

Family name:

Sr. #

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Q1) Determine whether the sequence **converges or diverges**. If it converges, **find the limit**.

i.  $\left\{ \frac{\ln 2n^2}{\ln 3n} \right\}_{n=1}^{\infty}$



ii.  $a_n = \frac{\sin 3n}{3+\sqrt{n}}$



iii.  $b_n = \left( \frac{n+3}{n+1} \right)^n$



iv.  $\left\{ \frac{-1}{3}, \frac{2}{9}, \frac{-4}{27}, \frac{8}{81}, \dots \right\}$

