1: Let $a_{n}=\frac{\ln \left(3+e^{n}\right)}{12 n}$. Determine what the sequence converges to, if it converges.

2: Let $a_{1}=2, a_{n+1}=\frac{1}{2} a_{n}+3$. Write out the first five terms of the sequence, determine if the sequence is bounded and monotonic, and if so, find the limit.

