

Show all work clearly and in order. Justify your answers. You have 15 minutes for this quiz.

PROBLEM ONE Find the following limits

(a) $\lim_{x \rightarrow 0} \frac{x^2}{\ln(x^2 + 1)}$

(b) $\lim_{x \rightarrow \infty} e^x \sin\left(\frac{1}{e^x}\right)$

PROBLEM TWO Compute

$$\int x^{-2} \ln(x) dx$$