

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

PROBLEM ONE Determine if the following integral converges or diverges.

$$\int_2^{\infty} \frac{x}{\sqrt{(x^2 + 5)}} dx$$

PROBLEM TWO Does the following integral converge or diverge?

$$\int_0^{\ln(2)} \frac{e^x}{e^x - 1} dx$$