

Problem 2: A Finite Product of 2025 Terms

Find the exact value of the following product. Fully explain your answer and show your steps.

$$\prod_{k=1}^{2025} \sin\left(\frac{\pi k}{2026}\right)$$

As always, show your work, fully explain and justify your answer. A solution mainly obtained by computers or calculators will not be accepted. The use of generative AI tools is not allowed.

Posting Date 9/12/2025. Submit solutions to Noah Aydin, Mathematics Department, RBH 319 by e-mail or hard-copy by noon on Fri, Sep 26, 2025. 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.