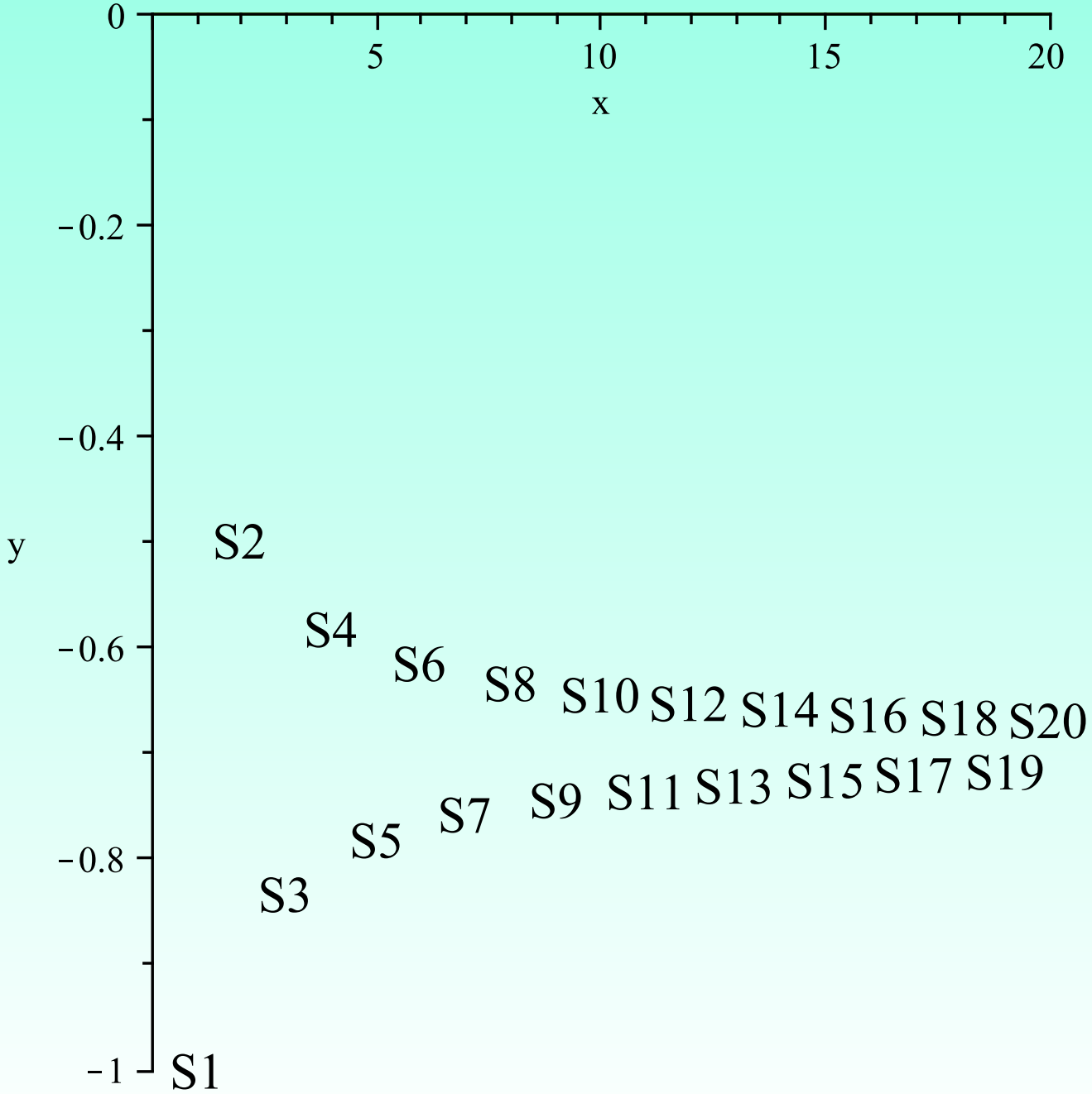
0
5
10
15
20
x
-0.2
-0.4
-0.6
-0.8
-1
y
S1
S2
S3
S4
S5
S6
S7
S8
S9
S10
S11
S12
S13
S14
S15
S16
S17
S18
S19
S20

Determine whether or not the following alternating series converge. For those that converge, first find upper and lower bounds, and then approximate accurate to within 0.001.

1. $\sum_{k=2}^{\infty} \frac{(-1)^k}{\ln(k)}$
2. $\sum_{n=1}^{\infty} (-1)^{n+1} \frac{n^2}{n^2-1}$
3. $\sum_{j=3}^{\infty} \frac{(-1)^j}{4^j}$