

Problem 4: Does the Limit Exist?

Determine whether the following limit exists or not. If it does, find its value.

$$\lim_{x \rightarrow -\infty} \frac{1}{x} \cdot \int_x^{-\pi} (t + \sqrt{t^2 + 3t}) dt$$

As always, show your work, fully explain and justify your answer. A solution that is mainly obtained by a calculator or computer will not be accepted.

Posting Date 2/5/2022. Submit solutions to Noah Aydin, RBH 319 (e-mail or hard-copy, but hard copy submissions must include a time stamp) by noon on 2/19/2022.