For each sequence,

(a) What do you think the limit of each sequence is? Call this value a

(b) For $\epsilon = 0.01$, find an $N \in \mathbb{N} \ni n \geq N \Rightarrow |a_n - a| < \epsilon$

(c) For $\epsilon = 0.001$, find an $N \in \mathbb{N} \ni n \geq N \Rightarrow |a_n - a| < \epsilon$

(d) For an arbitrary $\epsilon > 0$, find an $N \in \mathbb{N} \ni n \geq N \Rightarrow |a_n - a| < \epsilon$

1. $(a_n) = \left(\frac{1}{n+5}\right)$

2. $(a_n) = \left(\frac{(-1)^n}{n^2}\right)$

3. $(a_n) = \left(\frac{7n}{3n+5}\right)$