

Problem 1: An Important Limit

Let $\Psi(x) = \int_2^x \frac{dt}{\ln(t)}$. Compute $\lim_{x \rightarrow \infty} \frac{\Psi(x)}{\frac{x}{\ln(x)}}$

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted.

Posting Date 8/25/2023. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 by e-mail or hard-copy by noon on Friday, September 8, 2023. An email submission must be a single pdf file. Hard copy submissions must be dropped in the file holder at my office door (Hayes 319) and must include a time stamp.