For each of the following, state whether the given series converges. Give reasons. Show necessary computations. For some of these, the exact sum can be found easily. When you encounter such a series, find its exact sum.

(a) \[ \sum_{n=2}^{\infty} \frac{(-1)^n}{(-5)^n} \]

(b) \[ \sum_{n=0}^{\infty} \frac{n}{5^n} \]

(c) \[ \sum_{k=1}^{\infty} \left( \frac{1}{k} - \frac{1}{k+1} \right) \]